Research Support Office
Grants Handbook
# Table of Contents

*Ctrl+Click on highlighted headings*

1. Introduction ................................................................................. 1
2. Funding Agencies and Grant Types ........................................ 2
   2.1 National Research Foundation (NRF) ..................................... 2
      2.1.1 Translational and Clinical Research (TCR) Programmes .... 2
      2.1.1.1 Eligibility ............................................................................................................ 2
      2.1.1.1.1 Application Procedures ...................................................................................... 2
      2.1.1.1.2 Evaluation Criteria ......................................................................................... 3
      2.1.1.1.3 Award Process .......................................................................................... 3
      2.1.1.2 Singapore Translational Research (STaR) Investigatorship Awards .... 4
      2.1.1.2.1 Eligibility ............................................................................................................ 4
      2.1.1.2.2 Application Procedures ...................................................................................... 5
      2.1.1.2.3 Evaluation Criteria ......................................................................................... 5
      2.1.1.2.4 Award Process .......................................................................................... 5
      2.1.1.2.5 FAQ on STaR & TCR ..................................................................................... 6
      2.1.1.3 Exploratory/Development Grant (EDG) ......................... 8
      2.1.1.3.1 Eligibility ............................................................................................................ 8
      2.1.1.3.2 Funding ............................................................................................................. 8
      2.1.1.3.3 Application Procedures ...................................................................................... 9
      2.1.1.4 Incentive for Research & Innovation Scheme (IRIS) ....... 10
      2.1.1.4.1 Eligibility ............................................................................................................ 10
      2.1.1.4.2 Funding ............................................................................................................. 11
      2.1.1.4.3 Disbursement of Funds ................................................................................. 11
      2.1.1.4.4 Application Procedures ...................................................................................... 11
      2.1.1.4.5 Pointers ......................................................................................................... 12
      2.1.1.5 EWI Challenged Call ............................................................. 12
      2.1.1.5.1 Eligibility ............................................................................................................ 12
      2.1.1.5.2 Conditions of Awards ....................................................................................... 12
      2.1.1.5.3 Application Procedures ...................................................................................... 12
      2.1.1.5.4 Disbursement of Funds ................................................................................. 14
      2.1.1.5.5 Pointers ......................................................................................................... 14
      2.1.1.6 Clean Energy Programme ................................................... 15
      2.1.1.6.1 Eligibility ............................................................................................................ 15
      2.1.1.6.2 Conditions of Awards ....................................................................................... 15
      2.1.1.6.3 Application Procedures ...................................................................................... 15
      2.1.1.6.4 Guidelines on the Preparation of Proposals ...................... 16
      2.1.1.6.5 Evaluation Criteria ......................................................................................... 17
      2.1.1.6.6 Annex A- Guidelines for Fundable / Non-Fundable Items .......... 19
      2.1.1.7 Annex A - Guidelines for Fundable / Non-Fundable Items .... 19
<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1.7</td>
<td>IDM R&amp;D Program Grant Call</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td>Application Procedures</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td>Guidelines on the Preparation of Proposals</td>
<td>23</td>
</tr>
<tr>
<td>2.1.8</td>
<td>MoE R&amp;D Programme on IDM in Education</td>
<td>26</td>
</tr>
<tr>
<td></td>
<td>Programme Areas</td>
<td>26</td>
</tr>
<tr>
<td></td>
<td>Eligibility</td>
<td>26</td>
</tr>
<tr>
<td></td>
<td>Application Procedures</td>
<td>27</td>
</tr>
<tr>
<td></td>
<td>Pointers</td>
<td>27</td>
</tr>
<tr>
<td></td>
<td>Invitation-Based Call for Proposals</td>
<td>28</td>
</tr>
<tr>
<td></td>
<td>Evaluation Criteria</td>
<td>31</td>
</tr>
<tr>
<td></td>
<td>Award Process</td>
<td>31</td>
</tr>
<tr>
<td></td>
<td>FAQ on R&amp;D on IDM in Education</td>
<td>32</td>
</tr>
<tr>
<td></td>
<td>Annex A – Guidelines for RITA Submission</td>
<td>36</td>
</tr>
<tr>
<td></td>
<td>Annex B - Guidelines for Fundable/ Non-Fundable Items</td>
<td>39</td>
</tr>
<tr>
<td></td>
<td>Annex C – Details of Research Proposal</td>
<td>47</td>
</tr>
<tr>
<td></td>
<td>Annex D – PI’s Checklist for Submission of Proposal</td>
<td>49</td>
</tr>
<tr>
<td>2.1.9</td>
<td>NRF Competitive Research Program (CRP) Funding Scheme</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>Eligibility</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>Award Process</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>Evaluation Criteria</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>Conditions of Awards</td>
<td>51</td>
</tr>
<tr>
<td></td>
<td>Tentative CRP Timeline (Based on 2008 Timeline)</td>
<td>51</td>
</tr>
<tr>
<td></td>
<td>Pointers</td>
<td>51</td>
</tr>
<tr>
<td>2.1.10</td>
<td>Research Centre of Excellence</td>
<td>52</td>
</tr>
<tr>
<td></td>
<td>Structure and Organisation</td>
<td>52</td>
</tr>
<tr>
<td></td>
<td>Funding</td>
<td>52</td>
</tr>
<tr>
<td></td>
<td>Evaluation Process</td>
<td>53</td>
</tr>
<tr>
<td></td>
<td>FAQ on RITA</td>
<td>54</td>
</tr>
<tr>
<td>2.2</td>
<td>Ministry of Education (MoE)</td>
<td>58</td>
</tr>
<tr>
<td>2.2.1</td>
<td>Research Scholarship Block</td>
<td>58</td>
</tr>
<tr>
<td>2.2.2</td>
<td>Academic Research Fund (AcRF) Tier 1</td>
<td>59</td>
</tr>
<tr>
<td></td>
<td>Types of AcRF Tier 1 Grants</td>
<td>59</td>
</tr>
<tr>
<td></td>
<td>Application &amp; Approval of Project Grant</td>
<td>60</td>
</tr>
<tr>
<td></td>
<td>Disbursement of Grant</td>
<td>60</td>
</tr>
<tr>
<td></td>
<td>Grant Extension</td>
<td>60</td>
</tr>
<tr>
<td></td>
<td>Grant Variation</td>
<td>61</td>
</tr>
<tr>
<td></td>
<td>Budget Revision</td>
<td>61</td>
</tr>
<tr>
<td></td>
<td>Reports Submission</td>
<td>61</td>
</tr>
<tr>
<td></td>
<td>Change of PIs/Change of Scope of Project</td>
<td>61</td>
</tr>
<tr>
<td></td>
<td>Transfer of University</td>
<td>61</td>
</tr>
<tr>
<td></td>
<td>Submission of Final Report and Closure of Account</td>
<td>62</td>
</tr>
<tr>
<td></td>
<td>FAQ on Academic Research Fund (AcRF) Tier 1</td>
<td>63</td>
</tr>
</tbody>
</table>
2.2.3 Academic Research Fund (AcRF) Tier 2 .................................................. 76
   Application & Approval of Project Grant .................................................. 76
   Disbursement of Grant ........................................................................... 77
   Reports Submission .................................................................................. 77
   Grant Variation ......................................................................................... 77
   Budget Revision ........................................................................................ 78
   Change of PIs ............................................................................................. 78
   Change of Scope of Project ...................................................................... 78
   Grant Extension ........................................................................................ 78
   Submission of Final Report and Closure of Account .................................. 78
   Compliance with MoE’s Administrative Guidelines ................................... 79
   Pointers ........................................................................................................ 79

2.3 Agency for Science, Technology and Research ........................................ 80
   2.3.1 Science and Engineering Research Council (SERC) Public Sector R&D
          Funding (PSF) ...................................................................................... 80
          Eligibility .............................................................................................. 80
          Application Procedures ........................................................................ 80
          Award Process ..................................................................................... 82
          The Award and Continued Support ....................................................... 83
          Progress Reports .................................................................................. 83
          Final Report .......................................................................................... 84
          Termination ........................................................................................... 84
          Relevant Documents Obtainable from PAMS ....................................... 84

2.3.2 Thematic Strategic Research Programmes (TSRP) ............................... 85

2.3.3 SERC Energy Technology R&D Program ............................................. 86
   Application Procedures ............................................................................. 86
   Evaluation Criteria .................................................................................... 86
   Award Process .......................................................................................... 86
   Grant Timeline .......................................................................................... 87
   Pointers ....................................................................................................... 87

2.3.4 SERC-NSF - Materials World Network ................................................. 88
   Eligibility ................................................................................................... 88
   Application Procedures ............................................................................. 88
   Award Process .......................................................................................... 88
   Terms and Conditions ................................................................................ 88

2.3.5 SERC Joint Singapore-Poland Science & Technology Co-Operation .. 89
   Application Procedures ............................................................................. 89
   Funding ....................................................................................................... 90
   Evaluation Criteria .................................................................................... 90
   Award Process .......................................................................................... 90

2.3.6 BMRC-NMRC Joint Grant Call ............................................................ 92
   Application Procedures ............................................................................. 92
   Letter of Award ......................................................................................... 92
### 2.3.7 SBIC Grant Call

- **Eligibility**: 95
- **Application Procedures**: 95
- **Award Process**: 96

### 2.3.8 Joint SBIC-SSCC Grant Call

- **Eligibility**: 95
- **Application Procedures**: 95
- **Award Process**: 96

### 2.3.9 Singapore Immunology Network (SIgN) Grant Call

- **Eligibility**: 96
- **Application Procedures**: 97
- **Award Process**: 97

### 2.3.10 The Singapore Cancer Syndicate (SCS) Grant Call

- **Evaluation Criteria**: 97
- **Application Procedures**: 98

### 2.4 Ministry of Defence

#### 2.4.1 Defence Innovative Research Programme (DIRP)

- **Eligibility**: 99
- **Support Available**: 99
- **Application Procedures**: 99
- **Timeline**: 100
- **Evaluation Criteria**: 100
- **Award Process**: 100

#### 2.4.2 MINDEF-NTU Joint Applied R&D Co-operation Programme

- **Application Procedures**: 101
- **Award Process**: 102
- **Modification or Termination of Project**: 102

### 2.5 Ministry of Health

#### 2.5.1 Individual Research Grant (IRG)

- **Eligibility**: 103
- **Application Procedures**: 103

#### 2.5.2 NMRC Administrative Guidelines

- **Disbursement of Grant**: 104
- **Grant Extension**: 105
- **Grant Variation**: 106
- **Reports Submission**: 106
- **Change of PIs**: 107
- **Transfer of Institutions**: 107
- **MoU**: 107
- **Cashflow Submission**: 108
- **Annual Budget Preparation Procedures**: 109

### Annex A: Guide on Qualifying Direct Cost & Indirect Research Cost

- **vi**
2.6 Ministry of National Development ............................................................... 120
   2.6.1 MND Research Fund for the Built Environment ..................................... 120
          Eligibility .................................................................................................. 120
          Terms & Conditions .................................................................................. 120
          Evaluation Criteria .................................................................................... 120
          Funding ...................................................................................................... 120
          Pointers ...................................................................................................... 121
          FAQ on MND Research Fund for the Built Environment ......................... 122
3. Foreign Funding Agencies .............................................................................. 123
   3.1 French Embassy .................................................................................... 123
      3.1.1 Merlion Program: Call for Joint French-Singaporean Research Projects
            .............................................................................................................. 123
            Support for the Projects ...................................................................... 123
            Selection Criteria ................................................................................. 125
            Scientific Topics and Hosting Laboratory ............................................. 125
            Application Procedures ....................................................................... 126
            Schedule ............................................................................................... 126
            FAQ on Merlion Research Project and PhD Programme ..................... 127
      3.1.2 The Regional Programme ICT-Asia ..................................................... 130
            Formulation & Submission of Proposals Guidelines ............................. 130
   3.2 The New Energy and Industrial Technology Development Organization
         (NEDO) ...................................................................................................... 133
         Eligibility .................................................................................................. 133
         FAQs for Nedo Grants ........................................................................... 135
   3.3 Swiss National Science Foundation (SNSF) Professorships ...................... 140
         Call for Applications and Selection .......................................................... 140
   3.4 ESF Research Networking Programmes Proposals .................................... 141
         Eligibility .................................................................................................. 141
         Budget ...................................................................................................... 141
         Assessment Criteria and Procedure ....................................................... 142
         Funding Decision ..................................................................................... 143
         Results and Feedback to Proposers ......................................................... 143
         FAQ for ESF Research Networking Programme ................................... 144
   3.5 United States of America’s National Science Foundation (NSF) .......... 150
   3.6 Seventh Framework Programme (FP7) of the European Community for
         Research and Technological Development including Demonstration
         Activities ...................................................................................................... 152
         Eligibility .................................................................................................. 152
         Application Procedures .......................................................................... 152
         Specific Programmes of FP7 ................................................................. 153
         Research Area .......................................................................................... 155
         Funding ...................................................................................................... 155
   3.7 The Sasakawa Peace Foundation ............................................................. 159
<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.8</td>
<td>DARPA (Defense Advanced Research Projects Agency)</td>
<td>161</td>
</tr>
<tr>
<td></td>
<td>Solicited Proposals</td>
<td>161</td>
</tr>
<tr>
<td></td>
<td>Unsolicited Proposals</td>
<td>162</td>
</tr>
<tr>
<td>3.9</td>
<td>COST (European Cooperation in the field of Scientific and Technical</td>
<td>164</td>
</tr>
<tr>
<td></td>
<td>Research)</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Other Funding Agencies</td>
<td>166</td>
</tr>
<tr>
<td>4.1</td>
<td>Funding Opportunities by Microsoft</td>
<td>166</td>
</tr>
<tr>
<td>4.2</td>
<td>JSPS-NUS Joint Research Project and Joint Seminar</td>
<td>167</td>
</tr>
<tr>
<td></td>
<td>Eligibility</td>
<td>167</td>
</tr>
<tr>
<td></td>
<td>Funding</td>
<td>167</td>
</tr>
<tr>
<td></td>
<td>Application Procedures</td>
<td>168</td>
</tr>
<tr>
<td></td>
<td>Evaluation Criteria</td>
<td>168</td>
</tr>
<tr>
<td>4.3</td>
<td>British Council</td>
<td>169</td>
</tr>
<tr>
<td>4.3.1</td>
<td>Researcher Exchange Programme (RXP)</td>
<td>169</td>
</tr>
<tr>
<td></td>
<td>Application Procedures</td>
<td>170</td>
</tr>
<tr>
<td></td>
<td>Eligibility</td>
<td>170</td>
</tr>
<tr>
<td></td>
<td>Funding</td>
<td>171</td>
</tr>
<tr>
<td>4.3.2</td>
<td>Collaboration Development Awards</td>
<td>173</td>
</tr>
<tr>
<td></td>
<td>Eligibility</td>
<td>173</td>
</tr>
<tr>
<td></td>
<td>Application Procedures</td>
<td>173</td>
</tr>
<tr>
<td></td>
<td>Funding</td>
<td>174</td>
</tr>
<tr>
<td>4.4</td>
<td>UKERC Energy Summer School</td>
<td>175</td>
</tr>
<tr>
<td>5.</td>
<td>Fellowship/Scholarship</td>
<td>176</td>
</tr>
<tr>
<td>5.1</td>
<td>Lee Kuan Yew (LKY) Scholarship</td>
<td>176</td>
</tr>
<tr>
<td></td>
<td>Eligibility</td>
<td>176</td>
</tr>
<tr>
<td></td>
<td>Terms &amp; Conditions</td>
<td>176</td>
</tr>
<tr>
<td></td>
<td>Pointers</td>
<td>176</td>
</tr>
<tr>
<td>5.2</td>
<td>Singapore Millenium Foundation</td>
<td>177</td>
</tr>
<tr>
<td></td>
<td>Eligibility</td>
<td>177</td>
</tr>
<tr>
<td></td>
<td>Terms &amp; Conditions</td>
<td>177</td>
</tr>
<tr>
<td></td>
<td>Criteria for Selection</td>
<td>178</td>
</tr>
<tr>
<td></td>
<td>Application Procedures</td>
<td>178</td>
</tr>
<tr>
<td></td>
<td>Post Award</td>
<td>179</td>
</tr>
<tr>
<td>5.3</td>
<td>NRF Research Fellowships</td>
<td>182</td>
</tr>
<tr>
<td></td>
<td>Eligibility</td>
<td>182</td>
</tr>
<tr>
<td></td>
<td>Terms and Conditions</td>
<td>182</td>
</tr>
<tr>
<td></td>
<td>Selection Processes</td>
<td>182</td>
</tr>
<tr>
<td></td>
<td>Application Procedures</td>
<td>183</td>
</tr>
<tr>
<td>5.4</td>
<td>Tan Chin Tuan Academic Exchange Fellowship</td>
<td>184</td>
</tr>
</tbody>
</table>
Grants Handbook

1. Introduction

The Research Support Office ("RSO") reports directly to the Provost and is the central contact point for the administration of Research Grants and Grant-related issues in Nanyang Technological University ("NTU" or "the University"). RSO supports the Provost and Deans Group in overseeing the NTU research policy, in monitoring and providing statistics and reports on research outcome, award of grants, research funding portfolio and external funding successes.

To improve and encourage NTU’s research capabilities, RSO is responsible for facilitating and mentoring Faculty in making proposals for external funding and the key roles include organizes workshops to assist Faculty in preparing of proposals, announcing grant calls and funding opportunities, collating grant applications, tracking of projects progress and submitting completed reports to the funding bodies. RSO together with the Schools and Colleges are jointly responsible for ensuring funds received are managed, allocated and spent properly when undertaking research.

This Grants Handbook gives an overview of the funding bodies, a guide to the grant process (from grant applications to grant awards) and practical hands-on information on all funding opportunities in NTU. It also provides information on matters relating to grant variation, project progress, reporting requirements as well as project closure.

The Handbook together with its procedures and guidelines may be revised from time to time, and the people concerned should ensure that they are acquainted with any changes that will be posted on RSO’s website: http://cougar3:7087/guides/Pages/default.aspx
2. Funding Agencies and Grant Types

2.1 National Research Foundation (NRF)

http://www.nrf.gov.sg/

The National Research Foundation was set up to implement national research, innovation and enterprise strategies, and to allocate $5 billion national research funding to programmes that meet its strategic objectives. Three strategic research programmes have been identified to be implemented over the next five years (2006 - 2010): Biomedical Sciences Phase II; Environmental and Water Technologies; and Interactive and Digital Media.

A. Biomedical Sciences Phase II

As a key part of the 2nd phase of its Biomedical Sciences Initiative from 2006-2010, the Government has earmarked S$1.55B to support translational and clinical research ("TCR") to bring basic BMS research discoveries into clinical application, from “bench” to “bedside”.

Spearheading this effort is the Agency for Science, Technology and Research ("A*STAR")’s Biomedical Research Council ("BMRC") and the Singapore Ministry of Health’s National Medical Research Council ("NMRC") which is led by the Biomedical Sciences Executive Committee ("BMS EXCO").

The BMS EXCO is making 2 separate but related calls for applications for the Singapore Translational Research (STaR) Investigatorship Awards, and Translational and Clinical Research (TCR) Flagship Programmes. The awards and grants provide a unique and innovative opportunity for outstanding TCR investigators to pursue cutting edge biomedical research in Singapore.

http://www.a-star.edu.sg/astar/biomed/action/biomed_tcr_star_grants.do

2.1.1 Translational and Clinical Research (TCR) Programmes

Eligibility

1. Public institutions in Singapore are invited to submit proposals for Translational and Clinical Research ("TCR") Flagship Programmes based on their most competitive TCR programmes

2. The programmes should seek to integrate, coordinate and leverage research from basic science to clinical research, in “specific” disease area determined. Only one programme per disease area will be selected

Application Procedures

Applicants for the TCR Flagship Programme are requested to submit 1 softcopy and 1 hardcopy (with original signature) using the TCR Application Form through RSO.
Evaluation Criteria

Selection will be on a competitive basis, and will incorporate both international peer review, and localized knowledge on the suitability and fit of the programme within Singapore’s TCR initiative. The programme will be selected based on the evaluation criteria listed below:

1. The programme must be led by an excellent PI (and co-PIs) whose strength must be in TCR.

2. Scientifically, the programme must be highly competitive, with a strong potential for the programme to be a leader internationally.

3. The PI and programme should fit within one of the broadly defined strategic disease areas and ideally be “all-the-way” with investigative components starting from basic research through to clinical application.

4. The programme must incorporate investigators from across all of Singapore (including clusters, medical schools and research institutes).

5. The programme must be optimally structured to strengthen and coordinate the full chain of research capabilities within the proposed disease area. The programme should build and establish strong collaborations with other entities, to coordinate and leverage on the best strengths in Singapore.

6. Demonstrated commitment by the host institution (e.g. through co-funding) would also be considered favourably.

Award Process

Applications will initially be short listed by the TCR Review Panel comprising selected Biomedical Sciences International Advisory Panel (BMS IAP) members and local representatives. The short listed candidates will be requested to submit a full proposal, and these will be sent out for international review. Thereafter, the TCR Review Panel will reassess the detailed submission for final selection.
2.1.2 Singapore Translational Research (STaR) Investigatorship Awards

There are 3 levels of awards, namely the Distinguished Senior Investigator (DSI), Senior Investigator (SI) and Investigator (INV) awards. The key features of each include:

1. **Distinguished Senior Investigator (DSI)**

   This award is for outstanding distinguished researchers who are world experts in their own field and who upon receiving the award would lead or co-lead substantial research programmes, preferably within the framework of a TCR flagship research programme. The award includes:

   - 5-years’ salary and research support that includes budget to hire research staff, and postdoctoral fellows and laboratory support
   - Salary and research support are renewable for further terms upon excellent external reviews; otherwise, a 2-year wind-down funding will be provided; and
   - Internationally competitive remuneration and research support

2. **Senior Investigator (SI)**

   This award is for excellent researchers with a strong international reputation in their own field and who upon receiving the award would be supported for research, preferably within the framework of a TCR flagship research programme. The award includes:

   - 5-years’ salary and research support that includes budget to hire research staff, postdoctoral fellows and laboratory support;
   - Salary and research support are renewable for further terms upon excellent external reviews; otherwise, a 2-year wind-down funding will be provided; and
   - Internationally competitive remuneration and research support.

3. **Investigator**

   This award is for strong researchers with a growing international reputation in their own field and who upon receiving the award would be supported for research, preferably within the framework of a TCR flagship research programme. The award includes:

   - 3-5-years’ salary and research support that includes budget to hire research staff, postdoctoral fellows and laboratory support;
   - Salary and research support are renewable for further terms upon excellent external reviews; otherwise, a 1-year wind-down funding will be provided; and
   - Internationally competitive remuneration and research support.

**Eligibility**

1. Medically qualified doctors (MDs) and/or PhDs (from outside and within Singapore) who are active in translational and clinical research or who
conduct research that involves integrating basic scientific discoveries with clinical applications, are invited to apply.

2. Applicants may be a physician scientist, clinical investigator, population geneticist, epidemiologist, health services researcher or an investigator engaged in other kinds of population-based biomedical research, and should have an excellent track record of scientific achievement and impact in translational and clinical research.

3. PhDs working on “wet bench” research, typically for those who would fit into the local Research Institutes or local Universities will not be eligible. This award is targeted at researchers who could fit into the translational science continuum, engaging in bench-to-bedside translational research. STaR investigators will receive very competitive research support and remuneration.

**Application Procedures**

Applicants for the *STaR Investigatorship Award* are requested to submit one softcopy and one hardcopy version using the STaR Application Form through RSO. Please forward the proposals (one soft copy and one hardcopy with original signature) to RSO for compilation.

**Evaluation Criteria**

Suitable candidates will be shortlisted by a STaR Selection Panel based on their research track record and the research proposal submitted. Where relevant, inputs from the key PI of the shortlisted TCR Flagship Programme will also be taken into account in the shortlisting of STaR Investigators.

**Award Process**

1. Shortlisted candidates will be invited for a 3 to 5-day visit to Singapore, to meet with a range of scientific leaders from across Singapore institutions, including interacting with key researchers of the shortlisted TCR Flagship Programmes. During this visit, the shortlisted candidates will have the opportunity to explore if their proposed research fits into and/or can contribute significantly to one of the shortlisted TCR Flagship Programmes.

2. STaR Investigators who do not receive renewals based on the external review, may be absorbed into the universities and medical schools, A*STAR biomedical research institutes or restructured hospitals in Singapore as a regular Principal Investigator (PI).

3. All STaR Investigators will have appointments at A*STAR’s Singapore Institute for Clinical Sciences (SICS) as well as tenure-track appointments at the National University of Singapore’s (NUS) Yong Loo Lin School of Medicine or Duke-NUS Graduate Medical School (GMS).

4. Tenable in Singapore, it is envisioned that the STaR Investigator would fit into, and contribute actively to a shortlisted TCR Flagship Programme. STaR Investigatorships may also be awarded to excellent candidates who may not “fit” into an existing shortlisted programme but whose research can potentially advance Singapore’s priorities in biomedical research and
healthcare. Such individuals may be appointed in the same way and be provided with the resources to start a new research programme.

**FAQ on STaR & TCR**

**What is the requirement on the signatories in the TCR Flagship Programme application?**

- Each TCR Flagship Programme application should have one lead Principal Investigator, who would assume overall responsibility for the programme. The programme could also have co-Principal Investigators, co-investigators, and STAR Award Applicants. The application should include the signatures of the Lead PI, co-PIs, co-investigators and STAR Award applicants.
- Each TCR Flagship Programme should also have the endorsement of the CEO or Director of the institutions of the Lead PI, co-PIs and co-Investigators.

**How do the STaR Investigatorship Award and TCR flagship programmes differ from existing grant calls such as the CSI, BMRC-NMRC extramural (IRG) grant calls?**

- The TCR Flagship Programme applications are made at the institutional (or cross-institutional) level, with objective of encouraging research programmes that integrate, strengthen and coordinate the full chain of research capabilities from basic science to clinical research in an identified strategic disease area. These programmes should also have the potential to be a leader in Asia and internationally. This “all the way” requirement with multi-institutional collaboration, and high potential of the programme, are the key distinguishing characteristics of the TCR Flagship Programmes.
- The STaR Investigatorship Awards complement the existing Clinician Scientists Investigatorship (CSI) Awards. STaR Awards are benchmarked against internationally competitive awards, such as the Howard Hughes Medical Institute Investigatorships, and are aimed at attracting and nurturing the best talent in translational and clinical research in Singapore. NMRC will continue to offer CSI awards and locally based scientists are eligible to apply to both the STaR and CSI Awards. Selection is based entirely on merit and successful candidates may receive one award, and not both.

**[Using an illustrative example] A researcher has a recent grant proposal submission to the Singapore Immunology Network (SiGN) currently under review, with the project possibly suited to the goals of the TCR Flagship Programme. Is there any way this project can still be submitted? Or does its prior submission elsewhere disqualify it?**

TCR Flagship Proposal has to be "all the way" with multi-institutional participation, each contributing specific expertise to the programme. Depending on the complementarity, the TCR review committee may recommend that the proposal submitted to SiGN (or other grant calls) be integrated with the TCR Flagship Programme. If the TCR proposal is successful, the submitted proposal could be funded under the TCR Programme. Otherwise, the proposal will be assessed independently under the SiGN grant call for its own scientific merit. In this example, in the submission to the TCR Flagship Programme, the researcher should clearly indicate that the proposal is under consideration in a separate grant call (SiGN).
Are clinician scientists who have applied to the CSI Awards still eligible to apply for the STaR Award?
Yes. A*STAR and NMRC will coordinate at the back-end for the 2 evaluation processes. STaR Investigatorships are benchmarked against the most competitive international standards.

Must the TCR flagship programmes have a focus on 1 of 5 identified disease areas?
Yes for this first round of grant calls. However, the possible scopes could be widened for subsequent calls.

If the proposed STaR investigator is not based in Singapore, can he/she be given more time to commence the tenure later?
The commencement of award will be negotiated following the shortlisting of the candidate. If an investigator based outside Singapore is selected for the award, the time for him/her to relocate to Singapore is flexible within limits, which can be a few months for a senior investigator for instance.

How much is the award?
The value of award, which covers salary and research support, will depend on scope of activity and merit.
2.1.3 Exploratory/Development Grant (EDG)

The objective of this grant scheme is to encourage researchers who wish to conduct exploratory research. Exploratory research is characterized as preliminary work on untested and novel ideas; ventures into emerging research ideas; the application of new expertise or new approaches to "established" research topics. The outcomes of such research projects will hopefully be developed subsequently into larger research grant proposals like the Individual Research Grant (IRG) (*Please refer to Ministry of Health section on IRG*).

The ED grant will have a sub category, *New Investigator Category*, for new investigators who will be required to have a mentor to guide them in the grant application and conduct of their research. New Investigator is a researcher who has not held a NMRC/BMRC/international reputable grants (i.e. MRC, NIH) as a PI or Co-PI before. The mentor has to sign an undertaking to mentor the applicant and provide an evaluation report during the course of the project. This mentoring will provide support for a period of supervised research leading eventually to the clinician researcher conducting larger scale research projects independently.

**Eligibility**

- Applicants (as Principal Investigators) for EDG & NIG should possess a minimum academic qualification of PhD or MBBS/BDS/PharmD/MD and be based in a public institution in Singapore. Post doctoral fellows who are salaried by the institution may apply but post doctoral fellows who are not institutionally salaried are not eligible.

- The EDG is not a mini Individual Research Grant (IRG) and should not be used to supplement/support a current research grant (i.e. IRG) or for renewal of completed grants.

- Applicants who are applying for a grant as a new investigator* has to seek a mentor who will guide/mentor him/her through the duration of the project. A progress report endorsed by the mentor has to be submitted annually and upon completion of the project, a final report endorsed by the mentor has to be submitted to NMRC.

- First time investigator applications will be assessed separately from established researchers who are applying for the same scheme.

*Definition: New Investigator: Any researcher who has not held a NMRC / BMRC/ International reputable (i.e. MRC, NIH) grant as a PI or co-PI before.

**Funding**

The ED grant will provide a funding quantum of up to S$200,000 for 2 years, extendable up to 3 years. The shorter duration, compared to the IRGs, is due to the nature of such preliminary studies. The grant applications must be in the domain of translational and clinical research. Applications for research in basic science will not be accepted.
Application Procedures

Grant calls will be made on 6-monthly basis along with NMRC grant calls in May and November.

1. Applicants are required to submit:
   a. On-line through RITAS website
   b. Completed NMRC Application Form as softcopy attachment through RITA website.

2. The hardcopy package to be submitted to NMRC includes:
   a. RITA Online Application form
   b. NMRC Application form X 2 sets (one with original signatures)

Incomplete submissions will be rejected.
B. Environmental and Water Technologies

The Environment and Water Industry Development Council ("EWI"), under the Ministry of the Environment and Water Resources (MEWR), Singapore, was set up to spearhead the growth of the environmental and water industry in Singapore. With the support of agencies like the Economic Development Board (EDB) and the PUB, EWI is committed to invest in research & development in the areas of environment and water. (EWI) aims to support the development of innovative/breakthrough technologies from its infancy to the commercialization stage. Novel, promising technologies will be funded in a coordinated manner so that there is holistic development in both technical and commercialisation aspects of the technology.

2.1.4 Incentive for Research & Innovation Scheme (IRIS)

The scheme aims to encourage and assist the public sector entities (including wholly owned subsidiaries of public sector entities) and academia (including Tertiary Academic Institutions and Research Institutes with operations in Singapore) to engage in basic and applied research to develop and create new capability in environmental and water technologies (EWT). It provides grants to offset costs arising from the projects. These include costs associated with manpower, training, equipment investment, professional services and other approved costs associated with the projects. The ultimate goal is to open new markets, achieve maximum economic success and create a competitive advantage for the local environmental and water industry and for Singapore.

Eligibility

All the public sector entities (including wholly owned subsidiaries of public sector entities) and academia (including Tertiary Academic Institutions and Research Institutes with operations in Singapore) are eligible to apply. The proposed project must meet the following criteria:

a) The Project shall use Singapore as a base to own, manage and exploit all intellectual property rights developed.

b) Project should involve strong elements of innovation and cutting-edge research.

c) Project should show potential to be developed into products that can be commercialised; or lead to significant improvements in efficiency and cost effectiveness of existing processes and applications; or create new capabilities.

d) Project should lead to significant and sustainable growth opportunities to the EWT industry.

e) The Project must develop or bring in research and development (R&D) capability.

f) Project must not have commenced at the time of application.

The project duration, including completion of the final report and all miscellaneous project activities, shall not exceed three (3) years. The proposed project schedule is to be realistic, allowing sufficient time for the preparation of final report and for review of project results.
Funding

The IRIS provides assistance through grants to cover a percentage of the qualifying cost of the project, based on the different levels of support for different components of allowable cost.

<table>
<thead>
<tr>
<th>Allowable Costs</th>
<th>Maximum Level of Support</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Manpower</strong></td>
<td>100%</td>
</tr>
<tr>
<td>• Salary of research/project members (includes CPF but excludes bonuses)</td>
<td></td>
</tr>
<tr>
<td>• Airfare (economy) and cost of living allowances</td>
<td></td>
</tr>
<tr>
<td><strong>Training</strong></td>
<td>50%</td>
</tr>
<tr>
<td><strong>Equipment, Material, Consumables &amp; Software</strong></td>
<td>50%</td>
</tr>
<tr>
<td>• Equipment</td>
<td></td>
</tr>
<tr>
<td>• Materials/Consumables</td>
<td></td>
</tr>
<tr>
<td>• Software</td>
<td></td>
</tr>
<tr>
<td><strong>Professional Services</strong></td>
<td>50%</td>
</tr>
<tr>
<td>• Consultancy</td>
<td></td>
</tr>
<tr>
<td>• Subcontracting</td>
<td></td>
</tr>
<tr>
<td><strong>Acquisition of Intellectual Property Right</strong></td>
<td>50%</td>
</tr>
<tr>
<td>(to be considered on a case-by-case basis)</td>
<td></td>
</tr>
<tr>
<td>• Licensing/Royalties</td>
<td></td>
</tr>
<tr>
<td>• Technology Acquisition</td>
<td></td>
</tr>
<tr>
<td><strong>Overheads</strong> (if applicable)</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td>(value agreed nationally)</td>
</tr>
</tbody>
</table>

Disbursement of Funds

The funds are disbursed to the successful applicant on a reimbursement basis. The first disbursement may be effected after acceptance of offer. The final claim shall be made within 6 months of completion of project.

The grants will be disbursed as follows:
(a) Disbursement of up to a cumulative total 70% of the approved grant amount shall be made upon application by the University.
(b) The remaining 30% of the grant may be released upon application by the University on completion of the project.
(c) The final claim must be submitted within 6 months of completion of project, failing which the claim will be disqualified.

Application Procedures

Formal applications must be made on prescribed application forms and sent to the Environment & Water Industry Development Council (EWI) before the
stipulated closing date and time in the Request-for-Proposal (RFP). Please click here to download the IRIS application forms.

Successful proposals which are accepted and approved by the EWI will be notified within eighteen (18) weeks from the closing date of this RFP.

**Pointers**

- For total approved grant exceeding $100,000, all claims must be internally audited at half-yearly intervals, and externally audited at yearly intervals, as well as when the project is completed or terminated.
- Progress reports should be submitted to EWI at half yearly intervals.
- Only expenses incurred during the qualifying period can be reimbursed by the grant.
- The disbursement of any grant shall be subjected to the PI achieving the project milestones as stated in the project.
- Virement from one qualifying cost item to another will not be considered.
- The grant does not cover GST payment.

**2.1.5 EWI Challenged Call**

A budget of up to S$4 million will be provided for each final proposal awarded. A test-site in Singapore will also be provided for the successful applicant to pilot-test the technology. The maximum project period is 3 years.

**Eligibility**

This call is open to Institutes of Higher Learning ("IHLs"), Research Institutes ("RIs") and private sector companies based locally in Singapore or overseas.

**Conditions of Awards**

1. Applicants are requested to propose an innovative technology that can lead to a breakthrough in the specific domains determined by EWI.
2. Cross-disciplinary and multi-disciplinary research proposals are encouraged, as are proposals from research consortia involving partners drawn from different organizations, of various disciplines and including international collaborations with renowned experts.
3. Up to 25% of the funding awarded may be used to support overseas R&D activities, while the remaining 75% of the funding awarded or more must be used to carry out the research activities in Singapore.
4. IHLs, public sector agencies and not-for-profit RIs will qualify for 100% funding support of approved qualifying direct costs, while private sector companies and for profit research entities will only qualify for up to 70% of approved qualifying direct costs of a project.

**Application Procedures**

**a. Call for Preliminary Proposals**

1. The applicant must FIRST submit a Preliminary Proposal addressing the specific criteria. Applicants must submit the Preliminary Proposals in the
prescribed format through EWI website (http://www.mewr.gov.sg/ewi). All applicants must also send in two (signed and endorsed) hard copies of the Preliminary Proposal to EWI (through RSO) within one week after the closing date.

2. All Preliminary Proposals will be assessed based on technical merit, commercial viability and national relevancy respectively. Promising Preliminary Proposals will then be short-listed and the applicants INVITED to develop their Preliminary Proposals into Full Proposals. These short-listed applicants will be given a budget (not exceeding S$30,000) and approximately 3-4 months to develop the Full Proposal. The budget seeks to reimburse work done or cost incurred in:
   • Experimental work performed to obtain the preliminary data or results,
   • Technology and IP scans, and
   • Assembly of overseas team members.

In consideration of the reimbursement, information gathered for the development of the Full Proposal, including experimental results, Technology and IP scans/review reports, and CVs and contact information of the overseas team members, will be the property of EWI.

b. Development of Preliminary Proposals into Full Proposals by Shortlisted Applicants [For information only at this stage]

1. The Full Proposal should include (but not limited to):
   • Scientific principles;
   • State-of-the-art comparison, including a technology and IP scan review;
   • Full technical details on the technological development, starting from bench-, to pilot-, to demonstration-scale level of development, and to eventual commercialization
   • Project team members
   • Budget required for the entire program (broken down into individual categories of manpower, equipment, consumables, travel, consultancy services, others)
   • Timeline showing intermediate milestones to be achieved
   • Deliverables, including:
     a. Proof of concept (supported by bench-scale results),
     b. Process stability (successful pilot plant testing),
     c. Engineering feasibility (pilot scale results), and
     d. Consistent water quality at the aforementioned criteria.

A separate form (with further details) for the Full Proposal submission would be made available to invited applicants of the short-listed Preliminary Proposals.

2. Full Proposals will be sent to international peer reviewers who are recognized experts in the said domain. The Full Proposals will then be submitted to EWI’s Project Evaluation Panel (PEP) comprising eminent local and international members. The PEP will then evaluate and recommend the Full Proposal for EWI’s consideration for funding support.

3. Full proposals are evaluated against the following criteria:
   • High-technical-merit science that is novel, internationally competitive and can lead to breakthrough results;
• Excellent execution by an experienced research team with a good track record and whose members have the relevant and complementary expertise;
• Potential for the research to lead to relevant and marketable applications in the industry, hereby maximizing economic benefits to Singapore;
• Reasonableness of the proposed budget.

Disbursement of Funds

The funds are disbursed to the successful applicant on a reimbursement basis. The first disbursement may be affected after acceptance of offer. The final claim shall be made within 6 months of completion of project.

The grants will be disbursed as follows:
(d) Disbursement of up to a cumulative total 70% of the approved grant amount shall be made upon application by the University.
(e) The remaining 30% of the grant may be released upon application by the University on completion of the project.
(f) The final claim must be submitted within 6 months of completion of project, failing which the claim will be disqualified.

Pointers

• For total approved grant exceeding $100,000, all claims must be internally audited at half-yearly intervals, and externally audited at yearly intervals, as well as when the project is completed or terminated.
• Progress reports should be submitted to EWI at half yearly intervals.
• Only expenses incurred during the qualifying period can be reimbursed by the grant.
• The disbursement of any grant shall be subjected to the PI achieving the project milestones as stated in the project.
• Virement from one qualifying cost item to another will not be considered.
• The grant does not cover GST payment.
2.1.6 Clean Energy Programme

NRF has approved the S$50M Clean Energy Research Programme (CERP), which is a competitive funding initiative aimed at encouraging and supporting R&D efforts in Singapore through a project funding approach. This programme will be managed by the inter-agency Clean Energy Programme Office (CEPO). As Singapore provides the key ingredients to grow a world-class solar industry, it has been identified to be a key focus area within Clean Energy for R&D and manpower capability development.

Eligibility

This call is open to Institutes of Higher Learning (IHLs), public sector agencies, not-for-profit organisations and private sector companies based in Singapore. Collaborations among the above organisations are eligible too.

Conditions of Awards

1. CEPO invites proposals for research projects to be submitted for consideration towards funding. The Domain for this first grant call under CERP is Solar Technologies. Applicants are requested to submit proposals within the said domain which may include (but are not limited to) projects in the following areas of research:
   - Crystalline Silicon Photovoltaics
   - Thin-Film Photovoltaics
   - Novel Solar Photovoltaics
   - Process and Equipment Design for Solar Cell Manufacturing
   - Solar Thermal
   - Building Integrated Photovoltaics
   - Solar in Off-grid Applications
   - Distributed Generation and System Integration for Solar Applications

2. The project duration, including completion of the final report and all miscellaneous project activities, shall not exceed three (3) years. The proposed project schedule is to be realistic, allowing sufficient time for the preparation of final report and for review of project results.

3. IHLs, public sector agencies and not-for-profit organisations will qualify for up to 100% funding support of approved direct qualifying costs of a project. Private sector companies will qualify for up to 70% of the approved direct qualifying costs of a project. Only IHLs and not-for-profit entities would be allowed support for indirect costs. These include up to 20% of qualifying costs for overhead costs and an additional support of up to 10% to support IP protection and commercialisation activities.

Application Procedures

The proposals should be submitted online via the RITA system using the proposal application form. All applications must be endorsed online by the Director of Research of the lead PI’s host institution and lodged in the RITA system by the deadline for online submissions on 31 January 2008, 1700 Hrs. In addition, 2 hardcopies of the proposals must be submitted to CEPO via RSO by 8 February 2008, 1700 Hrs.
Guidelines on the Preparation of Proposals
The RITA application form serves as a summary of the overall proposal being submitted for consideration. Further details on specific sections should be uploaded as attachments.

a. “Description”: Details of Research Proposal
Please attach a comprehensive case for support in this section. This should include the sections and information requested in the table below. The document submitted should be in either Word document or PDF format, in at least Times New Roman 11-point font size, with single line spacing and should be no longer than 20 full A4 pages (excluding annexes).

- Objectives of the Research Project
  The project objectives should be articulated clearly.

- Description of Project
  Details on the project objectives, the scientific challenges they are meant to address and proposed methodology/approach to solving these challenges. Principal Investigators (PIs) should highlight in this section the importance of the problems being addressed, how their work would create new knowledge or advance existing understanding, the novelty of their proposed approach and the potential for this to produce breakthrough work.

  The lead PI and team members should also be given in this section, highlighting any specific competitive advantages of individuals in the research team in terms of unique capabilities and/or experience relevant to the project’s scientific focus. This section should also be used to highlight the international competitiveness of the work being carried out in terms of scientific merit.

- Economic Potential and Other Contributions of Project
  Describe the contributions of the project in terms of economic and other benefits to Singapore. Any industry collaborations and/or co-funding should be included, with details on the extent of industry participation and plans for commercialisation if any. PIs should highlight both quantitatively and qualitatively how the project would potentially generate economic payoffs for Singapore, e.g. through the potential to create new products and applications and create spinoffs/IP/licensing etc. PIs should also indicate other contributions of the project e.g. towards building up research infrastructure, manpower and capabilities in Singapore etc.

- Team
  Highlight the relevant track record and capabilities of individual PIs in the team, their international standing and any unique competitive advantages that they bring to the team in achieving the project’s objectives. Detailed CVs should be attached as an annex. [Note: All collaborators must sign up for a RITA UserID and be listed in the “Collaborators” section under “Project Details”.

  PIs should use this section to highlight any plans to leverage on collaborations (local/international) and articulate the value of such collaborations to the project.

- Project Management and Budget
Provide an overview of the proposed project management structure and plans to increase the likelihood of success, in terms of the project achieving its objectives. PIs should also highlight the international competitiveness of the project being proposed. A summary of the overall project budget should be provided in this section, broken down into broad categories of manpower, equipment and other operating expenditure (OOE). Justification for the proposed budget in each category should be clearly articulated here. PI has to provide an accurate and reasonable budget and it must be noted that over-budgeting is strongly discouraged. The maximum grant award is inclusive of direct project costs and support for overhead and IP protection/commercialization activities. Only proposals from Institutes of Higher Learning (IHLs) and not-for-profit entities would be eligible for support for overhead and IP protection/commercialization costs. PIs should submit only the direct costs for the research projects and CEPO will assign the amounts to be awarded for overheads and IP/commercialization support, which are to be managed by the host institutions. The detailed budget breakdown by line item should be provided in Section 4 of the RITA application form.

- **Deliverables of Project**
  A summary of the Key Performance Indicators (KPIs) for the project. The detailed listing of activities and KPIs should be provided in Section 5 of the RITA application form. The KPIs proposed should be linked to the objectives of the project and provide appropriate means of tracking/measuring the success of the project. PIs should also highlight important outcomes that can be expected from the successful execution of the project.

b. "Other Funding": Declaration of Other Funding Support
Details of all grants currently held or being applied for by the PI and key collaborators must be declared in this section.

c. “Budget (Others)”: Equipment, OOE, Full Budget Details
Please fill in the detailed budget breakdown in this section of the form and upload any additional information if necessary (e.g. equipment quotations for items above $100,000, OOE details). In addition, the full budget details must be uploaded as a separate document (in Word or Excel format) at the bottom of this section under “Full Details of Proposed Budget”.

d. “Activities and KPIs”: Additional KPIs
Please note that the form only provides a listing of possible KPIs for PIs to choose from. PIs should provide full details of any additional relevant KPIs for their project as an attachment in this section.

e. “Suggested names of local and oversea reviewers”: Peer review suggestion
Each full proposal will list up to 5 peer reviewers proposed by the project coordinator.

**Evaluation Criteria**

Proposals will be sent to international peer reviewers who are recognized experts in Clean Energy. Top ranked proposals will then be submitted to CEPO's Project Evaluation Panel (PEP) comprising eminent international and local members. The PEP will then evaluate and recommend the proposals for CEPO’s consideration for funding support.
Proposals will be evaluated against the following criteria:

i. High-technical-merit science that is novel, internationally competitive and can lead to breakthrough results;

ii. Excellent execution by an experienced research team with a good track record and whose members have the relevant and complementary expertise;

iii. Economic benefits to Singapore in terms of commercialisation spin-offs as well as manpower development.

Successful proposals which are accepted and approved by CEPO will be notified within fifteen (15) weeks from the closing date of this RFP.
### Annex A- Guidelines for Fundable / Non-Fundable Items
(as at 5 Feb 2007)

<table>
<thead>
<tr>
<th>Type of Expenses</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>I. EOM Related Expenses</strong></td>
<td></td>
</tr>
<tr>
<td>Salaries, CPF and fringe benefits including medical,</td>
<td>Allowable for salaries, employer's central provident fund contributions and allowances for research staff (research fellow, research engineer/assistant, specialist laboratory technician, technical officer, and other R&amp;D staff approved by CEPO on an exceptional basis) employed specifically for the funded project are allowed. The salaries offered to staff should be reasonable, in line with local market benchmarks and comply with formal established pay scale of the host institution that is consistently applied regardless of the source of funds. However, overseas superannuation contributions for expatriate R&amp;D staff are not allowed.</td>
</tr>
<tr>
<td>dental, contribution to welfare fund, etc.</td>
<td></td>
</tr>
<tr>
<td>Bonus / Incentive payments</td>
<td>Allowable as part of a total compensation package, provided such payments are reasonable and are made according to a formal policy of the host university that is consistently applied regardless of the source of funds.</td>
</tr>
<tr>
<td>Overtime</td>
<td>Not allowable.</td>
</tr>
<tr>
<td>Annual leave</td>
<td>Allowable for employees. The number of days of leave accorded to staff must be in accordance with formal policies of the host university that is consistently applied regardless of the source of funds.</td>
</tr>
<tr>
<td>Staff recruitment and related cost</td>
<td>Not allowable. Examples of such costs are advertisement and recruitment agency cost. However, one-time relocation and settling-in allowances for senior expatriate R&amp;D staff are allowed</td>
</tr>
<tr>
<td>PI’s &amp; co-investigators’ EOM cost</td>
<td>Not allowable.</td>
</tr>
<tr>
<td>Visiting Professors</td>
<td>Expenses, honoraria or salaries of overseas experts invited to participate in the project are allowed. These must be budgeted separately in the project budget under the category for Visiting Professor</td>
</tr>
<tr>
<td>Staff insurance</td>
<td>Not allowable.</td>
</tr>
<tr>
<td>Local &amp; international students’ fees or other stipends</td>
<td>Allowable, based on university rates, for full-time graduate research students, and part-time graduate research students employed specifically for the funded project.</td>
</tr>
</tbody>
</table>
## II. OOE Related Expenses

<table>
<thead>
<tr>
<th>Item</th>
<th>Allowability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fines and penalties</td>
<td>Not allowable.</td>
</tr>
<tr>
<td>GST and relevant taxes</td>
<td>Allowable for expenses on OOE and equipment incurred for the project.</td>
</tr>
</tbody>
</table>
| Legal fees                                                           | Allowable to support IP protection (excluding litigation cost) and commercialisation activities (include proof of concept grants, costs for prototyping, etc).  
10% of total direct costs (less Exceptional Items) are allowed to support both in equal share of 5% each.  
To qualify, the funded R&D organization must  
• ensure that all commercial rights are based in Singapore; and  
• account for the use of both funds on an annual basis to CEPO. |
| Local & Overseas conferences                                         | Allowable, if deemed necessary for the successful execution of the funded project. Travel components that are allowed include round-trip airfare on economy class, tourist-class hotel accommodation, daily subsistence and conference registration fees. Daily subsistence costs should be based on host university’s travel policies. The total cost of these components for each trip must not exceed $6,000. The PI must submit a copy of the abstract when claiming reimbursement for such expenses and append to their annual/ final report. |
| Outsourcing of R&D                                                   | Strictly not allowable for any part of the R&D work. |
| Subcontracting of non-research work (e.g. development of tools for the research) | See Section IV on Exceptional Items. |
| Professional membership fees of PIs /RFs /RAs funded from the grant  | Not allowable.                                  |
| Publications                                                         | Allowable.  
Publication page charges for journal papers or additional pages in conference papers are allowed up to a maximum of $1,000 per paper. |
| Training costs                                                       | Allowable.                                      |
| Training materials and other consumables                              | Allowable.                                      |
| Computing/ Services/ Facilities/ Equipment rentals                    | Allowable.                                      |
| Staff retreat                                                        | Not allowable.                                  |
### II. OOE Related Expenses - Overheads

<table>
<thead>
<tr>
<th>Expenses</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Audit, legal, marketing or consultancy fees</td>
<td>These costs are not allowed as direct costs of the funded project, but are supported through indirect costs.</td>
</tr>
<tr>
<td>• Utilities and telecommunications costs</td>
<td></td>
</tr>
<tr>
<td>• Maintenance and repairs of equipment and facilities</td>
<td></td>
</tr>
<tr>
<td>• Refreshments and entertainment expenditure</td>
<td></td>
</tr>
<tr>
<td>• Patent filing and related costs</td>
<td>Conditions for Indirect Costs support:</td>
</tr>
<tr>
<td>• Refurbishments /renovations /adaptations</td>
<td>1. Support for indirect costs is allowed only to Singapore-based Institutes of Higher Learning and not-for-profit entities.</td>
</tr>
<tr>
<td>• Lease/Rent</td>
<td>2. Indirect costs are meant to defray costs for administration (e.g., personnel, finance, IT, library, etc.), space, utilities and other operating costs incurred by an R&amp;D organization in support of the funded project activities. Up to 20% of the total qualifying direct costs (less Exceptional Items) will be allowed.</td>
</tr>
<tr>
<td>• Insurance</td>
<td></td>
</tr>
<tr>
<td>• General office consumables, e.g. stationery and photocopying</td>
<td></td>
</tr>
<tr>
<td>• Purchase of books, manuscripts or reports</td>
<td></td>
</tr>
<tr>
<td>• Basic laboratory consumables</td>
<td></td>
</tr>
<tr>
<td>• Purchase of vehicles or transport costs</td>
<td></td>
</tr>
<tr>
<td>• Other costs not specifically related or justified for the project</td>
<td></td>
</tr>
</tbody>
</table>
### III. Purchase of Equipment

| General policy | New equipment needed directly for the project is allowed. Each piece of equipment must be individually identified and its cost (including bank charges, delivery and installation where necessary) estimated. The purchase of additional equipment or the hiring of new manpower is not allowed 6 months before the project completion date. All equipment costing more than S$100,000 must be classified under “Exceptional Items”. Three quotations must be provided for such equipment in the budget along with full justifications for the need to purchase the equipment. |
| IT equipment | Not allowable. General purpose IT and communication equipment like computers, office productivity software, PDAs, mobile phones, workstations and printers are not allowed unless these are deemed to be necessary for carrying out the R&D work and have been approved by CEPO. |
| Office equipment | Not allowable. |
| Office furniture & fittings | Not allowable. |
| Cost of capital works and general infrastructure | Permissible with strong justification, if infrastructural work is needed to carry out the research. Requires prior approval from CEPO. |

### IV. Exceptional Items

| Equipment costing more than $100,000. | Allowed, but must be individually justified in the proposal. |
| Subcontracting of non-research work (e.g. development of tools for the research) | Allowed if required to carry out the proposed R&D work, but must be individually justified in the proposal. |
| Intellectual property | Allowed if it is required to carry out the proposed R&D work. Must be individually justified in the proposal. |
| Infrastructural work | Permissible with strong justification and prior approval from CEPO. |
C. Interactive Digital Media (IDM)

The NRF has allocated S$500 million over the next five years to fund the development of a strategic Interactive Digital Media ("IDM") research programme to support Singapore’s long-term vision of growing into a global IDM capital.

Leading NRF’s IDM push to explore and enhance a new frontier to support Singapore’s economy, the multi-agency IDM R&D Programme Office within the Media Development Authority of Singapore ("MDA") is set-up to spearhead the growth and development of Singapore’s IDM sector, and coordinates a cross-disciplinary effort to deepen Singapore’s research capacity in IDM.

General research in IDM is under the purview of the MDA while research on the use of IDM in education is spearheaded by the Ministry of Education ("MoE").

2.1.7 IDM R&D Program Grant Call
https://rita.nrf.gov.sg/IDM/IDMprogram/default.aspx

The IDM program supports innovative research in digital animation, electronic games & special effects, "on-the-move" technologies, and mediary services that integrate physical devices and components with computational intelligence and networks. The goal is to design, develop and implement new tools and solutions for creating high quality interactive digital content for a variety of applications in digital filming and electronic games, as well as to explore new modes of interaction and delivery of media-rich content and information to a population that is increasingly on the move. IDM also supports mediary technologies that target the protection, organization, mining, analysis, processing, and packaging of digital content. The program is intended to spur visionary IDM activities in Singapore. The IDM R&D program will continue to offer new challenges to address future business and societal needs.

Application Procedures

To submit a proposal, please register for a Research, Innovation and Technology Administration ("RITA") account and go to IDM Program's website to submit.

Guidelines on the Preparation of Proposals

The IDM R&D Programme Office accepts proposals for IDM R&D projects that contribute to the growth of IDM usage and industry in Singapore. They require the proposal to be written in the format stipulated below, presenting the R&D concept, objectives, and requirements clearly to facilitate the evaluation process. Failure to adhere to the stipulated format may result in rejection of the proposal without review.

Proposals should be prepared in Arial font 10 with single-spacing and should give a description of the project in no more than 10 pages (excluding budget, CVs, and references). Information should include specific aim(s) of the project,
significance, approach, innovation, investigator, environment, and preliminary studies/progress reports related to the research proposal. The novelty and innovative aspects of the proposed work should be emphasized. References should be provided on a separate page. Proposals should be submitted in PDF format (preferred) or Microsoft Word format. Proposals shall include the following sections, each starting on a new page:

**Section I. Administrative**
The cover Sheet (1 page) should include the following:
A. Proposal title;
B. Contact information of principle investigators (PI) and co-principle investigators (Co-PI), including: name, telephone number, email address, fax (if available) and mailing address;
C. Summary of the costs of the proposed research

**Section II. Specific Aims**
State concisely what the project intends to accomplish.

**Section III. Significance**
Briefly describe how this project addresses an important problem. State concisely how the aims of the application are achieved, new knowledge or value will be created. Stately concisely how the effects of the concepts and methods used in this project will drive future R&D in this field. Relevant references should be provided.

**Section IV. Approach**
Discuss in detail the conceptual framework design, methods, and analysis in reference to how they are integrated and appropriate to the aims of the project. Discuss potential difficulties, limitations and problem areas in the proposed procedure, and consideration for alternative tactics.

**Section V. Innovation**
Discuss how the aims of the project are original and innovative. Describe how the project will employ novel concepts, approaches or methods. State concisely how the project challenges existing models, and describe their advantages over existing methodologies or technologies.

**Section VI. Investigator**
Discuss why the investigators are well-suited to carry out this work, with reference to the experience level of the PIs, Co-PIs and other researchers.

**Section VII. Environment**
Discuss how the environment in which the proposed work will be done contribute to the probability of success. Discuss how the proposed approach takes advantage of unique features of the environment or employs useful collaborative arrangements. Include evidence of organizational support for the project.

**Section VIII. Preliminary Studies/Progress Reports**
For new applications, provide an account of the PI/Co-PI's preliminary studies (if any) pertinent to the application and/or any other information that will help to establish the experience and competence of the PI/co-PI pursuing the proposed project.

For renewal applications, give the beginning and end dates of the period covered since the research project was last reviewed. Provide a succinct
account of published and unpublished results, indicating the importance of the findings. Discuss any changes in the project’s specific aims during the periods covered. List the titles and complete references to all publications and completed manuscripts that have resulted from the project.

**Section IX. References**

List in chronological order the titles and complete references to recent representative publications pertinent to this proposal and the applicants’ publications and patents held related to this research proposal.
2.1.8 MoE R&D Programme on IDM in Education


MoE administers NRF’s R&D programme on IDM in Education to support the broader vision of growing Singapore’s IDM brand and the Singapore Education brand. MoE plans to support R&D projects on IDM in Education that could potentially lead to:

- Engaged learning for students in both the school and higher education sectors.
- Development of educational models and tools to equip students with the right skills and competences to be ready for an IDM pervasive environment.
- Commercialisation of successful pedagogical models, tools and content, where appropriate.

Programme Areas

MoE has identified 5 broad programme areas for funding:

1. Learning of the Future
   Designing innovative learning environments that use emerging IDM-based tools and technologies to push the frontier of IDM usage in teaching and learning both in school and beyond.

2. Educational Games
   Designing educational games and simulations that:
   - Engage students in deeper and richer learning
   - Develop their creativity, problem solving and meta-cognitive skills
   - Allow them to learn by being designers of games

3. Digital Literacies and Modalities of Representation
   Understanding the issues related to pedagogy, learning, design and persuasion using multi-modal forms of electronic representations and media (e.g. interactive art, digital textbooks) in IDM environments.

4. Immersive Virtual Environments
   Understanding and developing virtual social spaces for learning, for example, growing and sustaining online learning communities and identity formation in avatar-based online environments.

5. Impact of IDM Use among Students
   Understanding the impact of widespread use of IDM on students’ social, emotional and cultural development.

Eligibility

Researchers from all Singapore-based universities, polytechnics, schools, other institutions of higher learning, research institutes, not-for-profit research labs, and other public sector agencies are eligible to apply for this funding. Priority will be given to Principal investigators who are full-time faculty of Singapore-based institutions of learning. Principal investigators have to be fully based in Singapore and the funded research has to be conducted in Singapore.
Overseas experts invited to collaborate on projects should spend sufficient time in Singapore to build up local research capacity in new areas, with the assistance of a local PI to ensure continuity. Expenses, honoraria or salaries of these overseas experts are to be budgeted separately under the category for Visiting Professor/Expert in the Expenditure on Manpower ("EOM") section in the RITA system.

Application Procedures

1. A call for synopsis will be made.
2. PI to submit a 4-page preliminary proposal outlining the following items:
   - Research programme area of the project
   - Contact details of PI, co-PIs and collaborators
   - Aims and educational objectives of the project
   - Approach to be taken for the project (include the name(s) of the school(s)/institution(s) in which the research will be conducted, the role(s) of the teacher(s)/lecturer(s) in the project and any training/preparation provided to them)
   - Deliverables expected from the project including
     - Average no. of papers published in peer-reviewed publications or presented in reputable international conferences
     - Average no. of postgraduate students (Masters and PhD) and post-doctoral researchers trained
     - No. of conferences/seminars/workshops on IDM in education organised
     - No. of patents created or products commercialised
     - No. of programmes to be scaled up in or rolled out schools/institutions
   - Proposed cashflow over 3 years and the overall budget (do not include overheads to the institution).

<table>
<thead>
<tr>
<th>Category</th>
<th>FY2008 (01/04/08 – 31/03/09) ($)</th>
<th>FY2009 (01/04/09 – 31/03/10) ($)</th>
<th>FY2010 (01/04/10 – 31/03/11) ($)</th>
<th>Total ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EOM</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equipment</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OOE</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total ($)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: PIs are advised to adhere strictly to the 4 page limit imposed by MoE.

Pointers

- There is no cap on the amount requested. However, PIs are to take note that the higher the amount requested for, a higher output in the KPIs is expected from the PI;
- MoE advised that there is no need to factor in indirect cost at this stage of the proposal but for clarity, PIs are advised to include a footnote saying that their requested budget does not include indirect costs;
Although hardcopy is not required for submission to MoE, one hardcopy is required to be submitted to RSO within three(3) days of the submission through RITA for record purposes;

While signatures of HOD and Chairs of Schools are not required, PIs are strongly encouraged to keep their HOD and Chair of Schools informed about their intention to submit a synopsis paper;

There is no need to attach a C.V.

PIs are advised to keep to the information required as stated by MoE, attachments are not required;

The format of the wordings in the synopsis should be in Arial font size 12.

NIE staff should submit the proposals directly to MOE for evaluation. The cashflow provided to NIE staff will flow directly from MOE to NIE rather than through RSO.

**Invitation-Based Call for Proposals**

A second invitation-based call for full proposal will be made exclusively for PIs who:

- Have submitted successful synopses, or
- Have been recommended to revise and resubmit proposals made in the first call

All full proposals and required attachments (refer to Annex C) should be submitted electronically via RITA. PIs and their collaborators have to register for their RITA accounts by entering their key personal information and uploading their CVs. To create their personal accounts, PIs and their collaborators are to click the Register link on the left side of the RITA website at [http://rita.nrf.gov.sg](http://rita.nrf.gov.sg). A CV should comprise 2 pages containing the most recent and relevant information about the applicant:

- Name
- Current position and past employment history (please provide full details, e.g. joint appointments)
- Academic qualifications (please indicate institution’s name and year of degree awarded)
- Selected publications (not more than 10 most relevant publications)
- Research interests and recent awards
- Current and previous grant support (include proposals pending approval)

Once the accounts have been registered, the PIs can proceed to submit their proposals via RITA. The RITA submission comprises 6 sections: Project Details, Description, Declaration of Other Funding Support, Proposed Budget, Activities and Performance Indicators and Reviewers. Details of each section to be filled in are as follows:

**A. Project Details**

1. The project title should be descriptive and yet not too long to be unwieldy.
2. The host institution should be that of the PI to handle the NRF funds to be disbursed by MoE.
3. The field of research should indicate the programme area(s) for the project.
4. PIs should also provide useful keywords for the project such as the pedagogical approach taken or the use of the technology.
5. All collaborators, including those from foreign institutions, should be added.

B. Description

1. The objectives of the project should state specifically the educational goals and the use of the technology to support these goals.
2. The same write-up can be provided for the Scientific Abstract and the Lay Abstract. It should be written simply to clearly articulate the intent of the project to the international reviewers and the expert panel.
3. The potential application or exploitation of the project refers to how the research can be later adopted for implementation in schools or IHLs. It could also refer to commercially viable products and patents that may arise from the research.
4. PIs should note that the maximum project duration is 3 years.
5. A 10-page write-up of the details of research proposal (excluding references and appendices) should be attached in section 2 of RITA. This document is to be typewritten in point 12 Arial font with the left and right margin set to 1.25", and the top and bottom margin set to 1". Information SHOULD include specific aim(s) of the project, its significance, the approach taken, its innovation, the investigators involved and the environment. The educational and innovative aspects of the proposed research are to be clearly articulated.
6. PIs are to attach their Ethics Declaration in section 2 of RITA. All proposals involving human participation require ethical clearance. PIs should follow the ethics guidelines of their respective institutions and submit a full Ethics Approval to MoE after the proposal has been awarded funding.

C. Declaration of Other Funding Support

PIs should indicate whether they are in receipt of or have applied for any other form of Government funding. This is to avoid double funding of proposals.

D. Proposed Budget

1. The budget for a proposal should be keyed directly into the RITA fields with supporting documents (e.g. quotations of equipment or detailed justifications of items that are difficult to key directly into RITA) to be provided as attachments.
2. PIs should exercise due diligence in drafting their proposed research budgets as NRF expects 95% yearly utilisation of budget. Failure to meet this level of utilisation may result in the host institution being penalised.
3. All figures quoted should include all taxes such as the 7% GST. For EOM, the figures quoted should include elements such as CPF.
4. All items should be duly justified in RITA, regardless of the size of the budget. Justification should state clearly the use of the item and its relevance to the research, as well as to provide indications of how the quoted figures are derived.
5. For EOM items not listed in RITA, PIs can add these items by clicking “Add new EOM”.
6. The host institution of funded proposals will automatically receive an extra 20% of the approved budget as overheads. Unlike in the first call, PIs should not budget for overheads.

7. PIs should adhere to the guidelines for fundable and non-fundable items found in Annex C.

E. Activities and Performance Indicators

1. Activities for the proposed project are to be keyed into the RITA fields. PIs are to provide reviewers and evaluators with a good sense of the implementation path of their research. It is compulsory to attach the Gantt Chart for the project.

2. PIs are to take note of the following points when keying in these performance indicators:
   - The number of Master’s and PhD students trained should be reflected in the year in which the students graduate.
   - The number of Researchers, Scientists and Engineers (RSEs) involved should be reflected in the year that the RSEs join the project. Each RSE should be reflected only once.
   - The total number of RSEs should be all researchers involved in the project, excluding the full-time postgraduate research students who hold formal qualifications at the university degree level.

3. PIs may also attach additional KPIs that are not listed in the RITA fields.

F. Reviewers

1. PIs are to recommend six international reviewers to be considered for selection by MoE.

2. PIs must ensure the availability of the recommended reviewers during the evaluation period in the event that they are notified by MoE to send in their evaluation report.

3. PIs must also ensure that the recommended international reviewers:
   - are experts in the subject matter capable of offering unbiased expert opinions on scientific merit of the proposed project.
   - have broad knowledge of the field to evaluate the broader, multidisciplinary, societal and educational impact of the proposed project.
   - have good knowledge of global developments in the field to evaluate the competitiveness of the proposed project.
   - have no conflict of interest professionally and financially.

Endorsement of Proposals by Director of Research

To submit the online proposals with the required attachments, PIs should press the button “Preview and Save as Draft” at the Reviewers section of RITA. PIs should follow the instructions to reach Step 3, where they will have to press the button “Submit Proposal for Endorsement Now” to complete the submission process.
**Evaluation Criteria**

PIs should follow closely the submission guidelines so as to facilitate the administration and evaluation of their proposals. Proposals that do not adhere to the submission guidelines might not be accepted for evaluation.

Evaluation of proposals will follow a two-step process, comprising a first round of international reviewer reports to be solicited via RITA and a second round of evaluation by an international expert panel to be convened in Singapore. Each proposal will be reviewed by 3 international domain expert reviewers. The international evaluation panel will take into consideration these international reviewer reports when making funding recommendations to MoE’s approving authorities.

The criteria includes the significance of the project, the approach taken, the originality of methods and approaches, the track record of PIs, the impact of environment, and the reasonableness of the budget.

**Award Process**

The following processes will take place after the online submission of proposals by PIs:

1. The Director of Research ("DoR") of the host institution will endorse the proposal.

2. The completeness check by MoE will take place within 1 week after the close of the call for proposals. RSO will inform the PIs to amend certain sections of their online proposal submissions according to the requirements of MoE.

3. After the completeness check, PIs will submit to MoE (through RSO) hard-copies of their proposals along with the original copies of the signed Ethics Declaration form and other supporting documents.

4. The Research Support Office will be the point of contact between MoE and PIs for all matters pertaining to the R&D programme on IDM in Education. PIs are requested to be on standby during the period of the IEP meeting to provide clarifications to IEP queries if they arise. The notification of results will also be communicated to PIs by RSO.
FAQ on R&D on IDM in Education
(Version 27 Feb 2007)

General

What are the desired outcomes of the MoE R&D Programme on IDM in education?
The MoE R&D programme on IDM in education will support the broader vision of
growing Singapore’s IDM brand and the Singapore Education brand. MoE plans to
support R&D projects on IDM in education that could potentially lead to:
• Engage learning for students in both school and higher education sectors
• Development of educational models and tools to equip students with the
right skills and competences to be ready for an IDM pervasive
environment
• Commercialisation of successful pedagogical models, tools and content,
where appropriate

Which agency is managing the R&D programme on IDM in education?
The R&D programme on IDM in education is chaired by Dr Koh Thiam Seng,
Director, Educational Technology. An MoE IDM Programme Office has been set up
to be the single point of contact for all matters pertaining to IDM R&D in both
school and higher education sectors as well as to oversee the evaluation and
progress of collaborative IDM R&D projects. The contact person is Dr Daniel Tan,
Assistant Director of Technologies for Learning.

What is the role of MoE IDM Programme Office?
The MoE IDM Programme Office will evaluate, manage and monitor R&D projects,
develop structures and guidelines to manage IP rights and facilitate the
commercialisation and export of successful products from the projects.

Research Focus

What are the programme areas related to R&D on IDM in education?
The MoE IDM Programme Office has identified 5 broad programme areas for
funding:

1. Learning of the Future: Designing innovative learning environments that
use emerging IDM-based tools and technologies to push the frontier of IDM
use in teaching and learning both in school and beyond

2. Educational Games: Designing educational games that (i) develops
students’ creativity, problem solving and meta-cognitive skills, (ii) engages
them in deeper and richer learning of content and (iii) allows them to learn by
being creators of games

3. Digital Literacies and Modalities of Representation: Understanding the
issues related to pedagogy, learning, design and persuasion using multi-modal
forms of electronic representations and media (e.g. interactive art, digital
textbooks) in IDM environments
4. **Immersive Virtual Environments**: Understanding and developing virtual social spaces for learning, for example, growing and sustaining online learning communities and identity formation in avatar-based online environments

5. **Impact of IDM Use among Students**: Understanding the impact of widespread use of IDM on students’ social, emotional and cultural development

**What is the difference between research-based projects and development-based projects that are funded under the R&D programme on IDM in education?**

Research-based projects will develop new tools/approaches to media development and novel learning environments that are not currently available in the market as well as new understanding of how students learn that could be potentially transform teaching and learning. The goal of these upstream projects is to create new knowledge and understanding in the field of IDM in education. The research outcomes are not likely to be ready for widespread adoption or commercialisation in the next 5 years.

On the other hand, development-based projects should possess a high potential for commercialisation. These projects will create new or customise existing IDM tools, methodologies and media to develop new innovative pedagogical models that will be implemented or piloted in at least one level within a school environment. The goal of these downstream projects is to have widespread adoption by schools and commercialisation of successful pedagogical models, tested IDM-based tools and new media content. Partnership with industry players is expected in order to leverage on their ready standards for widespread adoption and commercialisation.

**I am interested to develop a new IDM tool using Open Source Software (OSS). Should I submit my proposal as a research-based or development-based project?**

The development of a new tool using OSS can also be viewed as creation of new knowledge that could have the potential to impact teaching and learning. If the commercialisation or widespread adoption of this tool is not one of the primary research objectives, the proposal should be submitted as a research-based project.

**Who is accountable for the KPIs on commercialisation?**

Institutes of Higher Learning (IHLs) should have the necessary systems and processes in place to facilitate the commercialisation of the research outcomes for projects that have commercialisation potential.

**Funding**

**What is the funding principle for the R&D programme on IDM in education?**

Collaborative R&D projects should be carried out predominantly in Singapore and tested out in Singapore schools. Multi-disciplinary research projects are encouraged.
What is the funding period for projects under the R&D programme on IDM in education?
Most of the projects under the R&D programme on IDM in education will be funded over a period of 3 years. The MoE IDM Programme Office will decide on a case-by-case basis whether the funding period can be shorter than 3 years or extended beyond 3 years.

How will the funds be downloaded for the approved projects?
The relevant IHLs will be reimbursed for the expenditure of the Principal Investigators (PIs) once every 3 months. Successful PIs will be asked to compute quarterly cashflow requirements.

What happens if funding is not used up by the end of the stated project?
PIs are expected to utilise at least 95% of the allocated funding at the completion of their projects. Justifications have to be provided for funding that is not utilised. Funding not exhausted by the end of the three-year period will be returned to the MoE IDM Programme Office.

Role of PI
What is the role of the PI?
The PI has to oversee the research project, manage the project budget, monitor project KPIs and submit project updates to the MoE IDM Programme Office.

Submission of Proposals
Who can apply for research funding under MoE’s call for proposals?
Researchers from all Singapore-based universities and polytechnics are eligible. If you are from local schools, not-for-profit research labs and other public sector agencies, you should seek a partnership with IHLs.

How will I know if a call for proposals has been announced?
The call for proposals will be announced via the Research Innovation and Technology Administration (RITA) website (https://rita.nrf.gov.sg) and through the Research Support Office (RSO) of all eligible IHLs.

How do I submit my proposal?
All proposals have to be submitted through the RITA system. All PIs and their collaborators have to register for a RITA account. For more information on submission procedures, please refer to the RITA user guide available for download at the RITA website (https://rita.nrf.gov.sg).

Can I edit my submissions after I have submitted my proposal via RITA?
No, please ensure that all application details are accurate before submitting your proposal via RITA.

Can I apply again even though my proposal was rejected in the last call for proposal?
The MoE IDM Programme Office will inform the PI whether the proposal can be resubmitted for the next call.

**Evaluation of Proposals**

*How does MoE select international reviewers?*
The PIs will recommend six international reviewers and the MoE IDM Programme Office will make the final decision on the selection of international reviewers which may or may not be in the PI's list.

*How will the selected international reviewers be informed to review my proposal?*
Once the MoE IDM Programme Office selects the international reviewers, they will be informed via RITA.

*How will the research proposals be evaluated?*
The research proposals will be evaluated by MoE's Evaluation Committee and Expert Panel. The Expert Panel, chaired by the Director of Educational Technology, will comprise internationally recognised researchers in the IDM and/or educational field with experience working on editorial boards of peer-reviewed journals, review panels of international funding agencies or scientific advisory boards.

**Awarding of Funding**

*How will I be informed of the outcome of my proposal submission?*
The host institution and the PI will be informed via a formal letter of notification of the award status.

*If my proposal is accepted, when should my project commence?*
The project should commence within a month of approval of funding.

**Contact Information**

*Who should I call if I have further questions?*
For questions regarding the use of RITA, please contact NRF at 63329017 or NRF_Contact@nrf.gov.sg
For questions regarding MoE’s call for proposals, please email MoE IDM Programme Office at MoE_ETD_IDM@moe.gov.sg
## Annex A – Guidelines for RITA Submission
(For MoE R&D Programme on IDM in Education -Version 27 Feb 2007)

<table>
<thead>
<tr>
<th>Name of field/ hyperlink</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>My Profile</td>
<td>Update your personal profile prior to application for funding. To update, click My Profile located at the left side bar</td>
</tr>
</tbody>
</table>
| Curriculum Vitae          | Attach your curriculum vitae (txt, doc, pdf or zip format) to include the following details:  
- Name  
- Current position and past employment history (Please provide full details, e.g. joint appointments)  
- Academic qualifications (Please indicate institution’s name and year degree awarded)  
- Selected publications (not more than 10 relevant publications)  
- Research interests/Recent awards  
- Current and previous grant support (Please include proposals pending approval) |

### Fields pertaining to electronic application form

| Field of Research | Indicate one of the five programme areas:  
- Learning of the Future  
- Educational Games  
- Digital Literacies and Modalities of Representation  
- Immersive Virtual Environments  
- Impact of IDM Use among Students |
| Keywords          | Enter up to six keywords:  
- FIRST keyword - your programme area (e.g. Learning of the Future)  
- SECOND keyword - nature of your project (i.e. research-based or development-based) |
| Details of Research Proposal | • Provide a more detailed description of your research by using the attached template Details of proposal which can be found by clicking the link ‘programme guidelines found here’  
• Provide an ethics declaration in Section 2 and 3 of the same form. Failure to do so may result in rejection of the proposal |
| Proposed Budget   | Exercise due diligence in drafting your proposed research budget as NRF expects 95% utilisation of the total budget at the completion of the project |
| Expenditure On Manpower (EOM) | • Enter your EOM by following the recommended NRF’s ‘cost per head per year’ guidelines  
• Add additional EOM not listed in RITA under ‘Add new EOM’ |
|-------------------------------|--------------------------------------------------------------------------------------------------|
| Other Operating Expenditure (OOE) | Add an additional OOE item entitled ‘Overheads’ to account for costs that are not specifically related to the project.  
NOTE: Overheads are meant to defray costs for administration (e.g. personnel, finance, IT, library, etc.), space, utilities and other operating costs incurred by an R&D organisation in support of the funded project activities. Up to 20% of the total direct costs (less Exceptional Items) will be allowed.  
Only Singapore-based Institutes of Higher Learning and not-for-profit entities are eligible.  
Use the following formula when calculating the overheads for your project:  
Overheads = 0.2 × (Direct costs less exceptional items)  
A detailed list of fundable, non-fundable, exceptional and overheads (to be included in indirect costs) items can be found in Annex B- Guidelines for Fundable/Non-Fundable Items.  
PIs will only need to calculate the indirect costs for the first call. The overheads will be automatically computed by RITA in subsequent calls. |
| Full details of proposed budget | Provide the detailed breakdown of budget for each IHL involved in collaborative projects as well as the overall budget |
| Additional KPIs | Upload additional KPIs, or KPIs not listed under ‘Activities and Performance Indicators’ as an attachment under ‘Additional KPIs’ |
| Suggested names of local and overseas reviewers | RECOMMEND SIX international reviewers for selection by the MoE IDM Programme Office  
• Ensure the availability of the recommended reviewers during the evaluation period should they be notified by the MoE IDM Programme Office to send in the evaluation report  
• Applicants must ensure that the recommended reviewers:  
  ✓ are experts in the subject matter capable of offering unbiased expert opinions on scientific merit of the proposed project; |
- have broad knowledge of the field to evaluate the broader, multidisciplinary, societal and educational impact of the proposed project;
- have good knowledge of global developments in the field to evaluate the competitiveness of the proposed project;
- have no relationship, direct or otherwise, with the applicants (e.g. thesis advisor/advisee, current/recent (in the past 24 months) research collaborator, colleagues in the same organisation, family, etc.);
- have no potential financial interest in the proposed project.
### Annex B - Guidelines for Fundable/ Non-Fundable Items

<table>
<thead>
<tr>
<th>Type of Expenses</th>
<th>General IDM R&amp;D Programme</th>
<th>R&amp;D on IDM in Education</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>EOM Related Expenses</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Salaries, CPF and fringe benefits including medical, dental, contribution to welfare fund, etc.</td>
<td>Allowable as part of overall compensation to employees provided such costs are incurred under formal established and consistently applied policies of the host institution. The salaries offered to staffs should be reasonable, in line with local market benchmarks and comply with formal established pay scale of the host institution that is consistently applied regardless of the source of funds.</td>
<td>Allowable for salaries, employer’s central provident fund contributions and allowances for research staff (research fellow, research engineer/assistant, specialist laboratory technician, technical officer, and other R&amp;D staff approved by NRF on an exception basis) employed specifically for the funded project are allowed. The salaries offered to staffs should be reasonable, in line with local market benchmarks and comply with formal established pay scale of the host institution that is consistently applied regardless of the source of funds. However, overseas superannuation contributions for expatriate R&amp;D staff are not allowed.</td>
</tr>
<tr>
<td>Bonus / Incentive payments</td>
<td>Allowable as part of a total compensation package, provided such payments are reasonable and are made according to a formal policy of the host institution that is consistently applied regardless of the source of funds.</td>
<td>Allowable as part of a total compensation package, provided such payments are reasonable and are made according to a formal policy of the host university that is consistently applied regardless of the source of funds.</td>
</tr>
<tr>
<td>Overtime</td>
<td>Not allowable</td>
<td>Not allowable</td>
</tr>
<tr>
<td>Annual leave</td>
<td>Allowable for employees. The number of days of leave accorded to staff must be in accordance with formal policies of the host institution that is consistently applied regardless of the source of funds.</td>
<td>Allowable for employees. The number of days of leave accorded to staff must be in accordance with formal policies of the host university that is consistently applied regardless of the source of funds.</td>
</tr>
<tr>
<td>Staff recruitment and related cost</td>
<td>Not allowable. Examples of such costs are advertisement and recruitment agency cost.</td>
<td>Not allowable. Examples of such costs are advertisement and recruitment agency cost. However, one-time relocation and settling-in allowances for</td>
</tr>
<tr>
<td>Category</td>
<td>Allowable Conditions</td>
<td>Not Allowable Conditions</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Recruitment agency cost. Staff relocation, settling-in allowances, etc.</td>
<td>Allowable for expatriate scientists if the costs are specifically provided for and approved in the project grant.</td>
<td></td>
</tr>
<tr>
<td>Senior expatriate R&amp;D staff are allowed.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PI’s &amp; co-investigators’ EOM cost</td>
<td>Not allowable unless specifically provided for in the grant and approved by IDM R&amp;D Programme Office.</td>
<td>Not allowable</td>
</tr>
<tr>
<td>Visiting Professors</td>
<td>Not allowable unless specifically provided for in the grant and approved by IDM R&amp;D Programme Office.</td>
<td>Expenses, honoraria or salaries of overseas experts invited to participate in the project are allowed. These must be budgeted separately in the project budget under the category for Visiting Professor / Expert.</td>
</tr>
<tr>
<td>Staff insurance</td>
<td>Only fund premiums will be funded for such plans if they are incurred under an established and consistently applied policy of the host institution. Host institution may be requested to certify that such payments are in accordance with its established policy or on the same terms as the other staff.</td>
<td>Not allowable</td>
</tr>
<tr>
<td>Local &amp; international students’ fees or other stipends or awards to students</td>
<td>Allowable for postgraduate research students receiving research training in our local institutions while working on the project.</td>
<td>Allowable, based on university rates, for full-time graduate research students, and part-time graduate research students employed specifically for the funded project.</td>
</tr>
<tr>
<td>Volunteers and research patients</td>
<td>Allowable for payment to volunteers and research subjects provided this is within the scope of the research and has been provided for in the grant and approved by IDM R&amp;D Programme Office.</td>
<td>Allowable with justification if this is within the scope of the research and approved by MOE.</td>
</tr>
</tbody>
</table>
## OOE Related Expenses

<table>
<thead>
<tr>
<th>Expense</th>
<th>Allowable/Not allowable</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Audit fees</td>
<td>Not allowable. This includes both internal and external audit fees.</td>
<td>These costs are not allowed as direct costs of the funded project, but are supported through <em>indirect costs</em>.</td>
</tr>
<tr>
<td>Bank charges</td>
<td>Allowable as long as it is specifically related to the payments for consumables and equipment used in the project.</td>
<td>These costs are not allowed as direct costs of the funded project, but are supported through <em>indirect costs</em>.</td>
</tr>
<tr>
<td>Books and specialised journals relevant to the research</td>
<td>Allowable. If the host institution has a library, books and journals should be obtained from the library and PI should refrain from purchasing the same books or subscribing to such journals. The funding for journal subscription would be restricted to the duration of the project.</td>
<td>These costs are not allowed as direct costs of the funded project, but are supported through <em>indirect costs</em>.</td>
</tr>
<tr>
<td>Customs and import duties</td>
<td>Allowable as long as it is specifically related to importation of consumables and equipment used in the project.</td>
<td>These costs are not allowed as direct costs of the funded project, but are supported through <em>indirect costs</em>.</td>
</tr>
<tr>
<td>Entertainment &amp; Refreshment</td>
<td>Not allowable</td>
<td>These costs are not allowed as direct costs of the funded project, but are supported through <em>indirect costs</em>.</td>
</tr>
<tr>
<td>Fines and penalties</td>
<td>Not allowable</td>
<td>Not allowable</td>
</tr>
<tr>
<td>GST &amp; relevant taxes</td>
<td>Allowable for expenses incurred for the project.</td>
<td>Allowable for expenses on OOE and equipment incurred for the project.</td>
</tr>
<tr>
<td>Insurance premiums</td>
<td>Not allowable. The host institution is responsible for the insurance of the equipment, relevant workmen compensation and professional indemnity insurance which are in line with the host institution’s risk policies.</td>
<td>These costs are not allowed as direct costs of the funded project, but are supported through <em>indirect costs</em>.</td>
</tr>
<tr>
<td>Legal fees</td>
<td>Not allowable</td>
<td>Allowable to support IP protection (excluding litigation cost) and commercialisation activities (include proof of concept grants, costs for</td>
</tr>
<tr>
<td>Local &amp; Overseas conferences</td>
<td>Allowable, if conference is directly relevant to the research area or necessary to accomplish the project objectives for PI, co-investigators, co-applicants, researchers and lab technicians funded under the project grant. Generally, sending of attachment students for conference is not allowable. If the PI wishes to send approved attachment students for conference, please write to IDM R&amp;D Programme Office with the appropriate justifications to seek approval prior to commencement of the conference. If the conferences are conducted overseas, the travel policy of the host institution must be consistently adhered to. The PI is required to submit a copy of the abstract when claiming reimbursement for such expenses.</td>
<td>Allowable, if deemed necessary for the successful execution of the funded project. Travel components that are allowed include round-trip airfare on economy class, tourist-class hotel accommodation, daily subsistence and conference registration fees. Daily subsistence costs should be based on host university’s travel policies. The total cost of these components for each trip must not exceed S$6,000. The PI must submit a copy of the abstract when claiming reimbursement for such expenses and append to their annual/ final report.</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Overhead expenses rental, utilities, telephone charges, facilities management, etc</td>
<td>Not allowable</td>
<td>These costs are not allowed as direct costs of the funded project, but are supported through <em>indirect costs</em>.</td>
</tr>
<tr>
<td>Category</td>
<td>Allowability</td>
<td>Comments</td>
</tr>
<tr>
<td>-----------------------------------------------</td>
<td>--------------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Patent application</td>
<td>Not allowable. This includes patent application filing, maintenance and other related cost. Such cost should be paid by the host institution.</td>
<td>These costs are not allowed as direct costs of the funded project, but are supported through <em>indirect costs</em>.*.</td>
</tr>
<tr>
<td>Photocopying charges</td>
<td>Allowable</td>
<td>These costs are not allowed as direct costs of the funded project, but are supported through <em>indirect costs</em>.*.</td>
</tr>
<tr>
<td>Professional fees (including fees to consultants)</td>
<td>Not allowable</td>
<td>These costs are not allowed as direct costs of the funded project, but are supported through <em>indirect costs</em>.*.</td>
</tr>
<tr>
<td>Professional membership fees of RFs/RAs funded from the grant</td>
<td>Not allowable</td>
<td>Not allowable</td>
</tr>
<tr>
<td>Publications</td>
<td>Allowable. Page charges for publication of manuscript in professional journals are allowable. The costs of reprints and publishing in other media, such as books, monographs and pamphlets are not allowable unless specific approval has been obtained from IDM R&amp;D Programme Office.</td>
<td>Allowable. Publication page charges for journal papers or additional pages in conference papers are allowed up to a maximum of $1,000 per paper.</td>
</tr>
<tr>
<td>Purchase of lab supplies, consumables, animals, use of services or lab spaces within the host institution’s central facilities</td>
<td>Allowable. The cost for the use of the services and central facilities owned by the host institution such as animal holding units, central laboratory services are allowable and must be based on host institution’s fee schedules which are consistently applied regardless of source of funds. Host institution may be requested to certify that the fee structure is applied consistently.</td>
<td>These costs are not allowed as direct costs of the funded project, but are supported through <em>indirect costs</em>.*.</td>
</tr>
<tr>
<td>Repairs and maintenance of research equipment</td>
<td>Allowable, if the expenditure is incurred to upkeep the equipment used extensively for the benefit of the research project. The period of maintenance funded from the research grant should be restricted to the duration of the project.</td>
<td>These costs are not allowed as direct costs of the funded project, but are supported through <em>indirect costs</em>.*.</td>
</tr>
<tr>
<td>Item</td>
<td>Allowable/Not Allowable</td>
<td>Note</td>
</tr>
<tr>
<td>-------------------------------------------</td>
<td>-------------------------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>Staff retreat</td>
<td>Not allowable</td>
<td>These costs are not allowed as direct costs of the funded project, but are supported through indirect costs*.</td>
</tr>
<tr>
<td>Stationery &amp; printer consumables</td>
<td>Not allowable</td>
<td>These costs are not allowed as direct costs of the funded project, but are supported through indirect costs*.</td>
</tr>
<tr>
<td>Transportation, postage &amp; courier services</td>
<td>Allowable</td>
<td>These costs are not allowed as direct costs of the funded project, but are supported through indirect costs*.</td>
</tr>
<tr>
<td>Outsourcing of R&amp;D</td>
<td>Not specified</td>
<td>Strictly not allowable for any part of the R&amp;D work.</td>
</tr>
<tr>
<td>Subcontracting of non-research work (e.g.</td>
<td>Not specified</td>
<td>See Exceptional Items.</td>
</tr>
<tr>
<td>development of tools for the research)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Training costs, Training materials and</td>
<td>Not specified</td>
<td>Allowable</td>
</tr>
<tr>
<td>other consumables</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Computing/Services/Facilities/Equipment</td>
<td>Not specified</td>
<td>Allowable</td>
</tr>
<tr>
<td>rentals</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Purchase of Equipment**

| General policy | There shall be no purchase of equipment 6 months before the completion date of the project. The completion date of the project refers to latest approved completion date. | New equipment needed directly for the project is allowed. Each piece of equipment must be individually identified and its cost (including bank charges, delivery and installation where necessary) estimated. The purchase of additional equipment or the hiring of new manpower is not allowed 6 months before the project completion date. All equipment costing more than $100,000 must be classified under "Exceptional
<table>
<thead>
<tr>
<th>Exceptional Items (For R&amp;D on IDM in Education)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equipment costing more than $100,000.</td>
</tr>
<tr>
<td><strong>Subcontracting of non-research work (e.g. development of tools for the research)</strong></td>
</tr>
<tr>
<td>---</td>
</tr>
<tr>
<td><strong>Intellectual property</strong></td>
</tr>
<tr>
<td><strong>Payment to volunteers and research patients.</strong></td>
</tr>
</tbody>
</table>

*Conditions for Indirect Costs support:*

1. Support for indirect costs is allowed only to Singapore-based Institutes of Higher Learning and not-for-profit entities.

2. Indirect costs are meant to defray costs for administration (e.g., personnel, finance, IT, library, etc.), space, utilities and other operating costs incurred by an R&D organization in support of the funded project activities. Up to 20% of the total qualifying direct costs (less Exceptional Items) will be allowed.

3. Note: Overheads will be budgeted automatically by RITA.
Annex C – Details of Research Proposal
(MoE R&D Programme on IDM in Education)

1. Specific Aims
State concisely
• the educational problem to be addressed,
• the proposed learning goals and
• the targeted learners and settings.

2. Significance
• Describe how the proposed technological and educational solution will impact education.
• State concisely how the effects of concepts and methods used in this project will drive future research in this field.

3. Approach
• Discuss in detail the conceptual framework and methodology in reference to how they are integrated and appropriate to the aims of the project. In particular,
• Provide descriptions of the tools/methods/processes that will be created or used. Where available tools/methods/processes are used, explain why these are selected instead of others.
• Describe how the tools/methods/processes are to be applied in educational settings, preferably with examples and illustrations.
• Describe how evaluation will be carried out to assess the effectiveness of the solution.
• Identify potential difficulties, limitations and problem areas in the proposed procedure, and propose consideration for alternative tactics.
• Where possible, provide evidence that due consideration has been made with regard to issues of scalability and sustainability.
• Where applicable, provide an account of the Principal Investigator’s preliminary studies pertinent to the proposal.

4. Innovation
• Discuss how the aims of the project are original and innovative.
• Describe how the project will employ novel concepts, approaches or methods.
• State concisely how the project challenges existing models, and describe their advantages over existing solutions.

5. Investigator
• Discuss why the investigators are well-suited to carry out this work, with reference to the experience level of the Principal Investigator and other researchers (if any).

6. Environment
• Discuss how the environment in which the proposed work will be done contribute to the probability of success, taking into consideration the
research institutions involved, as well as the institutions of learning where the solution will be applied.

- Discuss how the proposed approach takes advantage of unique features of the environment or employs useful collaborative arrangements.
- Include evidence of support for the project from research institutions, schools and instructors/teachers where relevant.

7. References (excluded from 10-page restriction)
   Please list in chronological order the titles and complete references to recent representative publications pertinent to this proposal and the applicants’ publications and patents held related to this research proposal.

8. Other Supporting Documents (excluded from 10-page restriction)
   Where applicable, the following supporting documents can be provided:
   - 1-page technical appendix on the technology to be used.
   - 2-page appendix containing storyboards, mock-ups and screen-captures.
   - CD-ROM containing prototypes (to be submitted with the hard copy of the proposal).
Annex D – PI’s Checklist for Submission of Proposal
(For MoE R&D Programme on IDM in Education)

Pre-submission Check

New Proposal

- The proposal has clearly articulated the educational aims and the evaluation of outcomes.

Proposal Invited for Resubmission

- The proposal has been amended to incorporate the feedback of the International Expert Panel.
- The proposal has not been submitted to other funding initiatives.
- All PIs, co-PIs and collaborators from local and foreign institutions have been included in the proposal (see 2.1.5).
- The 2-page CVs with the most up-to-date and relevant information about the PIs, co-PIs and collaborators have been attached in RITA

RITA Submission Check

- The programme area for the proposal has been clearly indicated in RITA
- The detailed research proposal (excluding the references and appendixes) is no more than 10 pages. The references and appendixes are located at the end of the 10-page proposal.
- The signed Ethics Declaration Form is scanned and uploaded to RITA as an attachment
- All budget details have been entered directly into the RITA fields. Attachments will contain additional information in support of the budget that is indicated in RITA
- **No** overheads have been budgeted
- All guidelines on budgeting have been adhered to
- A Gantt Chart has been attached in the “Activities and Performance Indicators” section of RITA
- A list of 6 recommended international reviewers has been indicated in RITA
- The proposal has been sent via RITA to be endorsed by the Director of Research
D. Other NRF Programs

2.1.9 NRF Competitive Research Program (CRP) Funding Scheme
https://rita.nrf.gov.sg/AboutUs/NRF_Initiatives/CRP/default.aspx

Launched in April 2006, the CRP Funding Scheme aims to support programs, each comprising multiple related projects under a unifying theme, through a bottom-up approach. The aim of the CRP Funding Scheme is to complement the existing Strategic Research Programs that have been identified top-down (i.e., Biomedical Sciences, Environmental and Water Technologies, and Interactive and Digital Media) and to identify potential strategic research areas in which Singapore can invest to develop new industries for the future. The NRF has allocated S$250 million for this scheme.

The maximum funding support provided per awarded program is up to S$10 million over three to five years (3+2 years with mid-term review). Estimated number of award is five. Two grant calls are expected to be made yearly.

Eligibility

1. Open to researchers from both public and private sector organizations. Co-funding is required for funding of the private sector.
2. Only research conducted in Singapore may be funded under this scheme.

Award Process

1. NRF Launches call for CRP
2. PIs submit 5-page White Paper proposals
3. CRP Local Evaluation Panel reviews and shortlists suitable submissions for development into full proposals
4. NRF sends full proposals for international peer review
5. International Evaluation Panel evaluates full proposal and selects programs for award

Evaluation Criteria

1. Evaluation Criteria:
   - Research excellence
   - Manpower development
   - Economic impact
   - Industry involvement
2. Promising White Papers (comprising the intent of the project team, the profile of the team, the various programmes and how the programmes synergise with one another) will be short-listed by NRF to be developed into Full Proposals. Full proposals will then be evaluated and selected through a process of rigorous international peer review followed by decision by the CRP Evaluation Panel chaired by Dr Rita R. Colwell, a member of NRF’s Scientific Advisory Board and a former Director of the US National Science Foundation.
3. White papers must be submitted to RSO for endorsement by Director of Research prior to submitting a full proposal at the Research, Innovation
and Technology Administration ("RITA") system. For further information on submitting a full proposal, please refer to the general RITA FAQ at https://rita.nrf.gov.sg/AboutUs/Shared%20Documents/FAQs.aspx

**Conditions of Awards**

1. Research can be upstream, mid-stream or downstream in nature, but must have a commercialization focus.
2. Multi-disciplinary research is encouraged.
3. Partnership between industry and academia is encouraged.
4. All foreground intellectual property (IP) developed though this grant scheme will be co-owned by all partners.
5. There must be a commitment to exploit any IP developed in Singapore.
6. There will be a mid-term review of all successful grants under this scheme.

**Tentative CRP Timeline (Based on 2008 Timeline)**

<table>
<thead>
<tr>
<th>November (preceding yr)</th>
<th>Second CRP general call for white papers opens</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mid January</td>
<td>Close of general call for white papers</td>
</tr>
<tr>
<td>February</td>
<td>Short-listed white papers to be developed into full proposals</td>
</tr>
<tr>
<td>End of March</td>
<td>Submission of full proposals of General Call</td>
</tr>
<tr>
<td>May</td>
<td>International Panel Members meeting:</td>
</tr>
<tr>
<td></td>
<td>- Selection of programmes for General Call</td>
</tr>
<tr>
<td></td>
<td>- Confirmation of programmes</td>
</tr>
<tr>
<td></td>
<td>- Selection of Programme Managers and programmes for in-principle award for the second scenario-based call</td>
</tr>
</tbody>
</table>

**Pointers**

- The research area must be strategic and should not be incremental research.
- Call is open to all areas of Science and Technology, but preference is given to areas which fall outside the three strategic programmes of Biomedical Sciences (BMS), Environmental and Water Technology (EWT) and Interactive Digital Media (IDM).
- There must be one Principal Investigator (PI) for the entire Programme, and the PI is expected to play the role of a Programme Coordinator and ensure that all programmes done by the project members are synergized.
- The White Paper must be kept strictly to not more than 5 pages.
- The proposed research theme is to be use-inspired.
- Partnership with industry and multi-disciplinary research is encouraged as NRF is looking for conceptual ideas in the White Paper, other details like breakdown of the budgetary items, justifications and C.V. of project team members can put submitted as an attachment.
- Budgetary items should include the following: GST at 7%, indirect costs on 20% of total direct costs, GeBiz charges and other necessary expenses.
- Written endorsement from the HOD, Chair of School and Dean of College is not required for the submission to RSO. However, all PIs and project team members are strongly encouraged to keep their HOD and Chair of School informed about their intention to submit a draft White Paper.
- A discussion session will be arranged with all interested applicants.
2.1.10  Research Centre of Excellence

Source: Press Release - RIEC Focuses on High-Impact Research and R&D Talent (MoE)

Research Centres of Excellence ("RCEs") are research centres that focus on medium to long term world-class investigator-led research aligned with the long-term strategic interests of Singapore.

To step up research efforts in our local universities, the Research Innovation Enterprise Council ("RIEC") approved a joint proposal from the NRF and MoE to establish a small number of RCEs within the local universities. RCEs will focus on investigator-led research and graduate education in areas that are aligned to Singapore's strategic interests. A five-year budget (from 2007 to 2011) of S$500 million has been approved for NRF to co-fund RCEs with MoE.

The objectives of RCEs are to:
- Attract, retain and support world-class academic investigators;
- Catalyse the development of Singapore’s autonomous universities ("AU") into research-intensive universities and strengthen their prestige globally;
- Enhance graduate education in the AUs and train quality research manpower;
- Engender interest in research among local students and encourage them to pursue research careers; and
- Create new knowledge in selected areas of focus.

RCEs will have significant autonomy in pursuing their own research mission and objectives, while being co-located in and working closely with the AU. A Governing Board ("GB") will be established for each RCE to provide strategic direction and good stewardship.

Structure and Organisation

1. The RCE will be headed by a Director who will report to the GB in the development, research performance and administration of the RCE.

2. Each RCE will typically have 15 to 20 principal investigators (PIs), each leading a research team of post-doctoral fellows, postgraduate research students and support staff (technicians and administrative staff). A typical RCE will have about 200 staff and require a physical space of about 5,000 m$^2$.

3. RCE PIs will hold joint-faculty appointment (with teaching responsibilities) at the host university or one of the other local universities.

Funding
NRF and MoE will co-fund the establishment of a few RCEs. A total of $750 million (S$500 million from NRF and S$250 million from MoE) has been set aside by NRF and MoE for this initiative.

**Evaluation Process**

1. MoE will administer the selection of quality RCE proposals through a two-stage selection process involving its Academic Research Council ("ARC"). In the first stage, universities will submit whitepapers stating the vision of the proposed RCE and an indication of the resources and budget required. The ARC will shortlist RCE whitepapers to be developed into full proposals. In the second stage, the ARC will evaluate the full proposals, with input from external reviewers if necessary. The ARC will recommend supported RCE proposals to MoE’s Academic Research Board ("ARB") and the NRF Board for funding approval.

2. Each RCE will be subject to an annual performance management review process. The RCEs will submit annual reports, tabled at the GB, ARC and NRF Board meetings, as part of its accountability framework. MoE, through its ARC, will provide oversight of the desired research and educational outcomes of the RCE.

3. A mid-term review of the RCE will be convened by MoE in the third year, and thereafter, on a two-year cycle. The mid-term/biennial review will be conducted by an International Review Panel (IRP) established by MoE. The ARC will recommend the continuation or termination of the RCE to the ARB and the NRF Board.
FAQ on RITA
https://rita.nrf.gov.sg/AboutUs/Shared%20Documents/FAQs.aspx

Password Error

Why doesn't the system accept my password? I am sure it is correct.
You may not have activated your account yet. RITA would have sent an email to you with an activation link after you have registered. Please click on the link to activate your account. You will then be able to log in with your userid and password.

How do I change password / reset my password if I have forgotten it?
To change your password, click on the change password link under the “logoff” button when you are logged in. To reset your password, click on the “forgot password?” link under the “login” button. You will be prompted for your userid and email address. The new password will be sent to your email account.

Submitting a Proposal

How do I submit a proposal in response to a grant call?
1. Register for a RITA account if you don't already have one. This can be done by clicking on the "Register" link under the "Login" button in the left column of the homepage. Fill in the registration form and an email will be sent to you to activate your account. After activation you can then logon to RITA.

2. Go to the grant call page by clicking on the link in the "Open Calls for Proposals" in the right column of the homepage. This will bring you to a page with the details of the grant call and the guidelines for submitting the proposal. Please read the details and guidelines.

3. If you are logged into the system, you will see a button "Submit a Proposal" in the middle column near the top of the page. Click on the button to launch the e-proposal form. Please fill the form in accordance to the directions in the guidelines. You can save the proposal as draft and continue in another session. You will be able to access your draft proposals in the homepage under "My proposals" when you log in again.

4. Once the proposal is complete, you can preview and then send to the host institution for endorsement. If necessary, the host institution will send the proposal back to you via the RITA for amendments. If everything is in order, the host institution will endorse the proposal and route it to the program manager. This has to be completed before the deadline of the grant call.

5. Once that is done, the submission of your proposal is complete. You can track the progress of your proposal in the homepage under "My proposals" when you log in again.
Filling up the proposal form

How do I fill up the form? Are there any templates for the attachments?
Please refer to the document in the “guidelines and templates” section in the grant call page.

How do I update my CV?
You can do so by clicking on the “My profile” link under the “logoff” button.

What is a lay abstract? Is it compulsory?
A lay abstract is a summary of your research proposal in terms understandable by a layman. It is compulsory to allow administrators to understand the proposal better. It will not impact the scientific review of your proposal.

Must all the collaborators/co-PIs register with RITA?
Yes. This will allow their CVs to be included automatically in the submission and also allow them to view the proposal. Please enter their userids in the section for collaborators in the proposal.

I cannot upload my attachment.
Please check that your attachment is of the type txt, doc, pdf, zip or xls. It should be less than 4MB in size. Its name should not contain any special characters (e.g. &%!).

Do Co-PIs and Collaborators of a proposal need to indicate their proposal submissions to NRF in the "Declaration of Other Funding Support" part?
Only PIs of the proposal need to provide details for grants they currently held or applied for as PIs. This is mainly to determine if the PI's time is over-committed in the various projects. If the CoPIs/collaborators are putting up proposals with similar scope to NRF or other organisations, they would need to declare under this section that it is a parallel submission.

Can Visiting Scientists be Co-PIs of a project?
Yes, PIs have to be Singapore-based, but Co-Pis can be either from local/overseas institutions or companies, provided the research work done by the Co-PI is based in Singapore.

When and where shall I send the hardcopies of the submitted proposals to?
Hardcopies should generally be sent to the program manager of the grant call within one week after the close of the call [Note: Please refer to the detailed guidelines for each call to verify the requirements for submission of hardcopies as they may differ from the general guideline e.g. for CRP White Paper submissions]. The address to send the hardcopies to is available in the guidelines of the grant call. The Office of Research of the institutions may choose to consolidate all the proposals within the institution and send to the program manager collectively.
Must all the PI/Collaborators/Co-PI sign the hardcopy proposal?
Yes. However, the signatures could be on separate sheets and could be fax copies for overseas collaborators.

Why doesn’t the manpower budget correspond to the man months and number indicated?
The system will not automatically multiply head count with man months. This is to allow flexibility in the number of man months one spends a year. For example, one might only spend 3 months in the first year and 11 in the second. So the PI should enter the total man months for ALL the staff in that category i.e. 14 months.

Do I need to budget annual increase in manpower costs?
No. For budgeting purpose, the same value will be used for all the years. For actual disbursement, the amount will vary from year to year.

What if there is no standard unit cost? e.g. for travel expenditure.
You can budget using an average rate for the project duration.

I cannot enter the budget for the second FY onwards.
Please ensure that you have filled in the project duration in section 1E.

Why must I submit a detailed budget attachment?
The detailed budget will capture budget breakdowns if more than one party is involved in the proposal or if there are several projects in the proposal.

Why doesn’t the total in the KPI sum up the numbers in the 1st 5 years?
This is to allow for values after year 5 to be incorporated into the total.

Reporting bugs

I found a bug in the system. How can I report a bug/error in RITA?
To expedite investigation and fixing of the problem, change or reset your password so that the administrator can access your account for troubleshooting. Please send your userid, the new password, contact details (email and phone number), and the error message to nrf_contact@nrf.gov.sg or via the feedback form on the website.

Status of proposal

How can I check the status of my proposal (whether it has been submitted, endorsed etc)?
The status of your proposal can be seen at the homepage under the section “My proposals” after you have logged in.
How can I amend the proposal after I have submitted it?
If your Director of Research has not endorsed the proposal, you can request that he/she routes it back to you for amendments. If the proposal has been endorsed, you can email the program manager for the grant call (which can be found in the page with the grant call details) to route the proposal back to you. However, this can only be done after the grant call is closed. Only limited amendments can be made at this stage, viz. amendments to budget, amended attachments and a text box to indicate what the amendments are.

How can I request for an extension of the deadline?
This should be made to your Director of Research who will then liaise with the program manager to see if an extension can be accommodated.

Why can’t I access the link to edit/amend my proposal anymore?
The deadline for the grant call or the time allowed to amend the proposal could have passed. Please contact your Director of Research to see if the deadline can be extended.

How do I withdraw a submitted proposal?
If your Director of Research has not endorsed the proposal, you can request that he/she not endorse the proposal. If the proposal has been endorsed, you can email the program manager for the grant call (which can be found in the page with the grant call details) to withdraw the proposal.

How do I get notified of new grant calls?
The easiest way is via the RITA RSS feed at https://rita.nrf.gov.sg/_layouts/listfeed.aspx?List=%7B4FDF5DC6%2DB261%2D4D8A%2D9E68%2D12117585FC80%7D

Logging out

Why does my login session still remain after I clicked on the Logoff button?
If you are using web browsers like Firefox or Netscape other than Internet Explorer, you will need to close the browser to complete the logoff process.
2.2 Ministry of Education (MoE)

MoE directs the formulation and implementation of education policies in Singapore. MoE’s research funding framework for universities in Singapore provides for both training of research manpower and funding for research and comprises core funding and competitive funding components as follows:

1. Research Scholarship Block ("RSB") which is used to fund research scholarships to cover Post Graduate Research("PGR") tuition fees in full, as well as provide students with a monthly stipend;

2. The Academic Research Fund ("AcRF") Tier 1 which is used to fund university-level research projects (i.e. project cost < $500,000) awarded on a competitive basis within the university;

3. AcRF Tier 2 which is used to fund larger scale projects (i.e. project cost > $500,000) through competitive bidding across universities; and

4. Funding to establish Research Centres of Excellence (RCEs) to attract world-class faculty to Singapore and to perform research in close affiliation with universities in Singapore. RCEs will focus on research areas aligned with the long-term strategic interests of Singapore.

2.2.1 Research Scholarship Block

The RSB is used to fund research scholarships for deserving postgraduate research students regardless of nationality to cover PGR tuition fees in full as well as provide these scholars with a monthly stipend.

The amount of RSB distributed by MoE to the university is based on:

- the university’s share of the RSB in the preceding financial year;
- the university’s PGR student intake numbers;
- the quality of the university’s PGR programmes and students; and
- the quality of the university’s research.

The university’s PGR training and research quality is evaluated by MoE’s Academic Research Council ("ARC") based on research-related statistics. Starting in 2006, these statistics are collected from the university during the preparations leading up to the Committee of Supply ("COS") debate in Parliament in March and the annual Performance Review Forum ("PRF") with the university in September.

RSB and AcRF Tier 1 are disbursed to the university as a block but ring-fenced for research purposes (i.e. for the funding research projects and PGR scholarships). The university has the flexibility on the usage of funds within the block for research purposes and can decide on the internal redistribution between RSB and AcRF Tier 1.

Singapore Citizen (SC) PGR students will be entitled to subsidized tuition fees as MOE continues to provide capitation grants for these SC PGR students. The PGR scholarships will then cover up to the subsidized tuition fees for SC PGR students. The RSB should not be used to subsidize the cost of PGR tuition fees.
programmes for Singapore Permanent Resident (SPR) and Foreign Student (FS) in lieu of capitation grants for them.

2.2.2 Academic Research Fund (AcRF) Tier 1

AcRF Tier 1 is a block grant which MoE provides to the University for the internal funding of research projects, each with a project value of less than $500,000. A total of $30 million will be allocated annually to the University as AcRF Tier 1. The funds from AcRF Tier 1 are awarded on a competitive basis within the university through various grants.

Types of AcRF Tier 1 Grants

a. Academic Research Grant (RG Fund)

The RG Fund is used to fund research projects which are in new areas of research or existing research areas that have novelty and can lead to breakthroughs. The amount of funding is from $5,000 to $500,000 and the research is undertaken over 3 years. There is at least one grant call in a year.

b. Start-up Grant (SUG) Fund

SUG Fund is to enable new Faculty Members to undertake preliminary research activities after joining NTU. The Fund is administered by Provost's Office with effect from FY 08

c. Research Coordinating Committee (RCC) Fund

RCC Fund is similar to RG fund except that it is for academic staff from the non-Science & Technology Schools (i.e. NBS, HASS) to undertake research projects. The grant amount is less than $5,000 and research is undertaken over 2 years.

The RCC is allocated by RSO to the non-S&T Schools at the beginning of the financial year in a block. Proposal calls will subsequently be carried out within the Schools. Any amount not allocated by the School at the end of the financial year lapses.

d. Research Grant Manpower (RGM) Fund

RGM Fund is to enable the PI who has not received manpower support from an external grant to apply for research staff to assist them in their research activities.

Applications can be made to RSO (on an ad-hoc basis) to arrange for a presentation of the research project to the Director of Research who will subsequently inform the PI of the outcome.

e. AcRF Travel Fund
The AcRF Travel Vote is an allocation made by RSO to the Schools at the beginning of the financial year. The travel vote should be used by the Schools to fund research students on travel to overseas conferences. Any amount that remains unutilised at the end of the financial year lapses.

**Application & Approval of Project Grant**

*a. Application*

Full time academic staff of NTU are eligible for project grants and the research should be carried out in NTU.

In general, grant calls for *AcRF Tier 1* proposals are held *once a year*. The proposals should be submitted using Form RG1 (RCC/URC/SUG as relevant). Schools will be informed by RSO on the closing dates. Grants are normally *capped at $500,000* over a *3 year funding period*, subject to satisfactory progress as assessed during annual reviews.

The applications must be submitted through the Schools.

Research centres, visiting professors, adjunct staff and senior tutors are not eligible to apply.

*b. Approval of Project Grant*

The proposals are shortlisted by the Research Coordinating Committee ("**RCC**") and approved by the University Research Committee ("**URC**"). RSO will notify PIs of the results of applications. No appeals for unsuccessful applications will be considered.

Where applicable, PIs are required to submit full Ethics Approval (for projects involving cells, humans or animals etc) from Bioethics Review Committee (BERC) within 1 month from the date of approval notification. For multi-institution projects or trials, PIs must obtain Ethics Approval from all participating institution.

**Disbursement of Grant**

The total amount of AcRF Tier 1 funds allocated to NTU is pre-determined by MoE and disbursed in installments to NTU every two months.

Once the project account is open, the PI may proceed to charge expenditure to the account in accordance with the approved budget.

**Grant Extension**

Research should be undertaken over a period of 3 years. A further extension of one year is possible only if valid reasons are provided and the extension is
approved by the Director of Research. PIs are to adhere strictly to this time limit.

Request for grant extension should be submitted to RSO at least 3 months before the project’s expiry date.

**Grant Variation**

For the following grant variations without changes to the total project value, approval must be sought as stated:

<table>
<thead>
<tr>
<th>Amount of variation</th>
<th>Approving authority</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than or equal to $50,000</td>
<td>Chairs of Schools</td>
</tr>
<tr>
<td>Between $50,000 and $500,000</td>
<td>Director of Research, RSO</td>
</tr>
</tbody>
</table>

PIs should submit all necessary information for Tier 1 project grant variations to RSO through schools using the prescribed form Form RG2.

**Budget Revision**

PIs cannot request for an increase in the approved funding.

**Reports Submission**

PIs are required to submit progress reports for each project annually. The original should be forwarded to RSO through schools by 30 June and/or 31 December each year (subject to changes announced by RSO) and the softcopy to be uploaded to central drive.

Failure to submit the Annual Progress Report may result in any requests for grant variation or extension not being granted.

**Change of PIs/Change of Scope of Project**

PIs who wish to nominate new persons to take over the project, perhaps due to cessation of employment with the university, must obtain support from the School for the nomination and approval from RSO. The Grant Variation Form (Form RG2) (pending approval) should be completed and submitted to RSO for this purpose.

In the event that no suitable person is found to take over the project or the request for change in PI is rejected at the School level, the original PI must write in with explanations to RSO through the School to terminate the project.

Any change in scope of project must also be endorsed by the School and RSO.

**Transfer of University**

AcRF Tier 1 project is non-transferable across universities.
Submission of Final Report and Closure of Account

PIs must submit their final reports within 6 months after the project completion date, using Form RG5 (Final Report). A checklist (available from the public folder) will need to be completed and submitted together with the final report.

Failure to submit the final report may render the PI ineligible for future AcRF Tier 1 grant applications.

Claims for reimbursement after the closure of project accounts will not be allowed.
FAQ on Academic Research Fund (AcRF) Tier 1

Grant Submission Stage

I’ve just joined NTU. Could you please share more with me about the AcRF Tier 1 grant call that is currently open for application?

Academic Research Fund (AcRF) Tier 1 research projects are funded by a pool of money available from the Ministry of Education to NTU for research purposes. The pool of money is managed by NTU internally. That means the award of the research grant is on a competitive basis within NTU. The project value of the research projects to be awarded under this grant call is between $5,000 and $500,000.

SUGs are also funded by the same pool of money from the MOE as mentioned above. Start Up Grants (SUGs) are research projects with a project value capped at $200,000. SUGs are open to new faculties who have not held any research projects since they joined NTU. SUGs are also competitive within the University.

Research Coordinating Committee (RCC) projects, also funded by MOE, are projects that are less than $5,000 per project. RCC projects are for non engineering and non Science Schools. RCC projects have a considerable lower project value, in recognition of the nature of research projects in such disciplines of the Schools. RCC projects are managed by the individual Schools after the fund allocation is received from RSO per Financial Year. That is, the RCC projects are competitive within the School.

For applicants from a non Engineering School and non Science Schools, they are advised to apply for a research grant that is most appropriate for their needs (i.e. AcRF Tier 1 or RCC).

Could RSO advise me on how to get started, on how to apply for AcRF Tier 1 research project?

For EOM, this is allowed with effect from the call made in Jun 07. Budgetary figures have already been provided in the application form. You would need to utilise the budgetary figures provided to draw up the budget.

Do remember to factor in GST (7%) into every item.

The total budget requested is the aggregate of all that you need for equipment, consumables, conference travel, miscellaneous items, EOM and GST. After the budgetary items have been completed, you would also need to complete the rest of the application form. Most of the fields are quite straightforward. Do take note to ensure that information in different sections of the application form tally with one another. For example, the number of students trained and the number of RSS requested should be the same (unless there are undergraduates/honours students who will be trained and for which RSS is not applicable). Also, check for typographical or simple calculation mistakes. These are common mistakes that RSO have seen in all grant submissions. If you are unsure about any particular portion of the application form, you may seek the assistance of the School Administrators in your College or School.
Can RSO please explain what “award of the research grant is on a competitive basis” means?
For other research grant applications (for example A*STAR PSF grants, MOE AcRF Tier 2 grants, NMRC grants, etc), an applicant from NTU has to compete with other applicants from the other local universities. For AcRF Tier 1 research projects that are administered within the University, the applicants compete against fellow applicants from other Colleges and Schools for the limited research funding available within the University. As the award of the research project is based on merit, new faculty cannot expect that they will be guaranteed an AcRF Tier 1 award if the technical merit of the project is unsatisfactory.

Who are eligible to apply for AcRF Tier 1 projects?
Full time academic staff as at the closing date of the grant may apply. Visiting Professors, Adjunct Professors, research staff and senior tutors need not apply.

Is the Grant open to all staff or only to new staff, junior staff and those who have not received any AcRF grants?
All full time academic staff are eligible to apply. The intent of AcRF Tier 1 Projects is to provide a platform for new faculty (within their first 3 years of contract) to secure their first competitive research project (subject to the merit of the projects). Faculties who have brilliant and novel ideas in new frontier areas may also put forth requests for funding of their new project ideas.

Do the research projects need to be basic research projects or are developmental projects acceptable also?
The projects should not be purely developmental in nature. Projects that are basic in nature with academic significance are preferred. If your project is purely developmental in nature, you are advised to seek industrial funding.

What is the duration of each project?
Each project should be completed in 3 years. The exception is projects with project value of $40,000 or less. These projects need to be completed within two years. SUG and RCC projects are to be completed in 2 years.

The nature of my research proposal is such that the project value is more than $500,000. Any advice for me?
As the requested amount has exceeded the maximum amount for AcRF Tier 1 projects, you are encouraged to apply for other grant types with a higher project value cap.

If new faculty who already holds a research grant is encouraged not to apply, what is the purpose of section 9 of the application form?
Section 9 is more applicable for applicants in ADM, HSS, NBS and SCI who have completed a RCC project that shows promising preliminary data, and the intent of the applicant is to scale up the project to a full basic research project with appropriate EOM items and other allowable budgetary items.
I have not held an AcRF Tier 1 research project since I joined NTU as an academic staff. Can I apply a project under this grant call?
Whilst the grant call is intended for new faculty within the first 3 years of their contract, you are encouraged to apply if you have a worthwhile idea. The track record of the applicant would be taken into consideration by the evaluators.

I have completed an AcRF Tier 1 project many years ago. I have not done research projects actively since. Can I to restart my research initiatives by applying for this AcRF Tier 1 research project?
As mentioned earlier, the AcRF Tier 1 research projects are intended for new faculty. You may wish to refer to the Annual Grant Calendar for the grant calls available throughout the year for other competitive grants. Alternatively, you may wish to approach your College or School for their consideration of supporting you in your research efforts.

One of the applicants will still be on leave as at the closing date of the grant. Can RSO allow the applicant to submit an electronic signature?
On the basis that the applicant is a full time academic staff (and not an Adjunct or Visiting Professor) and the leave was approved by the School, yes, an electronic signature can be accepted. The applicant is required to submit the original signature once he returns to work.

What is the start date that I should indicate in my application form?
Applicants can indicate a start date about three months from the close of the grant call as an indicative time frame.

What is the new change in this grant call?
Provost has approved the inclusion of research manpower required for the research projects as part of the research budget requested. The budget for the research manpower requested needs to be in line with the university’s guidelines. Following the award of the research project, the usual approval from OHR is still required for the recruitment of the required research staff. Hence it is best to check with OHR (before you put forth the application) if you have requests beyond the normally allowable positions by OHR.

What should come under "specialised equipment"?
Examples are those that are customised; those that cannot be bought off the shelf.

Can the co-investigator be from an overseas university?
The Co-PI cannot be from an overseas university.

Are quotations mandatory?
It is best to furnish quotations for the items required. For big ticket items, the quotations are required. Using the Purchasing Procedures as a guide, items exceeding $70,000 are considered “big ticket items”.

65
Must applicants indicate the conversion rate on the quotation for equipment quoted in foreign currencies?
Applicants are to furnish a hardcopy of the exchange rate on the day that he make the conversion of the foreign currencies. Information may be found on this website: http://www.xe.com

Can LKY Postdoctoral Fellows apply for AcRF Tier 1 projects?
This grant is not applicable to LKY PDFs. However, LKY PDFs can write directly to RSO for funding.

Do I have to adhere strictly to the number of words and the number of pages for the research proposal?
Yes, you are required to do so.

Are referee reports required for projects > $100,000 as in previous grants?
Yes, the requirement still applies. We recommend that the applicants furnish referee reports from external parties.

How many external referee reports are required?
A minimum of two external referee reports are required. Applicants may submit more than two referee reports if he wishes to do so. The format is the “Research Grant Referee Report” form.

Who can be the referee?
We encourage applicants to obtain external referee reports, i.e. outside NTU including overseas faculty. If the applicants have to ask someone within NTU, then the referee is preferably someone from another School rather than another division within the same School.

Who can qualify as the referee?
We encourage applicants to obtain external referee reports from someone higher than their own rank. For example, an Assoc Prof would obtain reports from a full Prof. The guideline is to ask someone of a higher rank to be the applicants’ referee, never someone holding the same rank or lower rank.

Who is the party who should receive the completed referee report?
The guideline is the applicant should not receive the completed referee report. The referee can send the completed referee report to the applicants’ HOD, the ACR of the applicant’s School or RSO. If the report is sent to someone from the School, the School Administrator needs to ensure that the application bundle includes the completed referee report.

Is it necessary to furnish a full listing of publications of the applicant? It is time consuming.
We understand that such exercises take time. Hence ample time has been given for such purpose (this grant call is open for 2 months). Further, full listing of publications is required for submission to OHR so reproducing the same should take less effort than compiling one from scratch.

Can PI use fund from Overseas Conference for data collection? For example, PI may have to do the research in a small village in Vietnam.
There is no specific provision for overseas field trips under the overseas conference section. Applicants may put forth strong justifications for review if the overseas field trips are an integral part of the research project. Full details like how the budget was derived, the assumptions etc. must be provided.

If the PI has to travel locally (within Singapore) for research purposes, can the PI claim for the transportation costs?
There is no specific provision for local transportation trips under the overseas conference section. On the basis that the applicant does not own his/her own transport, the applicant may put forth strong justifications with details for the review.

Can the applicant include a budget of rental for research venue? He may need a room for the research.
The applicant can approach the School for assistance as this item is not provided for.

I am a member of the College/School’s management. I understand that I am required to rank the proposals, but I face difficulties in this. We want to help all our new faculty to obtain their first research grant.
We understand that as senior staff, you want to help new faculty get started on their research. However, please note that the technical merit of the research proposal is paramount. That is, there is no guarantee that any new faculty will be awarded a AcRF Tier 1 research grant on the basis that he/she is new. The award is based on the merit of the project. Further, there are limited research funds, so a priority must be made by the Schools on which project is supportable and which is not. If the Schools do not exercise their judgment on the matter, the College will then have a bigger problem of having to rank all the proposals within their College before the proposals are submitted to RSO.

I am a member of the School’s management and I would like to use the AcRF Tier 1 research project as a marketing tool to attract potential new faculty. Any comments?
With reference to the answer to the earlier question whereby the award to any new faculty is not guaranteed, we advise that you do not create the impression that a new faculty will be automatically “given” a research grant upon joining NTU.

I have recruited new faculty but by the time they join NTU, they would have missed this AcRF Tier 1 grant call. Any advice for me?
There are many other grants for the new faculty to participate in. You may refer to the Annual Grant Calendar found at the Research Hub: http://www.ntu.edu.sg/publicportal/about+ntu/research/default.htm for more
details. Also, certain Schools support new faculty with awards of small amounts of research money, to help new faculty kick start their research.

**Why is there a need to obtain endorsement from HODs and Chair of Schools?**
As the applicants would likely be new faculty, they may be new to Singapore/NTU application for research projects. Hence it is advisable for the applicant to seek inputs from the senior staff/management with the College of School.

Further, the HODs and other senior staff can inform the applicant if they receive multiple applications of the same research area or research proposals with similar scope.

**What happens if I am unable to obtain the endorsement from the Schools’/Colleges’ management?**
As mentioned, all applicants have to obtain the endorsement from their superiors. If you are not able to obtain the required endorsement, it would be in your best interest to understand the reason for the situation to enable you to improve your research proposal with inputs from your them.

**Can I raise any query to RSO directly?**
We advise faculty to raise the queries to their School Administrators, who will in turn liaise with RSO. The advantage is that the School Administrators may already know the answer to your question as they are experienced in research matters. Further, the School Administrators may collate similar queries and raise a consolidated set of queries to RSO.

**What is the next step to take after completing my research proposal?**
Upon completion of your research proposal, we advise that you pass the proposal to your School Administrators for checking, to ensure that everything is in order. After the research proposal has been checked by the School Administrator, he/she will submit all the research proposals from your College or School to RSO. You need not submit the research proposal to RSO directly.

**When is the deadline for submission?**
For this grant call, the deadline for the School Administrators to submit the hard copies and upload the soft copies and summary table to the Central Drive is 20 Aug 07. We understand that there will be an internal deadline within the College or School for submission to the respective Research Offices, so please check with your School Administrators or the Associate Chair Research for further details.

**Can I request for an extension of time?**
There is no change to the submission deadline to RSO.

**How often will RSO call for AcRF Tier 1 projects?**
For projects between $5,000 and $500,000 like this grant call, the intent is to have at least 1 grant call per Financial Year. The estimated time is within the first quarter of the Financial Year.
The frequency of SUG grant calls depends on the amount of research funding available per Financial Year.

RCC grants are managed within the School. Please check with the Associate Chair Research of your School.

Grant Award Stage

Who is the approving authority for AcRF Tier 1 projects?
The Research Co-ordinating Committee (RCC), chaired by Director of Research will short list projects for the approval by the University Research Committee (URC). The URC is chaired by Provost. Members of the URC comprise the Deans of the Colleges.

How long will the review process take?
It depends on several factors, such as the number of applications, the schedules of all members in the RCC and URC, the response of the applicants in instances of queries or a request for a reduced budget or other changes.

What is the communication process of the award process?
After the list of awardees have been finalised at the URC meeting, letters of awards will be issued to individual awardees. The Dean of Colleges and Chair of Schools are given a duplicate copy of the award letter. The awardee needs to read through the terms and conditions as stated in the award letter. If the awardee is agreeable to the terms and conditions, he needs to furnish the following documents to RSO within the stipulated deadline:

- Letter of Acceptance
- Budget phasing form
- Research Milestone Indicator Form
- Research Grant Acceptance

Do note that the project start and end dates indicated for the Budget Phasing form and the Research Grant Acceptance should be the same.

For the Research Grant Acceptance form, it is to be submitted within 14 days of the actual start date. As stated in the Research Grant Acceptance Form, the actual start date is the date of invitation of tender or the date that the Office of Human Resources are required to commence staff recruitment (whichever is earlier), must be within 60 days of the formal approval of the research grant (i.e. the date of the award letter). The consequence of not complying with returning the Research Grant Acceptance within 60 days from the award letter is that the approval may lapse.

All the forms mentioned above are available in the public folder.

I would like to find out the reasons for rejection of my application. Who should I speak to regarding the matter?
For every applicant from a School, the School’s representative would present the applicant’s case during the RCC or URC meetings. If your application has been rejected and you would like to find out the considerations of the Committee, you may approach your School representative (the Associate Chair Research for RCC meetings or Dean of College for URC meetings).
Can I start using the research funds awarded to me straightaway after my submission of the documents mentioned above?
Yes, you may do so after you have accepted the award and returned the Budget Phasing Form and the Research Milestone Form.

Flowchart for Management of AcRF Tier 1 Projects

START

Research Support Office (RSO) issues award letter to successful applicants

PI considers the terms of the award

PI accepts the award?

Yes

PI furnishes the budget phasing form to RSO

PI starts the project and submits the Research Grant Acceptance Form within 14 days of actual start date. PI needs to ensure that the actual start date is within 60 days of the award letter

NO

PI informs RSO thru the school about his intention to reject the award

Case closed

A
A

PI implements the project

Is the project on time?

YES

PI submits progress report

PI completes the project

PI submits final report

PI ensures no payments to be made from research account

RSO reviews the submission

Is the submission in

YES

RSO obtains approval from the University Research Committee (URC) to close the research account

RSO informs Finance dept. to close the research account after obtaining the URC approval

END

NO

PI writes in to RSO for an extension of time to complete the project

RSO grants extension of time

RSO returns the administrative form to the School for rectification

PI resubmits the final report

NO
I do not know how to fill in the budget phasing form. Can RSO help?
RSO could provide some general guidelines. The purpose of the budget phasing form is to give an estimation of the amount of research funds that are required at each Financial Year. This helps RSO and FIN keep track of the total research funding required for AcRF Tier 1 research projects.

You would need to furnish the estimated amount of funds for each Financial Year based on how and when you plan to implement the project. For example, all equipment is planned to be purchased in Year 1. Then the budget phasing form should reflect all the expenditure on equipment purchase, as well as any other items expected to be spent in Year 1, for example EOM items.

You will be expected to list down all items under the various categories: equipment, consumables, miscellaneous and EOM. These items should correspond with those stated in the application form.

Please note that all successful applicants must ensure that the amount stated in the budget phasing form matches that in the award letter.

When do I start the project?
You would need to start the project no later than 60 days from the date of the award letter. The Research Grant Acceptance form, available in the public folder, states that the Research Grant Acceptance form should be returned to RSO within 14 days of the actual start date.

The actual start date is the date of invitation of tender or the date that the Office of Human Resources are required to commence staff recruitment (whichever is earlier), must be within 60 days of the formal approval of the research grant (i.e. the date of the award letter). The consequence of not complying with returning the Research Grant Acceptance within 60 days from the award letter is that the approval may lapse.

What is the purpose of the Research Milestone Indicator Form?
For accountability purposes (to MOE) and also due to the requirement for external audit, NTU must be able to show that all research funding have been satisfactory spent and the research output has met the declared output at the project acceptance stage. Hence this form serves as a record of what the PI projects to achieve upon completion of the research project. The School will help to verify against this form upon the submission of the final report and the full publication listing from the PI post the completion of the project.

PIs need to understand that the quality of research output is of great importance to the University. The impact of the aggregate value of NTU’s research output will directly impact the amount of research funding available from the MOE. Hence PIs need to exercise due diligence and great prudence when projecting their research output as they need to ensure that the targets are met, otherwise there may be grave consequences to the University.

Project Tenure Stage

I would like to know where my research funds are kept. Is it a separate account created for me or it is created by the School?
The research account is created for the PI by the Office of Finance. The PI is responsible for the utilisation of the funds and the timely completion of the project. The account details are mentioned in the award letter, for example, equipment WBS is M52xxx-705000.

**How do I start using the research funds? Do I have to pay for the items first?**

In general, purchases are done via invoice mode, whereby the payments for the equipment or consumables are paid by the Office of Finance using research funds from the research account. The PI and the School would have to verify the authenticity and contents of the invoice. This is a process direct between the PI, the School and the Office of Finance.

With the EOM items allowable, the PI is expected to liaise with the Office of Human Resources (the PI may request for the School’s assistance) regarding the charging of salary items to the research account. The PI needs to furnish the research account details to the Payroll Section of the Office of Finance to effect the charging of salary for the various staff employed.

**Is there anything during the project implementation stage that all Principal Investigators (PI) ought to know?**

Yes. There are a few pertinent points. Please note that the MOE expects a fund utilization of at least 95% for each research project account. In this case, the Principal Investigators are strongly advised to exercise due diligence to ensure timely utilisation of funds. PIs can monitor for the utilisation rate of their projects in the SAP account. Each PI is able to access their SAP research accounts through NTU's Stafflink. The arrangement in every School is different as we understand, some Schools allow the PIs to access their own research accounts, and some Schools have a centralised system whereby the School Administrators access the SAP research statements. Nonetheless, PIs are expected to take ownership of their utilisation of the research funds and are encouraged to work out a system of monitoring of utilisation of research funds with their Colleges and Schools.

For cases with unacceptable utilisation rates, RSO will highlight the cases to the Colleges and Schools for follow-up actions. Severe/recalcitrant cases will be referred to the Deans. Colleges and Schools are expected to monitor the utilization rates of the PIs at regular intervals to ensure timely completion of project and satisfactory utilisation of project funds. During the project tenure, you need to furnish progress reports every half yearly, on 30 Jun or 31 Dec of every year. The form **RG 4** is available from the public folder for your use. You may also check with your School Administrators for more details.

You are required to keep a complete record of your project, including documents submitted during the grant submission process, the award letters, the recruitment of research staff and all purchasing invoices. Publication details must also be kept complete. This is to meet the requirement for external audit of AcRF Tier 1 research projects. The details are to be submitted to the Associate Chair Research of your School.

For EOM items, you are specifically required to keep details of the RSS, and have a record of the award letter sent copied to RSO, FIN and GSO. This is to assist NTU report RSS supported by MOE funds. You are advised to furnish the College or School a duplicate set of information on the matter.
Who is responsible for informing me of all the deadlines, reminding me of what to submit, what administrative procedures to follow?
The PI is responsible for the entire research project, from grant submission to award to implementation to completion of award. Other than accounting for the usage of the research funds, the PI is expected to keep track of all his obligations to deliver the expected project output, as well as fulfill other responsibilities like submission of progress reports and other administrative details. School Administrators can help and facilitate, but the PI is ultimately responsible for the project.

What are the administration procedures after I have completed a project?
As stated in checklist for completed projects (available in public folder), the following are required to be submitted to RSO through your School:

- Checklist for completed projects;
- RG5 form;
- Review report by an academic staff from your School;
- 1 Ring bound copy of your completed project;
- Soft copy of your completed project to be provided to the School Administrator, who will upload the file to RSO’s Central Drive as required and
- RCC 5 Form.

PIs are to submit the full publication listing to their Schools’ Research Office/Associate Chair Research for review, as required by the MOE. The publication output should correspond with the details given during the acceptance stage. If there is a discrepancy, the PI would have to render a full explanation to the School and RSO. PIs are to submit the completed report and other requirements as stated in the Checklist within three months of the completion date.

Is it possible to request for a virement of funds during the tenure of the project?
Yes. Firstly, we need to understand the reasons for the virement request. If you are requesting for a top-up of research funds, then this is not allowable. However, if you are requesting for virement between different categories without an increase in project value, then the details can be considered. Do note however, that requests to increase or decrease EOM budget via virement is not allowed. Having said that, RSO has to inform that each virement request is reviewed on a case-by-case basis. This means that there is no guarantee that every virement request will be approved. It depends on the circumstances of the cases and other factors like the progress of the project, utilisation of funds at the point of request of virement, etc. The virement form, RG2 is available in the public folder. Further, RSO needs to highlight that virement requests beyond a certain value have to be approved by the University’s management and not RSO. Lastly, if you are unsure, please seek your School Administrators’ help.

During the grant submission process, I did not request for equipment X but with the change in technology a few months later, I would like to purchase equipment X at a slightly higher cost. Is this allowable?
PIs are expected to implement their research project as per indicated in their application form. Hence you are expected to purchase the original equipment, and if you wish to purchase some other equipment, it is considered a virement for which you have to obtain approval from the approving authority. Strong justifications should be provided for consideration. For this particular case, if equipment X is now technically superior to what was intended, and it can increase the PI’s research productivity, then it appears that the request can be considered.

However, the higher cost of equipment X would have to be covered by cost savings from other items in the project, which the PI would have to source for it on his own. As a general guide, PIs who wish to vary their original purchase items need to seek approval from the approving authority, especially for cases where the new item to be purchased costs more than the original. In all cases, the original project award amount is to be maintained.

**My project has been delayed. Can I request for an extension of time to complete the project?**
The PI is required to be on schedule for his project, in accordance to the time schedule submitted during the grant submission process. If an extension of time is required, strong justifications are required to be submitted through the School to RSO for consideration. The administrative form, **RG1** is available in the public folder.

**I have physically completed my research. Please tell me what the next steps are?**
One other important thing is to ensure that there are no further payments made from the project account, as the research account will be closed once RSO has ascertained that the administrative procedures have been adhered to, including the submission of the final report. Please keep your School Administrator in the loop, as she has to help upload the final report onto RSO’s Central Drive.

**I’ll be leaving the University and have found a fellow colleague to take over the project from me. What are the procedures to effect the transfer of project?**
The out-going PI is advised to seek endorsement from the Chair of the School on the transfer of the project, as well as the new candidate to take over the project. Assuming that the School is supportive of the transfer, the PI should submit form **RG1** under “Changes to Project”, accompanied by a write-up by the out-going PI regarding the progress of the project, the suitability/experience of the new PI to take over the project and the date of handover. Supporting documents regarding the Chair of School’s endorsement of the arrangement is also to be attached. The request is subject to the approval of the Director of Research. The request should be submitted to RSO at least 3 months before the out-going PI’s last day with the University.

**I am a School Administrator. We have a PI who is leaving the University but we cannot find a suitable candidate to take over the project as the discipline is too specialised. Can RSO advise us on what is the next step?**
We note that the School has already done what is expected, which is to source for a suitable candidate to take over the project. If the School has tried its best and is unable to find a suitable candidate amongst all NTU academic staff to take over the project, then we have no choice but to request for the research account to be closed.

**How much notice should I give to RSO if I am leaving the University?**
As stated in the Letter of Acceptance, PIs need to inform RSO at least 3 months prior to his last day with the University.

2.2.3 Academic Research Fund (AcRF) Tier 2

AcRF Tier 2 supports research in Singapore universities that have academic significance and a good potential for creating new knowledge that will benefit the larger academic community. The research outcomes should also drive future research, potentially leading to innovations and discoveries.

AcRF Tier 2 funds research projects on a competitive basis across Singapore-based universities. Each grant proposal should have a total project value (TPV) of between $500,000 to $1 million over a three year duration. Projects under the Accountancy, Business, Humanities and Social Sciences discipline cluster with TPV exceeding $250,000 are also eligible for funding under AcRF Tier 2. A total of $30 million will be set aside annually as AcRF Tier 2 for all ongoing and new AcRF Tier 2 projects.

AcRF Tier 2 proposals will be evaluated by four discipline-specific Expert Panels (EPs) and MOE’s Academic Research Council (ARC), and approved by the Academic Research Board chaired by PS (Education). Funding of AcRF Tier 2 projects will be based on the merit of the project.

Application & Approval of Project Grant

a. Application

Priority for AcRF Tier 2 funding is given to PIs who are full-time academic faculty of Singapore-based universities. Co-investigators and collaborators have to be fully based in Singapore and the research funded under AcRF Tier 2 has to be conducted in Singapore.

Grant calls are held twice a year in August and February (subject to changes by MoE). The grant call and closing dates will be communicated to applicants by the RSO.

Applications should be submitted to MoE through the RSO.

b. Approval of Project Grant & Ethics Approval

PIs will be notified of the results of their applications through the RSO. Appeals for unsuccessful applications will not be entertained.

Proposals which have been rejected for AcRF Tier 2 funding will not be considered in the following grant calls. Applicants whose proposals have been invited for resubmission may do so during the next grant call but must provide a point-by-point rebuttal to the expert panel’s comments and address any concerns raised.

Where applicable, the PI has to obtain full Ethics Approval and other research-related approvals before the account is activated.
**Disbursement of Grant**

Universities will pay for the expenditure incurred for approved projects and subsequently claim reimbursement from MoE. MoE will disburse the AcRF Tier 2 grant, including indirect research cost funding, as reimbursement for the expenditure incurred.

**Reports Submission**

PIs are to submit progress reports for each project annually by 31st August, or upon request by MoE, using Form RGF4. PIs do not need to submit the Annual Progress Report if the project completion date falls between 1 April and 31 August.

Failure to submit the progress reports may result in the PI being denied any grant variation or extension until such reports are submitted, and issued a "Not Submitted" status in the Annual Appraisal Report for final reporting.

**Grant Variation**

*a. Grant variation across categories*

For the following grant variations across categories but without changes to the total project value and research objectives, approval must be sought as stated:

<table>
<thead>
<tr>
<th>Amount of variation</th>
<th>Approving authority</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than or equal to $10,000</td>
<td>RSO</td>
</tr>
<tr>
<td>Between $10,000 and $50,000</td>
<td>President, NTU</td>
</tr>
<tr>
<td>More than $50,000</td>
<td>MoE, through President, NTU</td>
</tr>
</tbody>
</table>

Project grants may not be varied for the purchase of items that have not been approved under AcRF Tier 2 grants. Variation from EOM and Research Scholarship to other categories is not allowed regardless of variation amount.

*b. Grant variation within categories*

For the following grant variations within categories without a change in the budget for that category, approval must be sought as stated:

<table>
<thead>
<tr>
<th>Amount of variation</th>
<th>Approving authority</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than or equal to $20,000</td>
<td>RSO</td>
</tr>
<tr>
<td>More than $20,000</td>
<td>MoE, through President, NTU</td>
</tr>
</tbody>
</table>

Variation of budget for Research Scholarships is not allowed.

The Form RGF2 must be used for submissions of AcRF Tier 2 project grant variations to MoE.
**Budget Revision**

In the course of a project, if there is a valid reason for PIs to request for an increase in the previously approved funding quantum, the PI must seek MoE’s approval using the Form RGF3 through RSO.

**Change of PIs**

The PI, though RSO, must provide MoE 3 months’ notice if:

- PI wishes to transfer to another university
- PI’s contract has expired
- PI’s employment with the university has been terminated.

PIs who wish to nominate new persons to take over their project must obtain MoE’s approval through the completion and submission of Form RGF1, through RSO.

New PIs must seek concurrence from their HODs and sign a Letter of Acceptance for the project. In the event no suitable person is found to take over the project, or the change in PI is not approved by MoE, MoE shall cease all funding for the project.

**Change of Scope of Project**

Any change in scope of project must be endorsed by RSO and approved by MoE through the submission of Form RGF1.

**Grant Extension**

MoE’s approval must be obtained for any project grant extension though the submission of the Form RGF1. The total period of grant extension is capped at 6 months, unless there are compelling reasons to extend the project period.

Requests for extension must be submitted at least 3 months before the project’s expiry date.

**Submission of Final Report and Closure of Account**

PIs must submit their final reports within 3 months after the project completion date, using Form RGF5. Failure to submit the final report will render the PI ineligible for future AcRF Tier 2 grant applications.

All projects are expected to be completed within 3 years from the start date of the project and the research project account is to be closed within 3 months from the completion date.
Compliance with MoE’s Administrative Guidelines

Failure to comply with MoE’s guidelines may result in withholding/withdrawing of funding, disqualification from subsequent AcRF Tier 2 funding and/or any other action that MoE deems appropriate.

Pointers
(For Financial Regulations on Expenditure and Payment for AcRF Funding)

1. Universities and PIs should not commit any expenditure before formal approval of a project.

2. For projects approved in January, PIs should not issue any purchase orders or incur any invoices or payments until the new financial year (i.e. in April).

3. Universities and PIs may vary the allocation within their approved budget for the grant, subject to the conditions stated, and shall be responsible to inform MoE of the variation.

4. Universities and PIs must seek MoE’s approval for any increase in the previously approved funding quantum.

5. To ensure tighter budgetary control, better utilisation of resources and proper budgeting of grant applicants, universities should achieve a minimum utilisation rate of 95% of the total approved budget or suffer a penalty on the baseline budget for the next FY.

6. Universities and PIs are to follow Universities’ procurement procedures to ensure that all purchases made using AcRF grants are value for money.

7. Universities should ensure that there are adequate internal financial controls and processes as well as adequate cost control measures to ensure that resources are utilized prudently and cost inefficiencies are minimised.

8. As and when directed by MoE, Universities will allow an auditor appointed by MOE to carry out an audit of its financial and related processes/procedures pertaining to the utilisation of AcRF grants.
2.3 **Agency for Science, Technology and Research**

http://www.a-star.edu.sg/

A*STAR fosters world-class scientific research and nurtures world-class scientific talent for a vibrant Knowledge-Based Singapore. The major grant calls from A*STAR are Bio-medical Research Council ("BMRC") and Science & Engineering Research Council ("SERC") which help to promote, support and oversee the research and development activities in the public sector. Both Councils fund the A*STAR public research institutes which conduct cutting-edge research in specific niche areas in Science, Engineering and Biomedical Science. Besides major grant calls, A*STAR also has other programmes such as the Thematic Strategic Research Program (TSRP) which aims to foster collaborations and greater linkages within the research community and amongst institutions. It also aims to achieve prioritization of strategic areas for funding.

A. **SERC Grants**

2.3.1 **Science and Engineering Research Council (SERC) Public Sector R&D Funding (PSF)**

The SERC encourages and supports high quality R&D in all areas of science and engineering except the biomedical sciences.

Under this scheme, SERC will normally only support projects with total project value (this excludes contributions in-kind, existing equipment and the cost of existing manpower - Existing manpower includes academic as well as non-academic staff supported by other projects, program or funding sources- as well as building cost) less than $3M. Typical period of support is three years.

Public Sector R&D Funding is investigator-led research where proposals are invited once a year in January and undergo a competitive merit review process for awards.

**Eligibility**

1. This grant call is open to all NTU full time academic staff. A*STAR Research Institutes and private companies may only be involved as collaborators.

2. SERC only considers proposals submitted by organisations on behalf of individuals or collaborative teams for support of research. Hence, all proposals must be submitted through RSO.

**Application Procedures**

1. All applications should also be made electronically via the Project Administration, Management and Submission System ("PAMS") available at http://pams.a-star.edu.sg.

2. All proposals must state clearly:
   - problem formulation
   - potential impact/application/exploitation
   - capability indicators
   - implementation schedule
• case for support
• amount of funding required
• qualifications of the investigators

3. Relevant privileged or confidential information should be disclosed to help convey a better understanding of the project. However, such information must be clearly marked in the proposal.

4. If any of the investigators identified on the project has received A*STAR research funding in the past three years either as a Principle Investigator or Co-Investigator, a one-page summary/progress report of each such funded project should be included as an appendix.

5. Please refer to Document B "Notes to Case for Support" obtainable from PAMS.

a. Solicitation for Projects

1. The deadlines for proposal submission will be on 15 of January every year. If the SERC deadline falls on a weekend or public holiday, it will be extended to the following working day. Principal investigators should check with RSO on internal deadlines for proposal submission.

2. Information on announcements, deadlines, submission windows and other matters relating to the specific solicitation can be obtained at the SERC website.

3. Incomplete submissions will not be entertained. Late submissions will be considered only in the subsequent round.

b. Submission to SERC

1. All proposals should be consolidated by RSO prior to submission to SERC for consideration. Please submit your proposals online and forward one original and one copy to RSO by the requested due date for compilation to A*STAR.

2. Each submission must be accompanied by nominations of at least six suitable international reviewers made by the principal investigator and his Head of Department. Please refer to Document E "Criteria for the Nomination of International Referees for Proposal Review" obtainable from PAMS for criteria of a suitable international reviewer for a research proposal.

3. Proposals should not be substantially similar to proposals submitted to any other funding agency, including BMRC.

4. In the event that there is a commitment to cost-share either by the employing organisation, industry or a participating sponsor, documentary evidence of such prior commitment/s must accompany the submission.

5. A proposal may be withdrawn at any time before a final decision is made. Written notification of the withdrawal by the proposer and the employing
organization must be forwarded to Grants Operations. SERC will not return copies of the withdrawn proposal and will maintain a file copy.

c. Acknowledgement of Receipt of Proposal

Acknowledgment of receipt of the proposals will be made to the respective employing organisation of the submission and copied to the Principal Investigator.

Award Process

1. All qualifying proposals will be submitted to an SERC-appointed research panel for evaluation. The panel will comprise members nominated by the universities and research institutions. The panel will study the proposals and the international reviewers’ comments, score, rank and make recommendations (to award or decline) for each proposal.

2. The major criteria for award will be the technical merits of the proposal, abilities of the researchers, their past performance in prior awards, comments of the international reviewers and the proposal's rank amongst other submissions in the solicited round.

3. The recommendations of the panel will then be forwarded to SERC for approval.

4. SERC’s decision will be final. An unsuccessful proposal may be resubmitted only after revision that takes into account the comments and concerns of the panel. Resubmissions will be treated as a new proposal and subject to the standard review process.

a. Letter of Offer

1. Notification of awards will be sent to RSO and copied to the Principal Investigator. Written acceptance of the terms and conditions of the award co-signed by the Principal Investigator, Co-Investigators and the respective employing organisation, must reach SERC within 14 working days from the date of the offer letter.

2. The Principal Investigator should complete the application form duly signed by the PI and co-PI, and submit it together with Schedule 4.1. Budget Phasing Form to RSO for forward submission to SERC. Both must reach SERC within 14 days.

b. Disbursement of Funds

Funds will be disbursed upon requisition submitted by the Principal Investigator using the designated forms. Fund requests for any given year shall not exceed the approved phasing award for that year. The approved funds will be disbursed directly to NTU.
The Award and Continued Support

1. Research must commence within 2 months and Research Personnel (who are Singapore citizens and/or Singapore Permanent Residents of ASEAN origin) shall be recruited within 8 months of the date of the Letter of Award, otherwise the offer of the grant may be withdrawn.

2. The authority for virement per item basis (i.e. with no increase in overall budget) is delegated to the employing organisations subject to the following conditions.
   - The approval authority will be the Director of Research
   - The approval authority covers all projects awarded under this scheme from SERC.
   - The approval authority for the virement of funds between votes is subject to a cumulative amount not exceeding 30% of the original grant amount of either vote.

3. No additional equipment can be purchased or new hires supported later than 6 months before the project completion date.

4. Requests for project extensions must be made to SERC through RSO for review and approval. Under normal circumstances, requests for extensions will not exceed more than 6 months of the project completion date. Only under extenuating circumstances can projects be granted additional extensions.

5. Extensions of one or two years beyond the original support will be given only in exceptional circumstances. These will normally be given to especially creative investigators that require an extended opportunity to work on some "high-risk" aspect in the general research area but not covered by the original proposal. There will be no additional funds.

6. Requests for a change in the Principal Investigator must be made to SERC through RSO. Under normal circumstances, the new Principal Investigator should be one of the Co-PIs.

7. All requests to the SERC (i.e. for change in Principal Investigator, project extensions, requests for supplementary budgets, virement, or a change in project directions) are to be made on a prescribed template PSF15 downloadable from PAMS. A template, PSF16, downloadable from PAMS for "Capability Indicators", must be filled, uploaded and attached to the submission.

Progress Reports

1. The Principal Investigator is required to submit annual progress reports to SERC through RSO using predefined templates. These reports may be reviewed by the SERC-appointed review panel for satisfactory progress. The panel may require additional information about the progress of an award if it deems the information inadequate.

2. The deadline for submission of the annual progress report is either 14th July or 14th January. Failure to submit progress reports may lead to suspension of the awarded grant. Principal Investigator needs to write to
SERC with justifications, through RSO, for consideration to restore funding for the project.

3. A template, PSF16, downloadable from PAMS for “Capability Indicators”, must be filled, uploaded and attached to the submission.

**Final Report**

1. All Principal Investigators are required to submit a final report using predefined templates to SERC within 3 months of completion of the project. The report must be submitted to RSO. The research panel may examine the report for satisfactory completion of the stated objectives and goals.

2. A template, PSF16, downloadable from PAMS for “Capability Indicators”, must be filled, uploaded and attached to the submission. A softcopy A1-sized poster must also be designed and attached to the submission.

**Termination**

The prompt submissions of project progress and final reports will form part of the Principal Investigator's track record with SERC. SERC reserves the right to terminate the award for any project at any time if the Council deems the project unsatisfactory in progress or achievement of its stated objectives.

**Relevant Documents Obtainable from PAMS**

- Basic Guideline: Public Sector R&D Projects Funding Guidelines
- Document Description
- Preparing a Case for Support
- Preparing a Budget Proposal
- SERC Key Technology Areas
- Criteria for the Nomination of International Reviewers
2.3.2 Thematic Strategic Research Programmes (TSRP)

The SERC is taking on a thematic approach for the funding of Strategic Research Programme. The thematic approach aims to foster collaborations and greater linkages within the research community and between institutions. It also aims to achieve prioritization of strategic areas for funding. In these mission-oriented research programmes, Public Workshops are held to identify priority areas for research and lead research teams.

The Thematic Strategic Research Programme supports proposals that satisfy one or more of the following objectives:

- **Creation of high impact**: Research that leads to significant benefit to the economy over the medium to long term.
- **Development of enabling capabilities**: Research that leads to the creation of enabling technology platform(s) and technologies that will benefit one or more industry clusters in terms of breadth in the diversity of applications and depth in the value chain.
- **Support for national priorities**: Research that solves specific problems which may compromise Singapore's stability or impede her economic or social progress.

Some examples of previous strategic research programme funded by SERC are:

- Nanoelectronics (NanoE)
- Polymer Electronics (PMED)
- Integrated Manufacturing & Service Systems (IMSS)
- UWB-enabled Sentient Computing (UWB-SC)
- Mobile Media (MM)
- Human Factors Engineering (HFE)
- Smart Energy Distribution Systems (SEDS)

Proposals should generally include activities such as proof of concept, applications, as well as connecting with and hosting of industry collaborators. Proposals should also demonstrate the building of multi-disciplinary/organisational research teams.
2.3.3 SERC Energy Technology R&D Program

SERC Energy Technology R&D Program Office announces a call for proposals in the area of Smart Energy Distribution Systems.

Application Procedures

1. The application forms can be downloaded from SERC’s web-based Proposal Administration, Management and Submission (PAMS) system, accessible at http://pams.a-star.edu.sg, under “Document Downloads”. Online help and instruction are available on PAMS. Please allow pop-ups from the PAMS website.

2. All proposed team members must enter/update their profile into the PAMS system.

3. Softcopy submission of the proposal must be made through the PAMS system. A “Transmission is Successful” pop-up will appear after the softcopy submission. Please complete and attach this document to your hardcopy submission for the necessary endorsements.

4. Only FULL proposals will be accepted for review, evaluation and assessment for awards.

Evaluation Criteria

The proposals will be reviewed against the objectives of the programme, based on the criteria below, in order of importance:
- Relevance of the proposal
- Innovative merit of the scientific approach
- Multi-disciplinary/organisational research team
- Track record of the Principle Investigator (PI)
- Clear outcomes and deliverables
- Budget requested

Award Process

1. A SERC appointed Expert Review Panel comprising local and international researchers in the field will review and recommend complete proposals for awards.

2. SERC may require proposals to be combined as it sees fit to enhance collaboration, facilitate integration and optimise resources.

3. SERC may seek referee reports, written submissions or presentations from some Principle Investigators (PI) to judge, elaborate or clarify aspects of the research approach described in the proposal during the review process. All proposers are expected to be available for a presentation to the Expert Review Panel during the review meeting.
4. Notification of awards will be sent to RSO and copied to the Principal Investigator within 3 months of the closing date for submissions. SERC’s decision will be final.

**Grant Timeline**
1. Announcement of Call for Proposals
2. Submission of complete proposals to SERC via PAMS (softcopies)
3. Deadline for submission of complete and endorsed proposals (hardcopies) to SERC
4. Presentation to SERC appointed Expert Review Panel
5. Announcement of successful proposals to proponents
6. Official commencement of projects

**Pointers**
1. The duration of the project should not be more than 3 years. The receipt of the project proposals by A*STAR in no way implies any commitment to support the proposed activities.

2. Collaborative research activities should be described in a single proposal in which a single award is requested. Awards will be made to the lead local institution. Distribution/allocation of sub-awards to other institutions must be administrated by the PI and his/her institute, and must be clearly indicated.

3. Only direct cost items will be supported in each proposal. Direct cost is defined as the incremental cost required to execute the project. This excludes contributions in-kind, depreciation cost of existing equipment, cost of existing manpower as well as building cost. Overheads are NOT supported.

4. No support for Ph.D. students will be allocated under the initiative. Applicants are strongly encourage to look towards the A*STAR Graduate Scholarships for funding of Ph.D. students.

5. SERC will support up to 100% of each line item qualifying as direct cost. Line items are cost items listed under the three votes – expenditure on manpower (EOM), equipment, and other operating expenses (OOE). SERC reserves the right to vary/remove any of the line items during the moderation of the budget proposal.
2.3.4 SERC-NSF - Materials World Network

The Science and Engineering Research Council (SERC) and the US National Science Foundation (NSF) are cooperating in a materials research programme called Materials World Network (MWN).

Details of the MWN programme can be found at http://www.nsf.gov/pubs/2007/nsf07574/nsf07574.htm

Eligibility

All Singapore researchers must have a lead US collaborator who is required to concurrently submit the joint proposal to NSF’s MWN programme.

Application Procedures

The application forms can be downloaded from SERC’s web-based Proposal Administration, Management and Submission (PAMS) system, accessible at http://pams.a-star.edu.sg.

Please use the proposal and budget templates found under the SERC-NSF-MWN Funding Scheme. The proposal should contain the following:
- The overall detailed joint project description that will be submitted to NSF
- Details on the involvement and contribution of the Singapore investigators
- Details on the interaction among investigators of both countries
- Details for the funding required for the Singapore effort

All Singapore researchers submitting proposals are to do it via PAMS system while their US counterparts are to submit theirs accordingly to the NSF. When submitting a proposal, choose SERC-NSF-MWN under the field “Funding Scheme/Programme.” The usual submission procedures apply.

Award Process

Proposals will be jointly reviewed by NSF and SERC. If a proposal is approved, SERC will fund the Singapore effort while NSF will fund the US effort.

Terms and Conditions

This programme is subjected to the SERC’s Public Sector Funding (PSF) terms and conditions.
2.3.5 SERC Joint Singapore-Poland Science & Technology Co-Operation

SERC Joint Singapore-Poland Science & Technology Co-Operation is a Joint Call for Proposals with the Polish Ministry of Science & Higher Education (MSHE) in specific research areas/theme.

Funding application for support for travel by Polish researchers to Singapore in conjunction with discussion and preparation of joint proposals is also open.

Completed application forms for travel support and Completed application forms for full proposals should reach RSO by the due date.

Application Procedures

1. Applicants are strongly encouraged to contact the SERC Programme Officers to discuss their research plan and proposals prior to submission. E-mail letters of interest should also be sent the programme officers.

   Ms Goy Hsu Ann, Programme Officer
   E-mail: goy_Hsu_Ann@a-star.edu.sg
   Tel: 68266133

2. Proposals must attempt to fully disclose the research ideas and approaches. All proposals submitted must state clearly and in sufficient detail, the following:
   - Scientific/technical merits of the research;
   - Impact of the work on science and current technologies;
   - Qualifications of the key members of the research team; and
   - Amount of funding required.

3. A self-contained case must not exceed 25 (twenty-five) pages, including the biographical notes of the researchers. In addition, one page is allowed per Principal/Co-Investigator for description of achievements under prior SERC awards within the last three years, if any.
   A case for support would typically describe the following elements:
   - The lead institution
   - Purpose of the project
   - Schedule of deliverables and milestones
   - Background information
   - Detailed research approach
   - Competitive/comparative advantage of the research and benchmark with current international efforts
   - How the proposed research will leverage on capabilities in Singapore and Polish collaborating partners
   - A statement on the PI’s and Co-Investigator’s effort level in the project
   - Detailed breakdown of the resources required. This includes manpower, equipment, consumables/supplies, and travel expenses. Prevailing rates for manpower of the employing organisation or rates stated in SERC’s Public-Sector R&D Funding Scheme must be used as a guideline to compute expenditures.
   - Project management organization and plan

4. Proposals must not be duplicative or substantially similar to any previous project or proposal submission. No individual should be represented in
more than two proposals. SERC-funded Research Institutes and Centres may submit no more than three proposals as the lead institution.

5. All proposals must be submitted through Research Support Office. All submissions must be made through the SERC’s web-based Proposal Administration, Management and Submission (PAMS) system, accessible at http://pams.a-star.edu.sg.

**Funding**

1. Only direct cost items will be supported in each proposal. Direct cost is defined as the incremental cost required to execute the project. This excludes contributions in-kind, depreciation cost of existing equipment, cost of existing manpower as well as building cost. Overheads are NOT supported.

2. No support for PhD students will be allocated under the initiative.

3. SERC will support up to 100% of each line item qualifying as direct cost. Line items are cost items listed under the three votes – expenditure on manpower (EOM), equipment, and other operating expenses (OOE). Collaborations with overseas institution that demonstrably enhance the research activities are encouraged.

4. Collaborative research activities should be described in a single proposal in which a single award is requested. Awards will be made to the lead local institution. Distribution/allocation of subawards to other institutions must be administrated by the PI and his/her institute, and must be clearly indicated.

**Evaluation Criteria**

A formal contract involving the relevant Singapore Institution(s) and Polish Institution(s) shall be drawn for each Project. Each Project shall inter alia:

- contribute substantially to scientific progress in the respective field and must be original and innovative;
- apply state-of-the-art methods and advanced technologies;
- be tackled in an interdisciplinary approach involving scientists with different backgrounds in
  - basic research or applied/closed research;
- involve a mix of experienced and young scientists.

**Award Process**

1. Proposals will be reviewed by an international panel of experts that will help identify programmes that are innovative, demonstrate a high level of scientific pursuit, clearly identify recipients of the research outcomes and applications, challenge paradigms and set international benchmarks. Other factors will include the level of synergy of the proposed research to the collective set of activities, the abilities of the researchers, their past
performance in prior awards, comments of the referees (if required), effectiveness of project management, and appropriateness of the requested budget.

2. Notification of awards will be sent to RSO and copied to the Principal Investigator. Written acceptance of the terms and conditions of the award through RSO must reach SERC within 14 working days from the date of the award offer letter.

3. After award, PI should commence the project within 60 days from the date of award offer letter and submit bi-annual summary reports
B. BMRC Grants

2.3.6 BMRC-NMRC Joint Grant Call

A*STAR’s Biomedical Research Council (BMRC) and the Ministry of Health’s National Medical Research Council (NMRC) are making a joint grant call for research proposals. This collaborative effort serves to create synergy among the basic researchers and clinician scientists. The BMRC-NMRC Joint Grant Call for research proposals is open to all full time NTU academic staff.

a. BMRC Projects

Biomedical Research Council (BMRC) supports, oversees and coordinates public sector biomedical research and development activities in Singapore.

Application Procedures

Application can be made electronically at the A*STAR website: (http://bmrcgrants.a-star.edu.sg). An original application (hard copy) and a soft copy (Word format) must be submitted to BMRC, A*STAR through RSO following the electronic submission.

Letter of Award

1. Notification of awards will be sent to the RSO and copied to the Principal Investigator. Written acceptance of the terms and conditions of the award co-signed by the Principal Investigator, Co-Investigators and the Director of Research must reach BMRC within 14 working days from the date of the offer letter.

2. The Principal Investigator should also complete and submit Schedule 4.1 (Budget Phasing Form) along with the Acceptance form.

Post Awards

1. Commencement of Research

- Research must commence within 2 months and Research Personnel shall be recruited within 6 months of the date of the Letter of Award, otherwise the offer of the grant may be withdrawn.
- Please use reasonable efforts to employ or otherwise engage Singapore citizens and/or Singapore Permanent Residents to be deployed in the research work.
- PI need to complete and return the form attached in Schedule 3 to A*STAR prior to the commencement of the Research. This form must be updated from time to time to include particulars of new Research Personnel.
- PI needs to ensure that all ethics approvals for the conduct of studies using animals are obtained prior to the commencement of any research work.
2. Funding

- A*STAR agrees to pay the funds in accordance to the budget breakdown (according to the EOM, OOE and Equipment votes) and in the manner specified in Schedule 1.
- No variation to the budget allocation specified in Schedule 1 shall be made without the prior written consent of A*STAR.
- Funds will be disbursed quarterly subject to the Institutions and Investigators meeting the Milestones and after A*STAR’s receipt of requisitions submitted by the Host Institutions.

Funds may not be used for:
- Costs of capital works and general infrastructure (including costs associated with the establishment and running of the Grant Administration Office) unless expressly approved in writing by A*STAR;
- Salaries of Research Personnel not provided for in the approved budget;
- Salaries or other payments to the PI or co-PI;
- Research support for Research Personnel not resident in Singapore unless specifically approved by A*STAR in writing;
- International students’ fees or other stipends or awards to students;
- Overhead expenses (e.g., rent and utilities);
- Payment of professional fees, including fees payable to auditors, solicitors and consultants;
- Payment of expenses related to the patenting or commercial exploitation of the results of the Research

3. Changes in the Project

- No material amendments, alterations or changes that affect the scope, nature, direction or purpose of the Research shall be made to the Research without A*STAR prior written approval.
- Requests for a change in the PI or co-Pi must be made to A*STAR through the RSO.
- Any changes must be made in writing through RSO.
- All such changes must be expressly approved in writing by A*STAR. Failure to fulfill this requirement could result in immediate termination of the funding.

4. Milestones & Deliverables

- Investigators shall use their best efforts to achieve and produce the Milestones and Deliverables stipulated in Schedule 2.
- Investigators need to submit Yearly Progress Reports in respect of the scientific progress and results of the Research every calendar year, with the first report due twelve (12) calendar months after the commencement of Funding. Further disbursement of Funds will not be made until the Yearly Progress Report is submitted and it is deemed adequate or satisfactory by A*STAR.
• Investigators need to submit Final Report within six (6) months of the final payment of the funding. The Final Report shall contain a complete inventory of the Assets and Materials.

5. Publications of Results and Findings

• PI may publish the findings, methods and results derived from the Research.
• PI shall be responsible for furnishing to A*STAR copies of such proposed publications.
• If no objection is made to the proposed publications, PI shall be free to proceed with the publication.

6. Accounts, Audits and Monitoring

• PI shall keep and maintain full and detailed records and accounts relating to the Funding and the Project, including all items of expenditure incurred for or in connection with the project.
• A*STAR may conduct ad hoc-on site reviews and audits for monitoring and evaluation purposes relating to the research.

b. NMRC Projects

Application Procedures

The application forms can be downloaded from NMRC website. An original application (hard copy) and a soft copy (Word format) must be submitted to NMRC through RSO.

Pointers

The following submissions to RSO for A*STAR and NMRC proposals are required:

• soft copy of PI’s application forms to be uploaded to RSO’s Central Drive through their School Administrators;
• endorsement from the PI’s HOD and Chair of School should accompany the original hardcopy application form and
• summary table consisting of all applications from a particular School would have to be uploaded RSO’s Central Drive by the stipulated date by the School Administrators.

Queries relating to submission of proposals to A*STAR may be channeled to PIs’ respective School Administrators who can contact RSO at this mailbox: RSO-Astar queries. For queries relating to submission of proposals to NMRC, School Administrators may contact RSO through RSO-NMRC queries.
C. Other A*Star Grants

2.3.7 SBIC Grant Call

Through the “specific” theme, The Singapore Bioimaging Consortium (“SBIC”) Grant Call would seek to encourage collaboration between researchers in the physical and biological sciences.

The grant call is funded by BMRC and SERC. The average funding per grant is about S$0.5M up to a maximum limit of S$1M. Grant period is usually three (3) years contingent upon satisfactory progress as assessed during annual reviews. The total available funding is S$3M.

2.3.8 Joint SBIC-SSCC Grant Call

The Singapore Bioimaging Consortium (“SBIC”) and Singapore Stem Cell Consortium (“SSCC”) are jointly announcing a Grant Call for collaborative research proposals. The theme for the Joint SBIC-SSCC Grant Call is “Bioimaging on Stem Cells”.

Projects under the grant call could include (but are not limited to):
- Imaging stem cells in-vivo
- Tracking of stem cell and its differentiation
- The development of cellular imaging markers for following cell division and differentiation

SBIC is funded by BMRC and SERC, while SSCC is funded by BMRC. Under the joint grant call SBIC and SSCC will each contribute S$2M to the grant budget, making up a total available funding of S$4M. Average funding per grant is about S$0.5M up to a maximum limit of S$1M. Grant Period is usually three (3) years contingent upon satisfactory progress as assessed during annual reviews.

Eligibility

1. All full time NTU Academic Staff

2. There shall be only ONE (1) Network Director (who acts as a PI) for each Collaborative Grant application.

3. The research must be conducted in Singapore. Collaborative grants should have at least one (1) PI from the physical sciences and one (1) PI from the biological field.

Application Procedures
1. Application (outline proposal) forms can be downloaded from the SBIC website at http://www.sbic.a-star.edu.sg/grant.php

2. Internal Submission Guideline: An original duly signed application (hard copy) a soft copy (Word format) to be uploaded to RSO’s Central Drive through their School Administrators.

3. College/School Administrators to check the proposals and upload the softcopies, the submission summary table and to attach the signed college endorsement for each proposal (hardcopy) submitted.

4. Queries can be forwarded through respective college/school administrator to RSO-AStar queries.

**Award Process**

PI’s of short-listed outline proposals will be informed to submit their full proposal. Applications will be peer-reviewed and the outcome will be announced by specific due date.

### 2.3.9 Singapore Immunology Network (SIgN) Grant Call

The Singapore Immunology Network (“SIgN”) was established to build upon Singapore’s existing core strengths in immunology research with the objectives:

1. To foster more interaction among institutions and to promote good quality research in the field of immunology.
2. Preference will be given to projects that encompass some aspects of human immunology research.
3. It aims to enhance research particularly in the area of
   - allergy and atopic diseases
   - autoimmune disorders
   - tumour immunology and immunotherapy
   - infectious diseases
   - functions and phenotypes of cells in the immune system

However, projects that pursue other aspects of immunology not highlighted above will also be considered. Applicants are expected to work with at least one SIgN scientist on each grant proposal for a more directive approach.

Each grant will be capped at S$1.5mil over a funding period of 3 years, contingent upon satisfactory progress as assessed during annual reviews.

**Eligibility**

All full time NTU academic staff are eligible to apply. The applications should include at least 2 parties from 2 different institutions, comprising at least one BMRC research institute/units and at least one extramural partner, and the research must be conducted in Singapore. There shall be only ONE Project
Director for each application who will be the leader of the research team and also the point of contact for all grant related issues.

**Application Procedures**

Application form can be downloaded from the website:  
http://www.a-star.edu.sg/astar/biomed/action/biomed_funding_current_calls.do

**Award Process**

There will be a two-tier process to this grant call. Applicants are to submit a two-page outline proposal by the due date for preliminary evaluation. Short listed outline proposals will then be invited to submit a full proposal which will be subjected to international peer review.

**2.3.10 The Singapore Cancer Syndicate (SCS) Grant Call**  

The Singapore Cancer Syndicate ("**SCS**") is a funding entity under A*STAR, working with the Singaporean clinical and research community to expand the competitive cancer research infrastructure and programmes. The aim is to generate a coordinated National Cancer Research Programme.

The SCS provides the national leadership advice in strategy, specific to cancer research and development, taking into account the state of the oncology field, Singapore’s strategic advantages, and the country’s strategic plans in the biomedical sciences.

Since the inception of the SCS in 2002, the Syndicate has established a pipeline of consortial projects that spans upstream research to prognostic development, preclinical validation studies and translational interface projects. The ultimate aim of establishing these platforms is to bring discoveries into the clinic for cancer treatments.

The SCS funds critical infrastructural projects that will help strengthen the capabilities of the research community to harness the existing resources available within the research and medical fraternity.

**Evaluation Criteria**

All grant applications will be evaluated by the Scientific Advisory Board ("**SAB**") for a funding duration of between 1 to 3 years.

The assessment criteria will be based on the following aspects:
- Strategic Impact
- Scientific Merits
- Project Feasibility
- Willingness to Collaborate
- Consortia Integration
• Value-Added Qualities
• Project Novelty

**Application Procedures**

**First Stage**

1. Concept proposals are requested from interested institutions. This is to determine the scope of interest and capabilities in the clinical and scientific community in the research domains specified herein.

2. The SCS encourages novel organizational and scientific concepts to be raised for discussion. We encourage groups that span multiple domains or institutions to bundle their concepts together for collective review (e.g., a early phase clinical trials center with a pharmacokinetics unit, and a molecular pathology unit; or a consortium studying one cancer that engages a number of institutions functioning as center and associate units).

3. All proposals will be evaluated by the SCS external Scientific Advisory Board.

4. The selection criteria will be based on the following:
   • The qualifications of the investigators
   • Potential for growth
   • Institutional support, and willingness to participate in a National Consortium
   • It is anticipated that several independent proposals will be grouped into consortia to achieve maximal impact. Funding will be provided after consensus has been achieved for the final work plan.

**Second Stage**

A project work plan will be composed incorporating the recommendations of the reviewers and the Syndicate leadership. This will include milestones, and a detailed budget.

We anticipate that this document will undergo several iterations through consultation before a final work plan is accepted by the Principal Investigators of the Consortium.

**Third Stage**

Administrative Confirmation is required for funding to be activated. This includes documentation of IRB approval, animal care approvals, biosafety, statement of institutional support, and documentation of human resource requirements.

**Fourth Stage**

Syndicate Consultation and Programme Support represents the post-award process whereby the Syndicate will consult with all centers and programmes on a quarterly basis to assist in project management, consortia building and in inter-institutional communications.
2.4 Ministry of Defence

2.4.1 Defence Innovative Research Programme (DIRP)

The Defence Innovation Research Programme ("DIRP") provides opportunities for Interdisciplinary Research Development in Defence Science and Technology. DIRP aims to seek and fund innovative research with the potential to create significant value to the defence and security of Singapore. Hence, the research areas will cover science and technology of relevance to defence and security. Examples of the areas of interest can be found on http://www.dsta.gov.sg under the heading of technology collaboration.

Eligibility

The DIRP Award is open to all NTU staff or staff from the various research institutions/centres with no restrictions on the nationality of the applicant. However, researchers of Temasek Labs at NTU are not eligible to apply.

Collaborative research with foreign research institutions are encouraged and supported. However, there must be substantial research conducted by the applicant in Singapore.

Support Available

The maximum award and duration for each project is $600,000 and 4 years, respectively. Payment will be made in 2 stages. For the first stage, a maximum sum of $200,000 will be paid over the first 2 years. For the second stage – upon completion of a mid-term review and decision to support continuation of the project, the remaining project value ($400,000 maximum) will be awarded for a further period of 2 years for the completion of the project. The award may be used to fund research manpower, consumables, equipment, and travel expenses related to the project. Any funds that remained unspent at the end of the award must be returned to DSTA.

Solicitations for proposals will be announced once every year.

Application Procedures

Prospective candidates are encouraged to discuss their proposals with the relevant DSTA Programme Managers before submission of the preliminary proposals. The list of DSTA Programme Managers and their relevant research areas of interest are available on http://www.dsta.gov.sg under the heading of technology collaboration.

Applicants are then required to submit a preliminary proposal to the relevant Programme Manager. A soft copy of the preliminary proposal is to be copied to the Secretary of the MINDEF/DSTA-NUS/NTU Joint Collaborative Programmes and the NTU contacts.
Mr Lawrence Low
Secretary
MINDEF/DSTA-NUS/NTU Joint Collaborative Programmes
c/o Ecosystem Development Office
Defence Science and Technology Agency (DSTA)
Tel +65-68795070
Fax +65-68721652
Email: lkimlen1@dsta.gov.sg

Prof Tjin Swee Chuan
Assistant Director of Research
Research Support Office, NTU
Tel 67904845
Email: esctjinr@ntu.edu.sg

Ms Toh Han Wei
Executive Officer, NTU
Tel 67906597
Email: hwtoh@ntu.edu.sg

If the Programme Manager sees potential in the project based on the preliminary proposal, the applicant will be advised to prepare the complete proposal in the format provided. The completed full proposal is to be submitted through the Research Support Office with a soft copy to the Secretary of the MINDEF/DSTA-NUS/NTU Joint Collaborative Programmes. The full proposal should expand upon the preliminary proposal providing more details and references where applicable.

Timeline

Call for proposals
Submission of Preliminary Proposals - June
Notification to submit Full Proposals (if shortlisted) - August
Submission of Full Proposals - September
Applicants informed of outcome - November

Evaluation Criteria

Award is based on the merits of the applicant’s research and its potential impact on the defence and security of Singapore with an emphasis on innovative ideas.

Award Process

Applications will be considered by a DSTA panel. The panel's decision is final and no appeal will be entertained.

Award holders are expected to submit a report to the relevant DSTA Programme Manager every 6 months upon commencement of the project. A mid-term review will be conducted to determine the continuation of support. Award holders will also be required to provide a final report at the end of the project, giving details of the research outcomes, comparisons of these against
the initial objectives as well as details on how the approved funding was utilised.

2.4.2 MINDEF-NTU Joint Applied R&D Co-operation Programme

The MINDEF-NTU Joint Applied R&D Co-operation Programme was formally established in 1988. This programme brings together researchers in NTU and defence engineers and scientists in MINDEF/DSTA/DSO to conduct small-scale research projects to enhance the defence capability of our nation.

The programme consists of a Joint Fund from which the cost of an approved project will be paid. The Joint Fund is to be used for the procurement of equipment, manpower cost and expendable required in the execution of the joint project. The usage of the Joint Fund is limited to a maximum of $50,000 per project. To qualify for the programme, projects must have technical and scientific merit and must have relevance to MINDEF and NTU.

Project proposals are invited from NTU and MINDEF staff in all areas of science and technology. Prospective candidates who would like to submit their proposals are encouraged to discuss their proposals with the relevant DSTA Managers. The list of the DSTA Programme Managers and their relevant research areas of interest are available on http://www.dsta.gov.sg under the heading of technology collaboration.

Application Procedures

1. Project Investigators (PIs) from NTU and Programme/Project Managers (PMs) from DSTA/DSO will jointly complete and sign the Project Proposal Form (Form NTU/98PP). A soft copy of the form should be sent to NTU RSO (attn. Ms Toh Han Wei, email HWToh@ntu.edu.sg) and DSTA EDO (attn. Mr Lawrence Low, email: LKIMLEN1@dsta.gov.sg) for information/records.

2. The DSTA/DSO PMs shall submit the hardcopy of the form to Deputy Director (Technology), DSTA who shall indicate if he supports or rejects the proposal.

3. After Deputy Director (Technology) supports the proposal, the NTU PI will send the form (in duplicate) to Assistant Director of Research, NTU to confirm if NTU also supports or rejects the proposal.

4. The NTU PI will be informed by the Research Support Office, NTU, if the proposal is approved or rejected. NTU PI will submit the form (in duplicate) to the Office of Finance, NTU, for the disbursement of the fund requested, if approved.

5. For approved proposal, NTU Office of Research, will provide the Project Reference Number and send one copy of the duly endorsed Form NTU/98PP to Senior Manager, Ecosystem Development Office, DSTA for record purposes.

Note: Prior to requesting budget for the purchase of equipment and materials, the NTU PI need to check with the NTU Inventory Lists to ensure that the equipment/materials budgeted are not already available.
**Award Process**

The duration of the project should typically not exceed 2 years, subject to joint approval by DSTA and NTU approving authorities. PIs are required to submit an End of Project Report and an Annual Progress Report, if the project exceeds one year. The format of the report should be as per Form NTU/98PR. The Progress Report/End of Project Report must be submitted by the PIs to the Assistant Director of Research, NTU and Deputy Director (Technology), DSTA with a copy to Senior Manager, EDO, DSTA, one year after the approved start date and at subsequent anniversary. For completed projects, respective DSTA PMs will also have to complete page 3 of Form NTU/98PR (attached).

**Modification or Termination of Project**

In the event of any modification or termination of project, the PI will have to submit requests through the relevant DSTA PMs to seek approval from both DSTA and NTU approving authorities. The PI should state clearly the new information and the reason for the change by completing paragraph 18 of the previously approved copy of Project Proposal Form. The PIs shall follow the same Steps, i.e. Steps 3 to 5 above to process approval of modification or termination.
2.5 Ministry of Health

NMRC aims to establish a comprehensive and transparent set of granting schemes that support individuals and targeted programme areas. Grant schemes are designed for translational and clinical investigators across all of Singapore who will have the opportunity to participate in multiple ways in this coordinated grant framework. By providing grants which require different levels of research expertise this system affords investigators with different levels of experience opportunities to enter the research continuum at different stages in their career development.

2.5.1 Individual Research Grant (IRG)

Individual Research Grants (IRG) are provided to individual researchers to enable them to carry out medical research on a specifically defined topic within a limited time period (3 years) for carrying out in local public institutions. The focus of the research should be translational and clinical in nature and NMRC does not support any basic science level projects. The grants are awarded based on the scientific merits of the projects. There is no cap for IRG dependent on the scale of the project.

Eligibility

To be eligible for the IRG, the proposed research project must be based in Singapore and the Principal Investigator of the project should reside in Singapore. Clinicians from local health clusters, and staff from local academic institutions are eligible to apply.

Application Procedures

The funding exercise for IRG applications will be held twice a year in April/May and October/November (subject to changes by the NMRC). Applicants should submit their grant proposals using the prescribed format provided by the NMRC. The application form and closing dates will be posted on the NMRC website one month prior to the closing dates of the funding exercises.

To ensure that funding decision is based on scientific merit, all IRG applications are assessed by independent local and overseas reviewers. Reviewers’ comments would be evaluated by the respective Peer Review Subcommittees and funding recommendations would be made to the Executive Committee and the Council. The Executive Committee has approving limit up to and inclusive of $500,000. The Council’s approval would have to be sought if the budgetary requests exceed $500,000. The Peer Review Subcommittees are organized by field of research as follows:

- Immunology/Microbiology
- Pathology/Inflammation/Oncology/Nuclear Medicine
- Biochemistry/Cell Biology/Molecular and Cell Biology
• Epidemiology/Health Sciences/Public Health & Health Services
• Peripheral, Central, Sensory & Cellular Nervous System/Mental Health
• Genetics/Paediatrics/Reproduction
• Cardiovascular/Respiratory
• Renal/Endocrine/Pharmacology
• GIT/Liver/Nutrition
• Dentistry/Surgery/Ophthalmology

All applicants will be notified of the outcomes of their applications in writing within 6 months following the closing date of application submission. Successful applications will be listed on the page http://www.nmrc.gov.sg/homepage1/projectupdate.htm

All applications (one hardcopy and one softcopy), including School Endorsement form and the summary table for the IRG from the PIs and the School Administrators are to be submitted to RSO by the dates stipulated for submission to NMRC.

Focus of the NMRC is to support translational and clinical research and NMRC does not support any basic science level projects.

From May 07, overheads support (20% of the project cost) will be given for the New IRG grants as this would help the institutions to defray their indirect costs of supporting research and hence provide a greater incentive for institutions to support their researchers in turn.

2.5.2 NMRC Administrative Guidelines

The NMRC Administrative Guidelines and Financial Regulations is applicable for all projects and programmes administrated by the NMRC, including all the NRF funded initiatives, unless otherwise stated.

Disbursement of Grant

1. Institutions should in the first instance pay for the expenditure incurred for approved projects grants and subsequently claim for reimbursement from the NMRC.

2. All claims for reimbursements should be made in the format prescribed by the NMRC. Each claim must quote the grant number assigned by the NMRC. The claim should also have a unique claim reference number in which NMRC will quote when making payment to the Institutions.

3. Each claim form should be substantiated with supporting documents like copies of invoices, debit notes and receipts. For claims on payroll cost, the names (or identification number) and designation of the staff should be clearly indicated and the amount claimed must be certified correct by the Human Resource Department.

4. In order to avoid last-minute claims, reimbursement claims are to be submitted promptly on a monthly or quarterly basis. The last day for submission of reimbursement is 28th February of the reporting financial year (subjected to changes by NMRC). Any invoices submitted after the
deadline would be considered as invoices submitted in the next financial year and utilised against the next financial year’s budget.

5. With the exception of manpower claims, all project claims should be submitted to NMRC within three(3) months from date of project completion. Any late submission will be subjected to a case-by-case consideration by the NMRC.

6. All late submissions must be accompanied by an explanatory note. The NMRC reserves the right to reject any late claims which are not accompanied by valid reasons.

7. Before forwarding claims to the NMRC for reimbursement, Institutions should ensure that:
   - claims are properly certified correct by the Institutions’ Chief Finance Officer (CFO) and PIs, or their designated officers.
   - supporting documents are certified true copy and organised.

8. The NMRC will only fund items directly related to the research projects. All funding will be net of what is already supported via existing research grants or institutional funding to ensure that there is no double dipping of funds from the various grant pools. Penalties will be imposed on those where double dipping is found to be evident. Such penalties may include the suspension or termination of funding.

9. Reimbursement of expenses would only be made for expenses incurred during the grant period. For the avoidance of doubt, the expenses are deemed incurred only when the goods are received or services are rendered. Expenditure committed during the grant period but incurred after grant expiry would be rejected.

10. The IRC will be disbursed to the Institutions as per normal disbursement. Computation of the IRC will be done by the NMRC based on the claims submitted by the Institutions. The amount of IRC to be disbursed is as followed: IRC = [Total claims – exceptional items] * 20%

1. The NMRC reserves the right to reject any claims that it finds inappropriate.

**Grant Extension**

1. PIs must seek the NMRC’s approval for project grant extension.

2. The total period of grant extension is capped at 50% of the duration originally approved. However, the NMRC may allow for grant extension beyond the maximum extension duration, subjected to case by case consideration.

3. Request for grant extension should be submitted at least one(1) month before the project’s expiry date. All late submissions must be accompanied by an explanatory letter. The NMRC reserves the right to reject any late request.
Grant Variation

1. Institutions and PIs may vary for amounts up to and inclusive of $10,000, up to a maximum of 3 times a year, but must inform the NMRC (unless specifically approved by NMRC).

2. PIs of project grants are not allowed to vary project grants for the purchase of items not included in the list of qualifying direct costs.

3. If a grant variation involves purchase of any non-fundable items, Institutions/PIs must seek NMRC’s approval regardless of the variation amount. NMRC reserves the right to reject claims for such expenditure if prior approval was not obtained.

4. Institutions and PIs must seek the NMRC’s approval for variations that are more than $10,000.

5. All project grant variations must be submitted to the NMRC using the prescribed forms available from the NMRC website.

6. Any variation to the approved scope of a project (i.e. objectives, aims and proposed outcome, etc) must be approved by the NMRC.

7. The NMRC reserves the right not to process any grant variation requests submitted after the deadline.

Reports Submission

1. PIs are to submit progress reports every 12 months, or upon request by the NMRC.

2. PIs are to submit their final reports within 3 months after the completion of study.

3. All final reports should include a Statement of Account of approved budget and expenditure.

4. The format of these 2 reports can be found on the NMRC’s internet website at www.nmrc.gov.sg.

5. For IRG report, it should be signed and dated by the PI responsible for the study and countersigned by the Director of RSO.

6. PIs not submitting the Final and Progress Reports are subjected to:
   - Disqualification from applying as PI for new IRGs until he or she submits the final report, and
   - A “not submitted” status in the Annual Report for final reporting, and
   - Suspension of any grant variation or extension requests until progress reports are submitted.

7. Institutions are required to submit annual EG report using the format prescribed by the NMRC. It should include a Statement of Account of
approved budget and expenditure. The report should be signed and dated by the Director of RSO.

8. After the end of each FY, Institutions who receive IRG have to submit a report stating the total IRC received from the NMRC during the FY and the breakdown of the total amount.

9. The NMRC must be informed promptly of all works due for publication directly relating to the NMRC-funded research projects and any other NMRC-funded initiatives. PI must also inform RSO as RSO will be required to submit a quarterly report on all the publications published during the quarter to the NMRC.

10. PIs are required to promptly report any invention disclosure to the NMRC. PIs are required to include such reports in their annual progress report to the NMRC as well.

Change of PIs

1. PIs who wish to nominate new persons to take over their projects must obtain approval from the NMRC by submitting the following documents:
   - Concurrence from their HODs, Chair, and Director of Research, and
   - CVs of the nominees.

2. New PIs are required to seek concurrence from their HODs, Chair, and Director of Research and sign a Statement of Undertaking for each of the projects.

3. In the event that the PI could not find any suitable person to take over the project, or the change of PI is not approved by NMRC, NMRC reserves the right to terminate funding for the project.

Transfer of Institutions

1. PIs who wish to transfer the administration of their grants from one Institution to another Institution are required to seek approval from both Institutions and inform the NMRC.

2. The Institutions taking over the administration of grants must have signed a MOU with the Government of Singapore.

MoU

1. All Institutions whose staff are receiving grants from the NMRC are required to sign a MoU with the Government of the Republic of Singapore.

2. The NMRC will send an updated Annex A of the MOU for Institutions’ endorsement yearly.
**Cashflow Submission**

In order for the NMRC to adhere to MOH and NRF annual budget management cycle, the NMRC seeks the cooperation of all grant receiving Institutions and PIs of MOH and NRF funds to follow a Plan-Submit-Spend-Review & Revise cycle as follows:

**(i) Plan (Quarter 3 to 4 – Oct to Mar)**
The NMRC requires all PIs to plan for the required budget and the corresponding quarterly cash flow projection for the following FY.

Each Institution is required to collate the projected budget of all ongoing projects for submission to the NMRC at institutional level. (New projects to be approved during the FY need not be included in this projected budget.)

The submission of the total projected budget (i.e. the summation of the all projects) and the cash flow projection for each quarter should be at institutional level. All submission should be completed using Form A and must reach the NMRC by 10th Feb.

It is the Institutions’ and the PIs’ responsibility to ensure that the budget requested must not be duplicated under any existing funding proposals, eg. existing research grants or institutional funding. Penalties will be imposed on the Institutions and the PIs should double dipping of funds be discovered.

**(ii) Submit (Quarter 4 – Jan to Mar)**
All the claims to be reimbursed under the current FY budget must reach the NMRC by 28th Feb. Any late claims will be rejected or reimburse out of the next FY budget.

**(iii) Spend (Quarter 1 – Mar to Jun)**
The Institutions and PIs start spending according to their approved projected budget. The NMRC requires every institution to spend within ±10% of its declared quarterly expenditure at every quarter or be subject to adjustments:

<table>
<thead>
<tr>
<th>Adjustment to Institution’s budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>If AQE falls outside ± 10% of DQE</td>
</tr>
<tr>
<td>- 5% from total indirect costs</td>
</tr>
<tr>
<td>If AQE falls outside ± 15% of DQE</td>
</tr>
<tr>
<td>- 10% from total indirect costs</td>
</tr>
</tbody>
</table>

AQE – Actual Quarterly Expenditure
DQE – Declared Quarterly Expenditure (as declared in their cash flow projection)

Budget utilisation is computed based on paid claims submitted to the NMRC for reimbursement during the FY at institutional level.

If the Institutions’ AQE deviates more than 10% from their DQE, a total of 5% will be deducted off their total IRC claimed for the quarter as penalty. If the AQE is more than 15% of the DQE, a total of 10% will be deducted off their total IRC claimed for the quarter.

To further prevent the last minute utilisation of the funds, all Institutions have to ensure that 70% of the budget must be utilised by Quarter 3 (i.e by Dec).
If an Institution is unable to hit 95% utilisation of their budget at the end of the FY, the sector’s baseline in the following FY will be adjusted to be equal to the actual expenditure in the current FY. This should not necessarily be seen as a “penalty”. For example, Institutions that are able to spend below 95% of their budget because of cost sharing and better management of their resources would be recognised for their achievement and highlighted as best practices for others to learn from.

For other Institutions where the lower budget utilisation (below 95%) is not due to the above reasons, they may appeal for adjustments to be waived. Such appeals would be subject to approval by the NMRC.

(iv) Review & Revise (Quarter 2 – Jul to Sep)
During the second quarter of the current FY, Institutions should review their spending and project their final requirements for the FY.

Should Institutions foresee changes in their projected spending (eg. additional funds required, savings to be declared, roll-over of budget for IRG), they are to submit their revised budget and the corresponding quarterly cash flow projection by 5th September. Institutions are encouraged not to make any other changes to their budget beyond this date.

However, at any time, should the Institutions be aware of any deviations from their approved budget, they must inform the NMRC immediately.

Annual Budget Preparation Procedures

i. Revenue Projections

1. All proposals for revenue estimates shall state:
   - reasons and basis of calculation; and
   - reasons for increase and decrease in each revenue item compared to the previous financial year’s estimates.

2. The proposals shall also mention any changes to the rates which revenue items are to be charged.

ii. Revenue and Receipts

In line with proposed revenue projections, revenue from the NMRC funded research grants shall be offset against the claims submitted to the NMRC for reimbursement. All other receipts derived as a result of the NMRC grants have to be communicated to the NMRC promptly. Examples of such revenues include proceeds from sale of fixed assets, excess insurance claims, refunds from purchases, etc. Such receipts will be offset against the claims submitted to the NMRC for reimbursement.

Revenue derived from commercialisation of research findings arising from all NMRC funded projects shall be collected and remitted to the NMRC according to the provisions in the MOU signed between NMRC and the Institutions supporting the research projects.
Institutions shall maintain a register of revenue received from projects funded by NMRC grants. The Chief Financial Officer or his designated officer shall ensure that the register is properly maintained.

iii. Expenditure and Payments

1. Institutions and PIs shall ensure that funds are available before they commit any expenditure.

2. Variation may be made within the categories to supplement unbudgeted purchases and expenditure items which overrun their budgeted amounts.

3. Variation may also be made from one category to another to supplement the latter’s budget deficiency.

4. Institutions and PIs may vary up to and inclusive of $10,000 within their approved budget for the grant and shall be responsible to inform NMRC of the variation.

5. For grant variation relating to non-fundable items or of amount more than $10,000, Institutions and PIs shall obtain approval of grant variation from the following authorities:
   - Up to and inclusive of $100,000 – NMRC Chairman
   - Up to and inclusive of $500,000 – Exco
   - Exceeding $500,000 – Council

iv. Utilisation of Budget

1. To ensure tighter budgetary control, better utilisation of resources and proper budgeting of grant applicants, Institutions and PIs are required to achieve a minimum utilisation rate of the approved budget or suffer a penalty on the approved budget for the next FY. The minimum utilisation rate will be conveyed to the Institutions and PIs in the approval letter sent to them.

2. Budget utilisation is computed based on paid claims submitted to the NMRC for reimbursement during the FY.

v. Procurements

Institutions and PIs are to follow Institutions’ procurement procedures to ensure that all purchases made using NMRC grants are value for money. All relevant documentations (e.g. purchase requisition forms, quotations from vendors, etc) must be forwarded to the NMRC together with the invoices in their submission of claims.

vi. Payments

1. Institutions and PIs shall only make payments based on the original documents.

2. Institutions and PIs shall ensure that services have been duly performed and goods have been delivered.
3. Payments for research trainings and attendance of conferences should follow the Institution’s own training guidelines (e.g. rates of allowances, signing of bond).

vii. Advances

Advances received through IRG shall be used to offset against the expenditure incurred during the same financial year. Any excess shall be returned to the NMRC.

viii. Grant Control Register

Institutions and PIs shall keep a Grant Control Register showing at all times, the balances available in each item under the approved respective categories. The purpose of Grant Control Register is to record all commitments and payments made under the grant and to ensure that expenditure does not exceed the approved budget.

viii. Accounts

a. Preservation and Disposal of Records:

All account books, records, vouchers, invoices, receipts and other accounting records must be carefully preserved for a period of at least seven years.

b. Alterations and Erasures:

1. For manual documents, if any alteration is necessary, the original figures must be crossed through in such a way as to show the figures originally entered, and the correct figures must be written above the cancelled figures. The alteration is to be signed by the supervising officer. No correction fluid or pen with erasable ink should be used. For system-generated document, if any alteration is necessary, the original document must be cancelled and a new document generated by the system. The new document has to be approved by the relevant approving officer(s).

2. Under no circumstance shall alterations or erasures be made on audited figures.

c. Record Keeping of Fixed Assets and Store Items:

1. The Institutions shall keep track of fixed assets and store items purchased using NMRC grants. Information on fixed assets and store items with cost of more than $50,000 shall be furnished to the NMRC annually.

2. Fixed assets and store items shall be completely checked by Institutions and PIs annually and fixed assets and store items records shall at all times be kept up-to-date for inspection by auditors.
d. **Write-off of Assets and Items:**

1. Institutions are to follow their Institutions’ regulations for write-off of fixed assets and store items purchased using NMRC grants.

2. Institutions shall inform the NMRC of the write-off of fixed assets and store items.

e. **Transfer and Sale of Fixed Assets and Store Items:**

The NMRC’s approval must be sought before the following transfer and sale of fixed asset can be effected:

- For exceptional equipment of purchase price more than S$100,000;
- For any fixed asset bought under any on-going projects.

The NMRC needs only to be informed of the transfer and sale of the fixed asset if the following conditions are met:

- The fixed asset is less than 5 years of age from the date of purchase;
- The proceed received from the sale is more than S$20,000.

Institutions are required to inform the NMRC within 1 month of such transfer and sale of the fixed asset.

f. **Write-off of Bad and Doubtful Debts:**

1. Write-off of any arrears of revenue arising from NMRC-funded activities which confirmed as irrecoverable shall be approved by the Chief Financial Officer or his designated officer.

2. Institutions shall inform the NMRC of the amounts written-off.

X. **Audit**

1. The Chief Financial Officer or his designated officer shall at all times be responsible for the safe custody of all receipts, accounts, vouchers and other documents related to the financial transactions of project grants and produce them to auditors whenever required.

2. Financial audit will be done to check on the proper usage of the funds – i.e. to check that the funding reaches the PIs and the items specifically disallowed are not funded as part of IRC. Quality audit will be done to check on the outcome of the indirect cost funding. Institutions must confidently ensure that the IRC is not used for subsidies for patients. Checks will be done to ensure that there is no double funding of IRC by the different funding agencies providing IRC.

3. The NMRC has the right to appoint auditors to audit Institutions’ accounts for NMRC grants.
## Annex A: Guide on Qualifying Direct Cost & Indirect Research Cost

<table>
<thead>
<tr>
<th>Type of Expenses</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>EOM Related Expenses</strong></td>
<td></td>
</tr>
</tbody>
</table>
| Salaries, CPF and fringe benefits including medical, dental, contribution to welfare fund, etc. | Allowable as part of overall compensation to employees provided such costs are incurred under formal established and consistently applied policies of the host Institution.  

The manpower funded as part of the direct cost should be directly involved in the research work of the project. The salaries offered to staffs should be reasonable, in line with local market benchmarks and comply with formal established pay scale of the host Institution that is consistently applied regardless of the source of funds.

Core manpower fundable under the direct cost only:
- Research fellow,
- Research engineer/scientist,
- Research assistant/associate,
- Specialist laboratory technician,
- Biostatisticians,
- Nurses, and
- Technical officer.

All other manpower will fall under IRC. Case by case consideration will be given if the PI can justify that the required manpower should be funded under the direct manpower cost. |
| Annual leave                   | Allowable for employees. The number of days of leave accorded to staff must be in accordance with formal policies of the host Institution that is consistently applied regardless of the source of funds. |
| Bonus / Incentive payments     | Allowable as part of a total compensation package, provided such payments are reasonable and are made according to a formal policy of the host Institution that is consistently applied regardless of the source of funds. |
| Staff insurance                | Allowable as part of overall compensation to employees provided such costs are incurred under formal established and consistently applied policies of the host Institution. |
| Participation of overseas experts | Allowable. Expenses incurred for overseas experts invited to participate in the project and staying in Singapore for at least 6 months per year must be budgeted separately in the project budget under the category for Visiting Professor/Expert.  

For other overseas experts staying for less than 6 months per year, the cost of his/her stay is allowable if the costs are specifically provided for and approved in the project grant. |
<table>
<thead>
<tr>
<th>Category</th>
<th>Allowance</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Examples of such costs are honoraria, salaries, staff relocation, settling-in allowances and other related cost.</td>
<td></td>
<td>For staff relocation, settling-in allowances, etc, it will be allowable for senior expatriate R&amp;D staff if the costs are specifically provided for and approved in the project grant. However, superannuation contributions for such staff are not allowed under both direct cost and IRC.</td>
</tr>
<tr>
<td><strong>Staff recruitment and related cost</strong></td>
<td>Not allowable under direct cost. Examples of such costs are advertisement and recruitment agency cost.</td>
<td>These expenses can be claimed under IRC.</td>
</tr>
<tr>
<td><strong>Stipends and course fees of full-time and/or part-time graduate research students</strong></td>
<td>Not allowable under both direct cost and IRC. Only student attachment and top-up for research students are fundable under IRC.</td>
<td></td>
</tr>
<tr>
<td><strong>PI’s &amp; coinvestigators’ EOM</strong></td>
<td>Not allowable under both direct cost and IRC.</td>
<td></td>
</tr>
<tr>
<td><strong>Equipment Related Expenses</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>New equipment</strong></td>
<td>Allowable if needed specifically for the project. Each equipment must be individually identified and its total cost inclusive of bank charges, delivery and installation, etc estimated.</td>
<td>For equipment costing more than S$100,000, they will be classified under “Exceptional Items”. For purchase of such equipment, 3 quotations must be provided in the budget along with full justifications for the need to purchase the equipment.</td>
</tr>
<tr>
<td><strong>General purpose IT and communication equipment</strong></td>
<td>Not allowable under direct cost. Examples of such costs are computers, office productivity software, PDAs, mobile phones, etc.</td>
<td>The cost of such equipment can be claimed under IRC. The procurement of such equipment must be reasonable and make according to the formal established and consistently applied policies of the host Institution.</td>
</tr>
<tr>
<td><strong>General furniture and office equipment</strong></td>
<td>Not allowable under direct cost. Examples of such costs are fax machines, photocopier machines, workstations and printers, etc.</td>
<td>The cost of such items can be claimed under IRC. All procurement of such items must be reasonable and make according to the formal established and consistently applied policies of the host Institution.</td>
</tr>
<tr>
<td><strong>Consumables Related Expenses</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Consumables</strong></td>
<td>Allowable.</td>
<td>Examples of such costs are supplies and materials, laboratory consumables, animals and drugs which are necessary for the successful execution of the funded project.</td>
</tr>
<tr>
<td>Item</td>
<td>Allowable</td>
<td></td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>--------------------</td>
<td></td>
</tr>
<tr>
<td>All procurement of such items must be reasonable and are made according to the formal established and consistently applied policies of the host Institution.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drug costs and medical procedures for patients and volunteers</td>
<td>Allowable.</td>
<td></td>
</tr>
<tr>
<td>Bank charges</td>
<td>Allowable as long as it is specifically related to the payments for consumables and equipment used in the project.</td>
<td></td>
</tr>
<tr>
<td>Customs and import duties</td>
<td>Allowable as long as it is specifically related to importation of consumables and equipment used in the project.</td>
<td></td>
</tr>
<tr>
<td>Books and specialised journals relevant to the research</td>
<td>Allowable.</td>
<td></td>
</tr>
<tr>
<td>If the host Institution has a library, books and journals should be obtained from the library and PI should refrain from purchasing the same books or subscribing to such journals.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GST</td>
<td>Allowable for expenses incurred for the project.</td>
<td></td>
</tr>
<tr>
<td>Local &amp; Overseas conferences</td>
<td>Allowable, if conference is directly relevant to the research area or necessary to accomplish the project objectives for PI, co-investigators, collaborators, researchers and research students funded under the project grant.</td>
<td></td>
</tr>
<tr>
<td>The expenses for such conferences may include registration fee for the conference, air tickets, per diem and other allowances. Such payments should be in accordance with the formal policies of the host Institution.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>If the conferences are conducted overseas, the travel policy of the host Institution must be consistently adhered to. However, total expenses for travel per trip per person must not exceed $6,000.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The PI must submit a copy of the abstract when claiming reimbursement for such expenses and append to their annual/ final report.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Photocopying and printing charges</td>
<td>Allowable.</td>
<td></td>
</tr>
<tr>
<td>Publications</td>
<td>Allowable.</td>
<td></td>
</tr>
<tr>
<td>Page charges for publication of manuscript in professional journals are allowable if they adhere to the formal established policy of the host Institution, where applicable.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The costs of reprints and publishing in other media, such as books, monographs and pamphlets are not allowable unless specific approval has been obtained from the NMRC.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Repairs and maintenance of</td>
<td>Allowable if specifically budgeted for in the project and the equipment is used extensively for the benefit of</td>
<td></td>
</tr>
<tr>
<td>Research equipment</td>
<td>Allowable.</td>
<td></td>
</tr>
<tr>
<td>--------------------</td>
<td>-----------</td>
<td></td>
</tr>
</tbody>
</table>
| **Stationery & printer consumables** | Allowable.  
Examples of such costs are printer cartridges, etc. |
| **Training** | Allowable.  
Funding for training is allowable for the PI, co-PIs and the collaborators. For funding of the research personnel, it should be restricted to the personnel employed under the project grant and for training that is of direct benefit and specific to the research project. |
| **Transportation, postage & courier services** | Allowable.  
This includes postage, courier and freight charges for bringing in equipment and specialised research consumables and reimbursement for staff transportation. |
| **Use of services, equipment rental or lab spaces within the host Institution’s central facilities** | Allowable.  
The cost for the use of the services and central facilities owned by the host Institution such as animal holding units, central laboratory services are allowable and must be based on host Institution’s fee schedules which are consistently applied regardless of source of funds.  
Host Institution may be requested to certify that the fee structure is applied consistently. |
| **Payment to volunteers and research patients and other related cost** | Allowable for payment to volunteers and research subjects provided this is the scope of the research and has been provided for and approved in the grant.  
Examples of such payments may include inconvenience fees, transport and meal reimbursement, etc. Press advertisements for patients are allowable under IRC only. |
| **Audit fees** | Not allowable under direct cost. This includes both internal and external audit fees.  
These expenses can be claimed under IRC. |
| **Entertainment & Refreshment** | Not allowable under direct cost.  
These expenses can be claimed under IRC. |
| **Fines and penalties** | Not allowable under both direct cost and IRC. |
| **Insurance premiums** | Not allowable under direct cost. Examples of such costs are for equipment, workmen compensation, professional indemnity of researchers funded under NMRC/NRF grants.  
These expenses can be claimed under IRC.  
The host Institution is responsible for the insurance of the equipment, relevant workmen compensation and professional indemnity insurance which are in line with the host Institution’s risk policies. |
<p>| <strong>Legal fees</strong> | Not allowable under direct cost and IRC. |
| <strong>Outsourcing</strong> | Not allowable under direct cost unless specifically |</p>
<table>
<thead>
<tr>
<th>Item</th>
<th>Allowance</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overhead expenses - rental, utilities, telephone charges, facilities management, repairs and maintenance, etc</td>
<td>Not allowable under direct cost.</td>
<td>These expenses can be claimed under IRC.</td>
</tr>
<tr>
<td>Patent-related Expenses</td>
<td>Not allowable under direct cost and IRC.</td>
<td>Such cost should be borne by the host Institution.</td>
</tr>
<tr>
<td>Professional fees (including fees to consultants)</td>
<td>Not allowable under direct cost.</td>
<td>These expenses can be claimed under IRC.</td>
</tr>
<tr>
<td>Professional membership fees of PIs /RFs /RAs funded from the grant</td>
<td>Not allowable under direct cost.</td>
<td>These expenses can be claimed under IRC.</td>
</tr>
<tr>
<td>Staff retreat</td>
<td>Not allowable under direct cost.</td>
<td>These expenses can be claimed under IRC.</td>
</tr>
<tr>
<td>Cost of capital works and general infrastructure</td>
<td>Not allowable under direct cost unless specifically provided for and approved in the grant.</td>
<td></td>
</tr>
</tbody>
</table>

**Non Fundable Items**

**EOM Related Expenses**
1. PI’s & co-investigators’ EOM
2. Stipends and course fees of full-time and/or part-time graduate research students
3. Superannuation contributions for senior expatriate R&D staff

**OOE Related Expenses**
4. Fines and penalties
5. Legal fees
6. Patent-related expenses
7. Others
7. Non cash items such as depreciation cost, amortization cost, loss on revaluation, etc.
<table>
<thead>
<tr>
<th>Item</th>
<th>Direct Cost</th>
<th>Indirect Research Cost</th>
<th>Non Fundable</th>
<th>Specifically provided for and approved in grant</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>EOM Related Expenses</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Salaries, CPF and fringe benefits including medical, dental, contribution to welfare fund, etc.</td>
<td>√</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Annual leave / Bonus / Incentive payments</td>
<td>√</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Staff insurance</td>
<td>√</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Participation of overseas experts</td>
<td>√</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student attachment and top-up for research students</td>
<td></td>
<td>√</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Staff recruitment and related cost</td>
<td>√</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PI’s &amp; co-investigators’ EOM</td>
<td></td>
<td>√</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stipends and course fees of full-time and/or part-time graduate research students</td>
<td></td>
<td>√</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Superannuation contributions for senior expatriate R&amp;D staff</td>
<td></td>
<td>√</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Equipment Related Expenses</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New equipment</td>
<td>√</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General purpose IT and communication equipment</td>
<td></td>
<td>√</td>
<td></td>
<td></td>
</tr>
<tr>
<td>General furniture and office equipment</td>
<td></td>
<td>√</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Consumables Related Expenses</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consumables (e.g. supplies and materials, laboratory consumables, animals and drugs)</td>
<td></td>
<td>√</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>OOE Related Expenses</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bank charges</td>
<td>√</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Customs and import duties</td>
<td>√</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Books and specialised journals relevant to the research</td>
<td>√</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GST</td>
<td>√</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Local &amp; overseas conferences</td>
<td>√</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outsourcing</td>
<td></td>
<td>√</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Photocopying and printing charges</td>
<td>√</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Publications</td>
<td>√</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Repairs and maintenance of research equipment</td>
<td>√</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stationery &amp; printer consumables</td>
<td>√</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Item</td>
<td>√</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>-----</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Training</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transportation, postage &amp; courier services</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Use of services, equipment rental or lab spaces within the host Institution’s central facilities</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Volunteers and research patients and other related cost</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Press advertisements for patients</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Audit fees</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Entertainment &amp; refreshment</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Insurance premiums</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overhead expenses (eg. rental, utilities, telephone charges, facilities management, repairs and maintenance, etc)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Professional fees (including fees to consultants)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Professional membership fees of PIs /RFs/RAs funded from the grant</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Staff retreat</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fines and penalties</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Legal fees</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patent-related expenses</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cost of capital works and general Infrastructure</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Others</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non cash items such as depreciation cost, amortization cost, loss on revaluation, etc</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
2.6 Ministry of National Development

2.6.1 MND Research Fund for the Built Environment


MND has set aside $50M over the next five years for the new “MND Research Fund for the Built Environment” and appointed BCA as the secretariat. The objective of the fund is to encourage and support applied R&D that will raise the quality of life and make Singapore a distinctive global city. The key R&D focus areas are sustainable development, distinctive global city and community building. There will be two grant calls per year (March & August).

Eligibility

Open to all Singapore based proposers, including tertiary institutions, public sector agencies, private companies and individuals.

Terms & Conditions

1. The project must support MND’s vision of an endearing home and a distinctive global city.
2. The project should show potential to be developed into products that can be widely adopted or enable policy development; or have export potential.
3. The project shall use Singapore as base to own, manage and exploit Intellectual Property Rights (IPR) developed.
4. The project must not have commenced at the time of application.
5. The project shall not exceed three years, including completion of the final report and all miscellaneous project activities.

Evaluation Criteria

1. Contribution towards MND’s Vision
2. Degree of adoption in public sector or commercialisation potential
3. Innovation

Funding

1. The MND research funds provide assistance to cover 30 – 75% of the qualifying cost of the proposal, subject to a cap of $2 million per proposal.
2. The amount of funding supported is dependent on the quality of the proposal and the implementation potential.
3. Amount requested from the MND should include indirect costs of 20%
4. Major allowable costs include:
   • Manpower-related costs
   • Equipment & Materials
   • Professional Services
   • Intellectual Property Rights (to be considered on a case-by-case basis)
Pointers

- PIs need to familiarize themselves with the key R&D focus area when preparing for the submission of a research proposal.
- Submissions of hard copy and soft copy research proposals from the Colleges by the stipulated due date.
- Queries can be sent to this mailbox through your College Administrators: RSO-external grant queries
FAQ on MND Research Fund for the Built Environment

Eligibility

Can individual be a lead organisation?
No. Individual who wish to submit proposal for this research fund must partner with a lead organisation. Typically, lead organisation can be tertiary or research institutions, public sector agencies or private companies.

Evaluation Process

The proposal submitted may contain sensitive information. How can this information be protected from other competitor?
The proposal will be reviewed by TEP members, who have signed the letter of nondisclosure so that such privileged information will not be released to other competitor.

Funding Level

Does the fund only support manpower that is working Singapore? Does the fund support manpower cost of some overseas-based researchers from parent company?
The fund supports a portion of the manpower cost that is working in Singapore. The parent company should consider funding the overseas-based researchers (Contribution in kind).

Is GST supported?
GST incurred from purchase of equipment, materials, software and professional services are supportable cost.

Project Duration

Can companies submit request for extension of qualifying period after the project completion date?
Companies are required to submit the request for an extension of qualifying period before the project completion date. Typically, requests for extensions (if granted) will not exceed more than six months of the project completion date.
3. Foreign Funding Agencies

3.1 French Embassy

3.1.1 Merlion Program: Call for Joint French-Singaporean Research Projects

http://www.ambafrance-sg.org/sciencetech-platform

This call for projects is jointly launched by French Embassy with A*STAR, NUS, NTU, SMU, TLL, NNI and other Singaporean research organizations as its partners.

This program is based on the following principles:

- Transparency: open and clear procedures for call for projects/candidates
- Scientific evaluation of the proposals by peers and relevant experts
- Visibility of joint cooperative activities between France and Singapore parties
- Co-funding from both sides

This call is for proposals on joint research projects (Merlion Programme) and PhD students (Merlion PhD Programme). Support will be provided with the primary aim to create and/or enhance strong scientific interactions between France and Singapore that may lead to the creation of co-directed laboratories, such as IPAL, SONDRA or Thales@NTU. The existence of previous links between the proposed teams, although not a condition, is an advantage and will be taken into consideration.

The project proposals will have to be part of a French-Singaporean research project whose themes are in accordance with the scientific priorities of the French national authorities & Singapore. The success of the project will be independently evaluated by 1) the relevant Singaporean institutions and 2) the French Ministry of Education and Research.

Support for the Projects

a. Merlion Support

1. The amount provided by each part is around 7 500 € per year and per program, for a period of 2 years. The allocated funds are not meant for laboratory research work but are for the implementation of international cooperation inherent to the research project. Therefore, the support is predominantly logistical. This amount is an average, support that will vary depending on the type and importance of the activities.

2. Other sources of funding that can complement this budget include the following: industrial support, support for a multilateral institution/foundation, etc.

3. There are 3 kinds of support:
   - Missions for French/Singaporean scientists to go to Singapore/France
   - Invitations for Singaporean/French scientists to go to France/Singapore
• Post-doctoral scholarships for Singaporean students

4. In exceptional cases, a subsidy could be provided for some expenses related to the joint project.

<table>
<thead>
<tr>
<th>Means that can be allocated by the French Embassy in Singapore</th>
<th>Support from Singaporean side</th>
</tr>
</thead>
<tbody>
<tr>
<td>Missions from France to Singapore</td>
<td>Missions from Singapore to France</td>
</tr>
<tr>
<td>Living allowance of Singaporean scientists in France (per diem)</td>
<td>Living allowance of French scientists in Singapore (per diem)</td>
</tr>
<tr>
<td>Living allowance of junior Singaporean scientists in France (1 month min./6 months max.) : post doc scholarships</td>
<td>Living allowance of junior French scientists in France (1 month min./6 months max.) : post doc scholarships</td>
</tr>
<tr>
<td>Living allowance of Singaporean PhD students in France (Merlion PhD)</td>
<td></td>
</tr>
<tr>
<td>Subvention (Financial Assistance)</td>
<td></td>
</tr>
</tbody>
</table>

5. The stays of junior Singaporean scientists (post-doc scholarships) in France are up to 6 months per year and include:
   • A monthly allowance;
   • Social security grant and civil liability;
   • A subsidy for trips to attend conferences in France and elsewhere in Europe;
   • Housing will be proposed to the scholar when he arrives in France. He will have to pay totally or partially for the housing expenses.

6. This scholarship does not include subsidies for the family members of the scholar.

7. An online application form will have to be filled by the post-doc candidate within the framework of the project.

8. From each party, a maximum of 2 missions per project could be proposed, and these will include transportation between France and Singapore. By each party, a maximum of 2 invitations per project will be proposed and these will include transportation between France and Singapore.

b. Merlion PhD Support

1. The candidates have to be involved, for their PhD studies, in a French-Singaporean research project of which the themes are in accordance with the scientific priorities of both partners.

2. The research project must be jointly defined and agreed upon by both French and Singaporean partners, along with the student. The two-PhD supervisors (1 French and 1 Singaporean) must be clearly identified, and the periods of stay in France and Singapore for the research project detailed precisely.
3. The co-funding of the research project, if it exists, will also be considered and is highly recommended. Singaporean candidates who possess a grant or a scholarship from any Singaporean institution are eligible and may cumulate both funding sources, that from France and that from Singapore.

4. The length of stay supported by the Embassy is 18 months over a period of 3 years with a maximum of 6 months per year.

5. Important things to be noticed:
   - The proposal should originate from both supervisors. We will not accept an individual application of the candidates.
   - Only new PhD student are eligible to apply.
   - Specific attention will be given to the funding of the project.
   - Flexibility: if the student stays less than 6 months during his first or second year, it could be possible to put off the time missing (or one part) the year after. Each case will be considered case per case.

**Selection Criteria**

1. The submission criteria are light:
   - Respect of stipulated deadlines;
   - There must be a joint project research between partners in France and Singapore, and common research topic;
   - All universities (private or public), laboratories and organizations are eligible to apply;
   - Area of joint projects should be within the high priorities scientific topics;
   - Co-funding from both partners.

2. The selection of projects is based on the following scientific criterions:
   - The scientific quality and the originality and methodology of the project,
   - The expertise of both the French and Singaporean teams,
   - The interest to consider a cooperation in the project field of research and the complementarities of the two teams,
   - The participation of junior PI, researchers and/or post-docs8,
   - The scientific/economic perspectives.

3. The projects selected for this call for projects will be funded for a maximum period of 2 years.

**Scientific Topics and Hosting Laboratory**

The high priority scientific topics are:-

1. Basic sciences: Applied mathematics, numerical modelisation, dynamic modelisation for biomedical applications, physics, and chemistry.

2. Information and Communication Technologies: Autonomous systems, robotics (mobile robotics, autonomous systems, robotics (mobile robotic, manipulation robotic, microrobotic), electromagnetic, radar technologies, wireless, embedded systems, video/picture process, grid computing, quantum information.


5. Engineering science: Industrial design.


7. Medical sciences/ biotechnologies: Medical imaging, immunology, molecular and cellular engineering, stem cells, drug delivery.

8. Human and social sciences.

The research can be conducted in and led by, either public research institutes (e.g. universities, EPIC, EPST) or industries, or more than one party.

Application Procedures

1. The application forms are available on the Internet, on the French Embassy website (science & technology platform): www.ambafrance-sg.org/sciencetech-platform

2. Scientists from both countries are invited to submit their proposals online in order both French Embassy and RSO to be able to download the proposal for evaluation.

Schedule

1. The deadlines for the call for proposal are fixed and must be strictly adhered to.

2. Acknowledge receipts will be sent by both the French Embassy and RSO to the project leaders.

3. After the scientific evaluation of the proposal, a letter will be send to each project leader.

4. For any further information you may need, please contact Research Support Office or Miss Julie Floch.
   (Tel: +65 68807851; Email: Julie.floch@ambafrance-sg.org)
FAQ on Merlion Research Project and PhD Programme

Common Queries

I do not have a French/Singaporean partner so far. May I still submit the proposal for my project?
No. At least two partners – one Singaporean and the other French – are required for both Merlion Research Project and Merlion PhD Programme applications.

I am unable to submit my proposal by the stipulated deadline. Is it possible for me to have an extension?
No, this deadline must be strictly adhered to.

How can I submit my proposal application?
You may do so online. Go to http://www.ambafrance-sg.org/sciencetech-platform/merlion2007/. You and your partner(s) will require a common password and login name (to be decided by you). You will also be allowed to make your own modifications to your joint proposal online. In addition to online submission, a hard copy is to be submitted via HoD, Chair to RSO.

How will I/we know about the outcome of my/our application?
You or your project leader will receive an acknowledgement email after your application is received. Once the final selection of the projects is made, the result will be communicated to you by email AND regular mail.

There is no ‘PRINT’ icon after completing the online application. How can I print out and submit to School/RSO?
You could print screen the online application, or alternatively, create a word document with similar details as that in the online application and submit it via your respective HoD and Chair to RSO.

Merlion Research Project

What is the Merlion support for the Projects?
The allocated funds are not meant for laboratory research work but are for the implementation of international cooperation inherent to the research project. Therefore, the support is predominantly logistical.

The support allows for:
- Missions for French/Singaporean scientists to go to Singapore/France
- Invitations for Singaporean/French scientists to go to France/Singapore

How much are the funding from French Embassy and NTU?
If French researcher comes to Singapore, NTU would pay for his living allowance of S$ 4000 per month and French side would pay for his air ticket. If Singapore researcher goes to France, French side will pay for his living allowance of approximately 7500 euros per program per year. Payment will be made available on a per diem basis and is determined by the French side.

I have more than two partners for my project. Is this arrangement acceptable? Yes. At least two members – one Singaporean and the other French – are required. But it is acceptable to have more than two members in the team. However, please designate one partner among to be the main contact.

My partner is a Company, not a research institution. May I apply to the MERLION programme all the same? Yes. All universities (private or public), laboratories, organizations and companies are eligible to apply.

We would like to apply to the MERLION research programme. We are currently/will be funded by an institution / company. May we still be considered for the programme? Yes, you may still apply. There is no restriction on having other sources of funding parallel to that from the MERLION programme.

**Merlion PhD Programme**

I have just started my studies for PhD candidature. May I still send an application to the MERLION PhD programme? Usually no. We mainly take students who are going to do a PhD programme but who have not already started. Please note that only supervisors are able to apply for their students.

If I am successful in my application to the MERLION PhD programme, how much funding will I receive? The amount of grant for successful applicants to the Merlion PhD programme is approximately €760 a month. You will also be granted with a travel support of one return flight ticket between Singapore and France per year.

I would like to apply to the MERLION PhD programme. I have yet to start my studies but I have been given a scholarship. Am I still eligible to apply? Yes. We highly recommend you to get other sources of scholarship, especially from Singapore.
Must a PhD candidate be identified at the point of application for Merlion PhD support?
Yes. It is required to identify a candidate for this programme, especially if the potential candidate is top undergraduate student to give the reviewer additional confidence.

If the student is a foreigner, is he/she eligible for Merlion PhD programme?
No. Only Singaporean or PR (Permanent Resident) students are eligible for Merlion PhD programme.

How long is the support for the post-doc?
The length of stay supported by the Embassy is 18 months over a period of 3 years with a maximum of 6 months per year. If the post-doc stay lasts 1 year, the support is for only 6 months of stay. Therefore the post-doc must seek a co-funding for a complete scholarship.
3.1.2 The Regional Programme ICT-Asia
http://www.ict-asia-france.org

The regional programme ICT-Asia is an initiative of the French cooperation aiming to create and reinforce collaborations and networks with and in the Asian region involved in research and development in the field of Information and Communication Technology (“ICT”). In partnership with France, the programme involves the ten member countries of ASEAN (Burma, Brunei, Cambodia, Indonesia, Laos, Malaysia, Philippines, Singapore, Thailand, Vietnam) as well as China, Japan, Korea, Taiwan, India and Pakistan.

The programme is implemented by the French Ministry of foreign affairs (MAE, General Directorate for cooperation and development - DGCID), in liaison with:
- The scientific services of the Embassies of France in Asia;
- The French higher education and research organizations concerned, including CNRS, INRIA and GET;
- The French Ministry for national education, higher education and research (MENESR);
- The French Ministry of economy, finance and industry (MENEFI).

Formulation & Submission of Proposals Guidelines

1. Themes

All themes in the field of ICT are eligible. However, proposals in the following specific themes, which were presented and discussed at the recent ICT-Asia regional seminar held in Seoul in October 2006, are particularly encouraged for this call:
- ICT and health: Bioinformatics and medical imaging; Medical robotics; Aged and disabled persons (e-inclusion)
- Natural disasters
- Free/Open software engineering: technologies; Integration; Validation
- Networks: Grid; Security; Services; Mobility; Sensor Networks, etc.

2. Type and duration of projects

Every integrated project must include a research component. It may also include an innovation component and/or a doctoral or post-doctoral training component. The duration of a project is 2 years.

3. Number, nature and eligibility of partners

Private or public research laboratories and units attached to higher education institutions, research organizations or companies are eligible partners.

A project must include at least one French team associated to at least two Asian teams, one of which must be located in one country eligible to the programme “Solidarity with developing countries” (Burma, Cambodia, India, Indonesia, Laos, Malaysia, Pakistan, Philippines, Thailand, and Vietnam.)
4. **Financial modalities**

- The consolidated budget presented with the proposal must include planned income and expenditure for each year of the project. Funds are granted on an annual basis.
- Expenses must be classified by type (mobility, operational cost, equipment, etc.). The estimated average cost of mission allowances and travel must be specified.
- The mobilization of co-financing is a criterion of eligibility. The contributions from Asian partners will be set out. French partners must secure and announce co-financing either from the research organization to which they are attached, or from the higher education institution they are part of or from a private sector partner.
- The financial contribution requested from the Ministry of foreign affairs in the framework of the ICT-Asia regional programme can only be used to partially cover the additional costs of the internationalization of the project, i.e. researcher, postdoc or doctoral student mobility (travel and mission expenses) or the organization of international workshops and seminars (mobility and logistics). Any other financial support required for the implementation of the projects, particularly those needed for equipment purchase and scholarships for long duration study must originate from the own funds of the partners or from any other sources with the exception of the Ministry of foreign affairs.

5. **Intellectual property**

It is the responsibility of project managers to take all measures necessary for the protection of intellectual property.

6. **Selection modalities and criteria**

- After a verification of its compliance with the eligibility criteria, each proposal will be subjected to a scientific evaluation by the scientific, technological and pedagogical Mission of the French Ministry for national education, higher education and research. When required, a further evaluation of the innovation and technological development aspects of the proposal will be performed by the Service for information technologies and information society of the Ministry of economy, finance and industry.

- A selection committee will then consider the conclusions of the evaluation phase, as well as opportunity and budgetary availability criteria and make a final selection. This committee includes representatives from the Ministry of foreign affairs, from the Ministry of national education, higher education and research, from the Ministry of economy, finance and industry as well as representatives from the international relation directions of the French co-financing organizations.

In addition to scientific excellence, the main evaluation criteria are:
- Aptitude of the teams involved;
- Infrastructures quality;
- Innovative character of the project;
- Novelty aspect of the cooperation;
- Interest of building the partnership for the implementation of the project;
- Teams complementarity;
- Mutual transfer of competencies;
- Qualitative level of integration of countries with an heterogeneous development of their R&D capacity;
- Foreseeable scientific or industrial outcomes of the project;
- Participation of post-doctoral students or young researchers in mobility programs;
- Co-financing quality and effectiveness.

7. Project implementation

- Selection of a project is notified to the lead applicant by a letter from the MAE;

- Modalities and schedule of contributions disbursement of other funding parties (with the exception of the Ministry of foreign affairs) are defined by those funding parties and the lead applicant;

- Modalities and schedule of disbursement of funds from the Ministry of foreign affairs are as follows:
  - A financing convention will be signed between the French Agency for development (AFD), mandated by the French Ministry of foreign affairs (MAE) for the implementation of its financial support and the lead applicant;
  - The disbursement by AFD of the MAE contribution for the first year of the project will ensue after the signing of the convention;
  - The disbursement by AFD of the MAE contribution for the second year of the project will occur after the production by the lead applicant of an interim report including a technical and financial report for the first year of the project, as well as a financial and technical implementation plan for the second year;

- The lead applicant will produce a final activity report which is to be transmitted to the MAE and the other funding parties not later than three months after the completion of the project.

8. Proposal submission

- The application forms both in French and English language are available on the website of the ICT –Asia programme: www.ict-asia-france.org

- The completed application forms should be sent before the due date by email attachment to:
  Arnaud Lalo: Arnaud.LALO@diplomatie.gouv.fr and
  Jean-Philippe Thouard: thouard@ait.ac.th
3.2 The New Energy and Industrial Technology Development Organization (NEDO)

The New Energy and Industrial Technology Development Organization (NEDO) was established by the Japanese government in 1980 to develop new oil-alternative energy technologies. Eight years later, in 1988, NEDO’s activities were expanded to include industrial technology research and development, and in 1990, environmental technology research and development. Activities to promote new energy and energy conservation technology were subsequently added in 1993. Following its reorganization as an incorporated administrative agency in October 2003, NEDO is now also responsible for R&D project planning and formation, project management and post-project technology evaluation functions.

International Joint Research Program (NEDO Grant)
FY1988-Open; FY2006 Project Budget: 183 million yen

The New Energy and Industrial Technology Development Organization (NEDO) invites research teams to submit proposals for the International Joint Research Grant (NEDO Grant) Program (tentatively) from April to June each year. During the application submission period, NEDO will hold a forum and individual meetings with applicants to provide instruction about the NEDO Grant Program at several different venues in Japan.

This program provides research funds to eminent international joint research teams. The objective is to improve the level of international industrial technology and to establish the foundation for creating new industry, thereby enhancing Japanese industrial technology.

Eligibility

1. Eligible teams:
   - International joint research teams consisting of four or more researchers from two or more countries / nationalities, including Japan.
   - The research organizations where researchers work (at which the proposed research will be performed) shall be located in several countries, including Japan.
   - Research teams shall be composed of researchers with sufficient ability to pursue the research theme. Researchers shall contribute to achieve their shared goal cooperatively and individually, thereby bringing an integrated multidiscipline approach and interactive synergy to their research work.
   - Each team shall appoint a Research Coordinator from among its members. The Research Coordinator shall have Japanese nationality, or the research institute to which he/she belongs, or in other words, the research institute at which the proposed research will be performed, shall be in Japan. The Research Coordinator shall prepare a research plan on behalf of his/her research team and take the initiative regarding implementation of the proposed research project.
• Each team shall appoint an Accounting Coordinator from among its members. The research institute to which the Accounting Coordinator belongs, or in other words, the research institute at which the proposed research will be performed, shall be in Japan, and the Accounting Coordinator shall be able to communicate with NEDO in Japanese.

2. Research field: Establishment of international standards. Please note that the funded research areas are not the same every year.

3. Duration: Three years.

4. Grant type: Fixed fund.

5. Grant amount: Up to 70 million yen for three years (First two years: 50 million yen or less, Annual grants: 30 million yen or less).


7. Application Guidebook and Proposal Submission Period: Applicants shall prepare relevant documents in accordance with the International Joint Research Grant Application Guidebook for FY2005 and submit them to NEDO. Application forms shall be prepared using the Application Format (Microsoft Word text).

8. Proposal Submission

Applications should be submitted by parcel or hand delivery in person to the following address:

Research and Development Promotion Department
Research Grant Group
New Energy and Industrial Technology Development Organization (NEDO)
Floor 20, Muza Kawasaki Central Tower, 1310 Omiya-cho, Saiwai-ku, Kawasaki City Kanagawa 212-8554 Japan
FAQs for Nedo Grants

Revisions

Are there any revisions to the FY2004 NEDO Grant Program?
- The invited research area has been changed. The invited research area for FY2005 is "International Standard Development".
- The grant application form has been modified and partially simplified

Program Outline

Is the NEDO Grant Program conducted on a contractual basis?
No. The program invites research teams to submit proposals and offers research grants to selected teams. NEDO fully funds expenses deemed necessary and reasonable to perform research activity.

Are research grants offered to an individual researcher?
Research grants are offered only to teams. The Accounting Coordinator (who is appointed by team members and assumes responsibility for the team's grant funds) shall control expenses collectively, and each researcher shall also be responsible for his/her incurred expenses to achieve the shared research goal.

Are the same research areas funded every year?
Funded research areas are not the same every year. The NEDO Grant Program for FY2005 covers one research area: International Standard Development.

Is any theme acceptable if it addresses issues in the research area?
All research themes must aim at establishment of international standards to contribute to improvement of industrial technology.

Application Procedure

How can I obtain the Guidebook and an application form?
The Guidebook and application form can be downloaded from NEDO's Web site during the proposal solicitation period.

What should applicants pay attention to when submitting a proposal?
Applicants should make sure that all necessary documents are submitted before the due date (see Section 2 "Research Scope" in the Guidebook) as NEDO will not accept any additional submission or replacement after the due date.

Is it possible to submit application documents via the Internet or electronic mail?
No. We do not accept application documents submitted via electronic transmission. Application documents must be received by the stipulated due date.

Is any research member permitted to submit application documents?
The Research Coordinator (who is the appointed principal researcher for a research team) shall submit all application documents on behalf of his/her research team. However, other research members may carry out other procedures.
Can applicants make an inquiry about application documents?
Yes. Applicants can consult with the staff in charge of the NEDO Grant Program about application documents, how to fill in forms, the program system and review criteria. Please feel free to send an inquiry to the e-mail address given at the end of this list.

Application Requirements

Is a researcher permitted to be a member of several different research teams that are submitting proposals?
No. A researcher can only be a member of one research team submitting a proposal.

Is a research team permitted to submit a similar or identical proposal to another grant award program?
Yes, but any research team who will be funded by another grant award program must decline a grant under the NEDO Grant Program.

Is a research team permitted to submit a proposal for your program if a similar or identical proposal is being funded by another grant award program?
No, but a research team may propose a research theme that can be clearly differentiated from a research theme being funded by another grant award program.

Does your organization permit a researcher who was previously funded under your program to become a team member again?
Such a researcher may submit an application, provided that the research team is composed of members that can be clearly differentiated from any research that has been funded under the NEDO Grant Program. In addition, the proposed research theme must be clearly differentiated from other research themes that are being funded under the NEDO Grant Program.

Will your organization permit a research team that was previously refused participation in your program to submit another proposal?
A research team may not propose a research theme that cannot be clearly differentiated from a research theme that was not selected two or more times.

Is a foreign researcher eligible to be a Research Coordinator?
In principle, a Research Coordinator shall be a Japanese national. However, a foreign researcher may be appointed as a principal researcher if his/her affiliated research institute (in other words, the research institute at which the proposed research will be performed) is located in Japan.

Can a Research Coordinator also serve as an Accounting Coordinator?
Yes

Is a researcher who works for a private company eligible to submit a proposal?
Yes, but such a researcher must be doing research and development work in either a research laboratory or research department of his/her company. The research facility to be used must also present no difficulty regarding the researcher’s performance of work under the NEDO Grant Program.
**Review and Selection**

**How does the review and selection process work?**
A research proposal is first checked to determine whether it meets the application requirements. It is then subjected to peer review (the committee is composed of independent experts). Proposals selected through peer review are reviewed by an advisory committee, which may ask a Research Coordinator to provide details regarding his/her team's proposal. Based on the results of the advisory committee's review, program officers select candidate themes. Finally, a contract and grant advisory committee reviews the candidates and makes a final decision.

**What is the key point for selecting a research team?**
Please review Section 5.2 of the Guidebook carefully to check whether your proposal satisfies the review criteria.

**How are review committee and advisory committee composed?**
The review committee and advisory committee are composed of independent experts who can evaluate submitted proposals from the viewpoints of technical feasibility and potential marketability. Committee member names will be disclosed when selected research themes are announced.

**Is there any possibility of interested committee members participating in the review process?**
Committee member names will be available on NEDO's Web site in late May. Research teams shall specify the names of members having a conflict of interest, if any, in item 7., "Independent Experts: Conflict of Interest" in their research proposal. Based on a declaration from a member, interested experts are precluded from reviewing a relevant team's proposal.

**How many proposals will be selected for funding?**
A maximum of ten proposals will be selected this year. For information regarding previous grant awards, please visit NEDO's Web site at http://www.nedo.go.jp/itd/grant/index.html.

**When and how will applicants be notified of review results?**
NEDO will inform each Research Coordinator of the results of its review within 120 days after the submission deadline for proposals. Therefore, applicants will receive a notification of review results before the end of September. Research themes selected for grant funding will be announced on NEDO's Web site. Since reviews are conducted privately, we do not respond to inquiries about progress during the review period.

**Are rejected research teams notified of review results and the reasons for rejection?**
Yes. Rejected research teams also receive a notification in which review results (reasons for rejection) are noted for each review criterion. Although program officers will accept inquiries about the reasons for rejection, review results will not be changed.

**NEDO Grant Program**

**Is it necessary for an eligible research team to contract with your organization? When does a grantee start the research?**
No, there is no specific contract. Eligible research teams shall submit a request for grant application (along with a research plan), the written approval of the head of affiliated research institutes and a letter of consent signed by all team
members. (Please refer to Section 6.1 of the Guidebook for details). Grants are provided after the appropriateness of the request (along with the research plan) is reviewed. The team is permitted to start the research as of the date a grant award is determined.

Is there any possibility of a research team being funded on the condition that a requested grant amount should be reduced?
Some research teams may be awarded grants on the condition that they will comply with requests such as to modify their research plan or reduce the grant amount. After a grant is approved, the eligible research team shall submit a request for grant application along with a research plan that specifies planned expenses. The request will be thoroughly reviewed to finally determine whether a grant will be provided.

If selected, is a research team provided a three-year grant?
A grantee may receive a grant for a maximum of three (3) years. However, the third-year of the grant is determined based on the results of an interim evaluation conducted during the second year.

If selected, is it necessary for a research team to submit application documents in following years?
In principle, a selected research team may receive a grant for research activity conducted over two years. The team does not have to submit a request for grant application before the start of the second year. The third year of the grant will be determined based on consideration given to the results of the interim evaluation conducted in the second year. If approved, a request for grant retention shall be submitted.

Are grant awards shared equally among researchers? Is there any specific requirement for controlling expenses?
There is no specific requirement with respect to allocating grant funds among researchers. All researchers must discuss and agree on the allocation, with consideration given to the principle and objective of the international joint research. After NEDO transfers grant funds to the bank account designated by the Accounting Coordinator, the Accounting Coordinator shall distribute the grant funds to the account designated by each research team member.

Does a research team request the same grant amount every year?
The grant amount will be determined based on an evaluation of a request for grant application (with a research plan specifying planned expenses).

How are grants paid?
In principle, a tentative estimate of required grant funds will be transferred semi-annually to the bank account designated by the Accounting Coordinator.

Is the cost for assistants covered by grant funds?
The personnel costs of research team members are not funded. However, costs incurred for employment of assistants are covered. (Such costs are defined as expenses necessary to hire researchers and/or engineers from an employment agency or in accordance with a contract with the employee's affiliated research institute.)

Who has ownership of equipment and facilities purchased by a researcher for his/her research.
The ownership of machinery/equipment purchased using grant funds will be attributed to the research team, and the researcher who purchased it must
manage the machinery/equipment appropriately. The researcher may donate the machinery/equipment to his/her affiliate institute after the research period.

**Do grants cover expenses incurred for patent applications (including overseas patent applications)?**
Yes, but expenses necessary to register and maintain a patent are not funded.

**Who retains industrial property rights (ex. a patent) obtained through the research?**
Industrial property rights for research results shall, in principle, be attributed to the relevant research team. Accordingly, team members should discuss how results will be shared among themselves before receiving a grant. Each team member should also fully discuss with his/her affiliated research institute regarding ownership of research results in order to avoid conflicts from arising.

**Is there any rule for handling research results?**
NEDO may ask a research team to present research results in meetings held by NEDO. Given that the NEDO Grant Program aims to develop key technologies to meet global needs and enhance the competitiveness of Japanese industry, research results shall be presented and/or published at relevant conferences and/or in a scientific journal appropriately and in a timely manner, with appropriate attention given to industrial property rights. Whenever research results are published and/or presented, the research team must indicate that the research was undertaken under NEDO’s International Joint Research Grant Program.

**Is a research team permitted to publish research results in a newspaper or magazine?**
Yes. However, the research team must indicate that the research was undertaken under NEDO's International Joint Research Grant Program, and NEDO should be informed in advance if possible.

**Do research teams have to report on post-research activity?**
No, but NEDO may ask a research team to submit reports on the progress of industrial application of research results after the research period ends.

**Inquiries**
Inquiries regarding application documents and the NEDO Grant Program will be accepted only via e-mail forwarded to:

Research Grant Group  
Research and Development Promotion Division  
New Energy and Industrial Technology Development Organization  
Tel: +81-44-520-5174
3.3 Swiss National Science Foundation (SNSF) Professorships

http://www.snf.ch/e/funding/seiten/default.aspx

The SNSF Professorships of the Swiss National Science Foundation (SNSF) enable young scientists with several years of recognised research experience to make a significant step forward in their academic careers. A SNSF Professorship funds the establishment of an independent team to implement a research project. In addition, it also enables researchers to resume their careers at a Swiss higher education institution on return from a stay abroad.

SNSF Professorships are available for all SNSF-supported disciplines. The funding covers the salary of the applicant (at assistant professor level), a contribution to research costs (incl. collaborators) and a contribution to infrastructure costs.

The duration of this subsidy is 4 years and can be extended by a maximum of 2 years. Women are especially encouraged to submit applications. Part-time professorships and exemptions from the age limit may be considered.

Call for Applications and Selection

A personal dossier, including a project outline, has to be submitted by the deadline for the ongoing call for applications (Stage 1). The Research Council of the SNSF uses these documents to produce a shortlist. The shortlisted candidates will be invited to submit a detailed application and to present their research plans at an interview (Stage 2). The earliest possible date for the release of funding is 1 March of the year after the call for applications was announced.

Application requirements:

- Doctorate
- Several years of research activity in Switzerland and abroad
- Several years experience at an institution other than the home institution
- Publications in scientific journals with high impact factor
- Age: max. 40 years, exceptions are possible in justified cases
- Swiss citizenship or Swiss university degree or several years activity at a Swiss university or technical university

In addition, the following are desired:

- experience in teaching and project management
- collaborative experience with researchers and institutions in Switzerland and abroad

Applications for these subsidies may only be submitted in response to a specific call. Any documents submitted outside this period cannot be processed until after the submission deadline for the next call for applications.
3.4 ESF Research Networking Programmes Proposals
http://www.esf.org/research-areas/physical-and-engineering-sciences/grants-calls-and-applications.html

An ESF Research Networking Programme is a networking activity bringing together nationally funded research activities for four to five years, to address a major scientific issue or a science-driven topic of research infrastructure, at the European level with the aim of advancing the frontiers of science.

Key objectives include:
• creating interdisciplinary fora;
• sharing knowledge and expertise;
• developing new techniques;
• training young scientists.

ESF Research Networking Programmes are open activities. Principal participants within a Programme are expected to network during the Programme’s lifetime with colleagues in other relevant research groups, not necessarily listed in the proposal, to ensure that opportunities in the Programme’s activities are known and are open to other eligible participants. Activities proposed in the application should demonstrate this open character, i.e. ensure access to all the relevant research community.

A successful Programme proposal must show high scientific quality and also demonstrate added value by being carried out at a European level rather than by individual research groups at the national level. Multi-disciplinary proposals across fields are encouraged.

Eligibility

Proposals may be submitted by researchers from European universities or research institutes in countries having agencies that are ESF Member Organisations. Proposals may have co-proposers from non-ESF member countries. In this case, the co-proposers should assure their funding through their own sources (see Proposals with a “global” dimension).

Budget

The typical annual budget of an ESF Programme does not usually exceed €120 000 per year of its duration. Smaller or larger programmes can be accepted if justified. For example if a publication of a book series is foreseen an annual budget may be substantially higher.

An ESF Programme provides financial support for the networking activities that arise from carrying out the collaborative actions under the Programme and which aim to achieve the Programme’s objectives.

The Programme budget may be used for the following types:
• Steering Committee Meetings;
• Science Meetings (Workshops, Conferences, Schools);
• Grants for Short and Exchange Visits;
• Publicity, Websites and Publications including DVDs and CD ROMs;
• Database Costs;
- External Administrative Costs (up to max. 10% of the annual budget);
- External Programme Coordinator.

Research activities, e.g. salaries, equipment and materials, are not funded, as such costs should be funded directly at the national or international (e.g. EU) level. For each Programme, the ESF charges an administration fee of 7.5% of the annual contributions requested. It is highly recommended to consult the Guidelines for Management of ESF Research Networking Programmes for detailed financial rules.

**Assessment Criteria and Procedure**

Assessment and selection procedures are carried out by the ESF Standing Committee(s) relevant to the proposal. All proposals are peer reviewed by independent referees selected by ESF. On the basis of these written assessments, the Standing Committees select the proposals to be recommended to Member Organisations for funding.

Proposals are assessed and selected on the following criteria:
- scientific quality of the content of the proposed Programme;
- scientific qualifications of the principal applicant(s) to coordinate the Programme;
- level of impact on world science, multidisciplinary and timeliness;
- value to European science including European and global dimension of the participation, and participation of key researchers in the field;
- Programme structure and budget.

When making the final selection, Standing Committees take into account the above criteria as well as their own policies including the scientific balance of their Programme portfolio.

To access the assessment form for information, click here (PDF 20 KB)

Proposals with a global dimension, i.e. involving partners from non-ESF countries (e.g. Australia, Canada, China, Japan, Russia, USA and others) must follow the normal requirements and criteria for an ESF Programme proposal. They will be assessed within ESF in competition with all other proposals but high quality collaboration outside Europe will be a positive element in the assessment and final selection.

The characteristic of proposals with a global dimension is the declared intention to interface the proposed network of European investigators with counterpart networks outside ESF member countries (e.g.: networks in Australia, Canada, China, Japan, Russia, USA and other countries). The proposal may include activities such as workshops, meetings, exchange and travel grants, to link counterpart networks worldwide supported by their own funding agencies (e.g. NSF in US or JSPS in Japan).

Unless already funded, the non-ESF network will need to follow the application and approval processes of their supporting organisation(s) – the use of a common scientific case within this boundary condition and the ESF Programme guidelines is acceptable. Assessment processes and selection will, in most cases, be separate and independent. Financing will be expected to be based on a “reciprocity” model: ESF funds will not be used to support the non-ESF network or their participation in the ESF-funded Programme.
For a (non exhaustive) list of Organisations which may provide support to potential networking partners in the frame of 'global' proposals, click here.

**Funding Decision**

ESF Programmes are funded on an à la carte principle by ESF Member Organisations (MOs) and other partner organisations which decide to contribute. In early Summer 2008, after a rigorous assessment process, ESF will recommend selected Programme proposals across all research domains to all its Member Organisations and other national funding agencies with official Observer status with a request for funding. These agencies will consider funding the recommended proposals, based on their interests and funding capacity, on a case-by-case basis (for special requirements of national funding agencies click here).

The ESF monitors the response of these organisations during the decision-taking period. A Programme can only be launched if sufficient financial support, allowing to reach the objectives of the Programme, is obtained from MOs. To secure sufficient funding the proposed network must usually bring together a significant number of participating funding agencies to guarantee a sufficient level of funding commitment. For this reason, ESF will not send to peer review proposals with teams from less than five ESF countries listed under the section "Programme Collaborations" of the proposal. The level of ESF Member Organisation contributions is based on the level of their contributions to the ESF General Budget and their national GDP per capita.

Each organisation contributing funds to the Programme is eligible to nominate a member of the Programme’s Steering Committee. The usual practice is for organisations to nominate those scientists from their country listed in the proposal but the decision is within their discretion.

**Results and Feedback to Proposers**

The ESF will:
- Send an acknowledgment of receipt by e-mail to the contact person, within two weeks of the deadline. No acknowledgements will be sent via fax or mail;
- Inform the contact person within one month if the proposal is not eligible for funding;
- Inform the contact person of the outcome of the assessment by the Standing Committees by mid-June 2008. A copy of the referees' assessments will be provided as feedback at a later date. The proposals that are recommended for funding will be sent to ESF Member Organisations inviting them to contribute on an à la carte basis;
- Inform the contact person in late 2008 if a recommended proposal has received a viable level of funding from Member Organisations and has been approved by the ESF CEO for launching.

Approved Programmes can be launched in 2009.
FAQ for ESF Research Networking Programme

What is an ESF Research Networking Programme?
An ESF Research Networking Programme is a networking activity bringing together nationally funded research activities for four to five years, to address a major scientific issue or a science-driven topic of research infrastructure, at the European level.

How is the Call operated?
Proposals of up to a maximum of 14 A4 pages (including appendices) are requested by the deadline. The proposals are peer reviewed by external referees. These assessments are considered in competition by the relevant Standing Committee(s) which selects, usually at the end of April / beginning of May, those proposals to be recommended to ESF Member Organisations for their à-la-carte support.

When sufficient financial support has been obtained from ESF Member Organisations, proposals for new Scientific Programme are approved by ESF for launching.

Eligibility of Applicants

Who is eligible to submit a proposal?
Proposals may be submitted by researchers from European universities or research institutes in countries having agencies that are ESF Member Organisations. Proposals may have co-proposers from non-ESF member countries. In this case, the co-proposers should assure their funding through their own sources.

Can established societies submit proposals?
No. Applications must come from individual scientists/researchers.

Does the principal applicant have to be the proposed Programme Chair?
No. However, both should be from an ESF Member Organisation country and should be clearly indicated in the proposal. It should also be noted that the Programme Chair must be from an ESF Member Organisation country supporting the proposal (this can only be confirmed at the Programme's first Steering Committee meeting by which time the contributing national groups will be known).

Applications

In what language(s) can I submit a proposal?
Applications must be in English.

Is there an application form?
There is no application form; a proposal must provide information requested in the Guidelines for Proposal submission. There is however an on-line submission procedure.

See FAQ question 10 and Call section “Submission procedure” for more details.

Is there a limit to the length of a "full" proposal?
Yes. Proposals, including appendices, should not exceed 14 pages. See the Call section on “Guidelines for Proposal submission” for more details.

**What information should be provided?**

A proposal should cover scientific, financial and administrative details. See the Call section “Guidelines for proposal submission” for more precise details.

**How and when should I submit a proposal?**

Proposals must be submitted online at:
http://www2.esf.org/WD100AWP/WD100Awp.exe/CONNECT/Programme_Online
with the proposal text as one uploaded attachment. Before uploading the single file containing your proposal, you will be asked to provide a certain amount of information listed on the on-line form. Therefore, before starting, please ensure that you have all details available.

See the Call section “Submission procedure” for more details. Submissions must be made on or before the application deadline, which is indicated in the Call. Revisions will not be accepted!

**Are there any rules for the presentation (format) of a proposal?**

- Paper size: A4
- Font: Arial or Helvetica
- Font size: 11
- >Margins: Left and right margins should be at least 3cm. Top and bottom should be at least 2cm

The names of three referees and of persons not to be asked should figure on the on-line form but NOT within the uploaded proposal.

**If I apply early, have I a better chance of being selected?**

No. All proposals received by the deadline are dealt with together.

**If I apply after the deadline, will my proposal be considered?**

No.

**Can I expect an acknowledgement of receipt of my proposal?**

Yes, if you are the ‘contact person’ and you provided a correct email address. The contact person will be sent an acknowledgement of receipt by email, within two weeks of the deadline. No acknowledgements will be sent via fax or mail.

**What are the main assessment criteria used?**

- scientific quality of the content of the proposed Programme;
- scientific qualifications of the principal applicant(s) to coordinate the Programme;
- level of impact on world science, multidisciplinary and timeliness;
- value to European science including European dimension of the participation, and participation of key researchers in the field;
- Programme structure and budget.

Multi-disciplinary proposals and proposals with an ‘international’ dimension are encouraged. ‘International’ proposals must follow the normal requirements and criteria for an ESF Programme proposal. They will be assessed in competition with all other proposals but high quality collaboration outside Europe will be a positive element in the assessment.
See the section of the Call on “Proposals with an international dimension” for further details on this aspect.

When making the final selection, Standing Committees take into account the above criteria as well as their own policies including the scientific balance of their Programme portfolio.

For the current Programme portfolio of each Standing Committee please click on the “Activities” tab on the left-hand side of the relevant Standing Committee’s webpage, then chose “RNP”:

- European Medical Research Councils (EMRC)
- Standing Committee for the Life, Earth and Environmental Sciences (LESC)
- Standing Committee for Physical and Engineering Sciences (PESC)
- Standing Committee for the Humanities (SCH)
- Standing Committee for the Social Sciences (SCSS)

For further information, see the section “Assessment criteria and procedure”.

**16. When will I be informed of the outcome of my application?**

The contact person will receive notification of the outcome of the assessment by the Standing Committee(s) in May 2007. A copy of the referees’ assessments will be provided as feedback at a later stage. The proposals that are retained will be sent to ESF Member Organisations inviting them to contribute on à-la-carte basis. A decision on whether or not to launch a programme, which is dependent on sufficient financial support, will be taken in late 2007. The contact person will be notified. Approved Programmes can be launched in 2008.

**Participation**

**Who comprises the Steering Committee?**

Each organisation contributing funds to the Programme (otherwise referred to as ‘contributing organisation’) is eligible to nominate a member for the duration of its contribution. Only members representing contributing organisations are voting members. However, it is usual for there to be only one member per country (flexibility may be shown if there are two or more contributing organisations from the same country though). The usual practice is for organisations to nominate the scientist from their country suggested as Steering Committee member in the proposal*. Gender and age balance should be taken into account in forming the Steering Committee.

*Important note for CNRS affiliated researchers: such researchers should inform CNRS already at proposal stage that they are involved in the submission of an RNP or considered as future Steering Committee members. Otherwise CNRS may not support the RNP itself (if recommended) nor endorse the participation of the above researchers in the project. see also [here](#).

Can a scientist from a non-contributing country be on the Steering Committee? No. Due to its budgetary responsibilities, membership is limited to contributing countries. However, a very limited number of experts whose presence is essential on scientific grounds may be invited to attend meetings of the Steering Committee. The basis for this will be decided at the first Steering Committee and is subject to approval by ESF. The expenses of such “advisory experts” may be paid out of the Programme funds.
What is the Steering Committee’s role?
The primary objective of the Steering Committee is to ensure that the high-level scientific objectives of the approved proposal are achieved. The Steering Committee is responsible for the management of scientific activities and the financial planning for the Programme in consultation with ESF. As Budget Holder, ESF reserves the right to ensure the Steering Committee’s decisions are in accordance with ESF principles and objectives. The Steering Committee should ensure that ESF guidelines and all other relevant information are disseminated among all participants at the beginning of an activity and that the contributing organisations are kept informed.

Recognising that a degree of flexibility in scientific and financial management is essential in these circumstances, ESF will normally, as the Programme develops, accept a degree of adjustment from the original proposal, provided this is justified in scientific terms and recognising that the Programme’s achievements and continuation are subject to review at selected intervals. ESF will not accept any adjustments that it considers to run counter to its responsibilities to the contributing organisations or counter to ESF financial regulations.

What is meant by ‘Programme Collaboration’?
The Programme Collaboration is the group of researchers who it is envisaged will participate in the Programme’s activities. It should have a truly European dimension. It is important that the Programme is open to the inclusion of all suitable European research groups. Participation is not limited to those groups listed in the original proposal; however, priority is given to supporting the participation of researchers from ‘funding’ countries.

Is there a minimum number of (ESF Member) countries which must be involved in the proposal and listed under “Programme Collaboration”? Yes, five. Below this, ESF considers that the proposal will not be able to secure sufficient funding from ESF MOs (see FAQ question 25 for details on the financing mechanism). Proposers should be aware that the less countries involved, the less chances their proposal has of getting sufficient funding if recommended. ESF strongly recommends to have no less than 7 countries with ESF Member Organisations involved.

Can scientists based in countries which are not ESF members be funded to participate in a Programme’s activities? Normally, such persons are expected to be ‘self-financed’, priority for Programme funds being the support of scientists from contributing countries. However, the Steering Committee, in agreement with the ESF, may decide, on the basis of individual merit and where there is added value, that scientists from other countries can be funded to participate in the Programme’s activities. Requests are only considered once a Programme has been launched. It should be noted proposals with an ‘international’ dimension, i.e. proposals that intend to interface a European scientific network supported by a new ESF à la carte Programme with a network(s) of scientists in other, non-ESF, countries (e.g. USA, Japan, Canada, Russia) supported by their own agencies are encouraged. Financing in those cases will be expected to be kept separate; ESF funds will not be used to support the non-ESF network or their participation in the ESF-funded Programme. For links to potential partner networks see the section of the Call on “Proposals with an international dimension”.

Is participation from industry / the private sector possible?
• All scientific actions within ESF take place ‘openly’, i.e. there shall be no confidential information. Intellectual Property Right or copyright are the property of all participants contributing financially or intellectually to the activity.
• ESF does not favour any one private sector participant over another and so ESF activities are open to all researchers who have the expertise to be involved.
• Industrial and other private sector participants are normally responsible for their own costs related to travel, subsistence and accommodation.
• In the case of full participation in an ESF Programme, it is expected that the organisation concerned will make a financial, or in some cases an ‘in kind’, contribution to the overall costs of the activity.
• In the case of support or ‘sponsorship’ of any activity, ESF clearance must be obtained in advance – see appendix 2.1 of the “Guidelines for Management of ESF Scientific Programmes”.

Use of funds

What conditions are tied to a Programme award?
• Mid-term Reports (see Appendix 5) and
• Final Reports (see Appendix 6).

How are ESF Programmes financed?
ESF Programmes are funded on an à-la-carte basis. This means that a proposal, once it has been recommended by the relevant ESF Standing Committee(s), is submitted to ESF Member Organisations and other national funding agencies with official Observer status, who decide on an individual basis whether they wish to support that particular Programme or not (there is no obligation on them to do so). ESF Member Organisations’ contributions are based on the level of their contributions to the ESF General Budget and their national GDP per capita. The launching of an ESF Programme is dependent on sufficient financial support having been obtained from Member Organisations and the ESF Executive Board’s approval.

What is the typical budget of an ESF Programme?
The typical annual budget of an ESF Programme does not usually exceed 120 000 EUR per year of its duration. It should, however, be noted that a Programme's budget may be less than the sum requested in the proposal owing to the fact that it is the ESF Member Organisations' contributions that determine the level of financial support for a particular Programme. In the case of a significant shortfall of budget, ESF may deem a Programme non-viable.

Is the Programme award transferred to the principal applicant(s) or participating research groups?
No. The ESF acts as the Budget Holder.

What can Programme funds be used for?
Programme funds can be used to cover (part of) the costs of:
• Steering Committee Meetings;
• Science Meetings (Workshops, Conferences, Schools);
• Grants for Short and Exchange Visits;
• Publicity, Websites and Publications including DVDs and CD ROMs;
• Database costs;
• External administrative costs (up to max. 10% of the annual budget);
• External Programme Coordinator.
For each Programme, the ESF charges an administration fee of 7.5% of the annual contributions requested.

**Can Programme funds be used for research?**
No. Such costs are expected to be funded directly at a national or international level.

**Can Programme funds be used to pay salaries?**
No. Such costs are expected to be funded directly at a national or international level.

**Can some of the Programme funds be used to cover hardware/equipment costs?**
No. Such costs are expected to be funded directly at a national level.

**Can some of the funds be used to cover external administrative costs?**
Yes a small percentage of the Programme’s budget may be used to cover the administrative costs incurred by the Chair’s and/or Programme Coordinator’s organisation in managing the various activities related to the Programme – see the “Guidelines for Management of ESF Scientific Programmes” for more details.

**Can Programme funds be used to contribute to the funding of conferences/meetings organised and funded by other organisations?**
Yes, in agreement with the ESF, and provided the ESF Programme and the contributing organisations are publicly credited in all related announcements, proceedings, programmes, etc., and the conference/meeting is directly relevant to the topic of the Programme.

**Can Programme funds be used to support one in a series of meetings?**
Yes, in agreement with the ESF, and provided the ESF Programme and the contributing organisations are publicly credited in all related announcements, proceedings, programmes, etc., and the conference/meeting is directly relevant to the topic of the Programme. However, funding one in a series of meetings cannot be considered a commitment to funding future meetings.

For more information on European Networking, please refer to the following pdf file.

*European Networking_Compiled.pdf*
3.5 United States of America’s National Science Foundation (NSF)

The National Science Foundation ("NSF") promotes and advances scientific progress in the United States by competitively awarding grants and cooperative agreements for research and education in the sciences, mathematics, and engineering. It does this through grants and cooperative agreements to more than 2,000 colleges, universities, K-12 school systems, businesses, informal science organizations and other research organizations throughout the U.S.. The Foundation accounts for about one-fourth of Federal support to academic institutions for basic research.

The Foundation considers proposals submitted by organizations on behalf of individuals or groups for support in most fields of research. Interdisciplinary proposals also are eligible for consideration.

NSF receives approximately 40,000 proposals each year for research, education and training projects, of which approximately 11,000 are funded. In addition, the Foundation receives several thousand applications for graduate and postdoctoral fellowships. The agency operates no laboratories itself but does support National Research Centers, user facilities, certain oceanographic vessels and Antarctic research stations. The Foundation also supports cooperative research between universities and industry, U.S. participation in international scientific and engineering efforts, and educational activities at every academic level.

NSF does not normally support technical assistance, pilot plant efforts, research requiring security classification, the development of products for commercial marketing, or market research for a particular project or invention. Research with disease-related goals, including work on the etiology, diagnosis or treatment of physical or mental disease, abnormality, or malfunction in human beings or animals, is normally not supported. Animal models of such conditions or the development or testing of drugs or other procedures for their treatment also are not eligible for support. However, research in bioengineering, with diagnosis- or treatment-related goals, that applies engineering principles to problems in biology and medicine while advancing engineering knowledge is eligible for support. Bioengineering research to aid persons with disabilities also is eligible.

Most NSF funding opportunities are divided into broad program areas:

- Biology
- Computer and Information Sciences
- Crosscutting Programs
- Education
- Engineering
- Geosciences
- International
- Math, Physical Sciences
- Polar Research
- Science Statistics
- Social, Behavioral Sciences
Program deadline and target date information can be found on the Upcoming Due Dates list. Guidelines to funding by NSF provide information on the proposal preparation and submission as well as guidelines on award and administration.

Important Note: NSF rarely provides support to foreign organizations. NSF will consider proposals for cooperative projects involving U.S. and foreign organizations, provided support is requested only for the U.S. portion of the collaborative effort.
3.6 Seventh Framework Programme (FP7) of the European Community for Research and Technological Development including Demonstration Activities

http://www.cordis.europa.eu/fp7/

The Seventh Framework Programme (FP7) is a 7 year programme with over €50 Billion to spend. It bundles all research-related EU initiatives together under a common roof playing a crucial role in reaching the goals of growth, competitiveness and employment; along with a new Competitiveness and Innovation Framework Programme (CIP), Education and Training programmes, and Structural and Cohesion Funds for regional convergence and competitiveness. It is also a key pillar for the European Research Area (ERA).

The broad objectives of FP7 have been grouped into four categories: Cooperation, Ideas, People and Capacities. For each type of objective, there is a specific programme corresponding to the main areas of EU research policy. All specific programmes work together to promote and encourage the creation of European poles of (scientific) excellence.

Eligibility

Participation in FP7 is open to a wide range of organisations and individuals. Different participation rules apply, depending on the research initiative in question.

As a general principle, FP7 is open to participation from any country in the world. Participation from industrialised high-income countries is also possible on a self-financing basis, with EU funding granted only in exceptional cases. The procedures for participation and funding possibilities vary for different groups of countries.

Application Procedures

For list of latest grant calls under this programme, visit: http://cordis.europa.eu/fp7/dc/index.cfm

You respond to a Call by submitting your proposal. Proposals may be submitted at any time after a Call opens, until the deadline.

The recommended method in FP7 is Electronic Online Proposal Preparation and Submission. The Electronic Proposal Submission Service (EPSS) is an internet-based application providing a secure work space for a consortium to prepare and submit a proposal jointly.

To access EPSS, visit: http://cordis.europa.eu/fp7/dc/index.cfm?fuseaction= SSPUserSite.FP7SubmitProposalPage

After the deadline for the Call, all the proposals submitted are evaluated by a panel of independent evaluators, who are recognized specialists in the relevant
fields. The panel will check the proposals against a published set of criteria to see if the quality of research proposed is worthy of funding.

For successful proposals, the European Commission enters into financial and scientific/technical negotiations with your consortium on the details of the project. Finally, a grant agreement between each participant and the Commission is drawn up. This sets out the rights and obligations of the beneficiaries and the European Community, including the EU’s financial contribution to your research costs.

**Specific Programmes of FP7**

1. **The 'Cooperation' programme**
   The core of FP7, representing two thirds of the overall budget, is the Cooperation programme. It fosters collaborative research across Europe and other partner countries through projects by transnational consortia of industry and academia.

   Research will be carried out in ten key thematic areas:
   - Health
   - Food, agriculture and fisheries, and biotechnology
   - Information and communication technologies
   - Nanosciences, nanotechnologies, materials and new production technologies
   - Energy
   - Environment (including climate change)
   - Transport (including aeronautics)
   - Socio-economic sciences and the humanities
   - Space
   - Security

2. **The 'Ideas' programme**
   The Ideas programme will support “frontier research” solely on the basis of scientific excellence. Research may be carried out in any area of science or technology, including engineering, socio-economic sciences and the humanities. In contrast with the Cooperation programme, there is no obligation for cross-border partnerships.

   Projects are implemented by “individual teams” around a “principal investigator”. The programme is implemented via the new European Research Council (ERC). For more information, see www.erc.europa.eu.

3. **The 'People' programme**
   The People programme provides support for researcher mobility and career development, both for researchers inside the European Union and internationally. It is implemented via a set of Marie Curie actions, providing fellowships and other measures to help researchers build their skills and competences throughout their careers:
   - Initial training of researchers - Marie Curie Networks
   - Industry-academia partnerships
   - Co-funding of regional, national and international mobility programmes
   - Intra-European fellowships
   - International dimension - outgoing and incoming fellowships, international cooperation scheme, reintegration grants
   - Marie Curie Awards
4. The 'Capacities' programme
The Capacities programme strengthens the research capacities that Europe needs if it is to become a thriving knowledge-based economy.
It covers the following activities:
• Research infrastructures
• Research for the benefit of SMEs
• Regions of Knowledge
• Research Potential
• Science in Society
• Specific activities of international cooperation

5. The Nuclear Research Programme
The programme for nuclear research and training activities will comprise research, technological development, international cooperation, dissemination of technical information, and exploitation activities, as well as training. Two specific programmes are planned:
• the first programme includes: fusion energy research (in particular ITER), and nuclear fission and radiation protection;
• the second programme covers the activities of the Joint Research Centre (JRC) in the field of nuclear energy, including nuclear waste management, and environmental impact, nuclear safety, and nuclear security. In addition to direct actions in the nuclear field, the JRC carries out research in a number of other areas to provide scientific and technological support to EU.

Research Area
All the research activities carried out under the FP7 shall be carried out in compliance with fundamental ethical principles. The following fields of research shall not be financed under this framework programme:

1. Research activity aiming to clone humans for reproductive purposes
2. Research activity intended to modify the genetic heritage of human beings which could make such changes heritable
3. Research activities intended to create human embryos solely for the purpose of research or for the purpose of stem cell procurement, including those created by means of somatic cell nuclear transfer

Research on human stem cells, both adult and embryonic, may be financed, depending both on the contents of the scientific proposal and the legal framework of the Member State(s) involved. Any application for financing for research on human embryonic stem cells shall include, as appropriate, details of licensing and control measures that will be taken by the competent authorities of the Member States as well as details of the ethical approval(s) that will be provided. As regards the derivation of human embryonic stem cells, institutions, organisations and researchers shall be subject to strict licensing and control in accordance with the legal framework of the Member State(s) involved.

Funding
The basic principle of funding in FP7 is co-financing. This means that, in general, the Commission does not “purchase” research services by placing
contracts and paying a price. Rather, it gives grants to projects, thus contributing a certain percentage to the overall costs.

The maximum reimbursement rates to the costs of a project depend on the funding scheme, the legal status of the participants and the type of activity. The standard reimbursement rate for research and technological development activities is 50%. Certain legal entities can receive up to 75% (non-profit public bodies, SMEs, research organisations, higher education establishments). For demonstration activities, the reimbursement rate may reach 50%. For other activities (consortium management, networking, training, coordination, dissemination etc.), the reimbursement can be up to 100% of the eligible costs. The 100% rate applies also to frontier research actions under the European Research Council.

Where different funding schemes can be used for the supported activities, the work programmes may specify the funding scheme to be used for the topic on which proposals are invited.

a. To support actions which are primarily implemented on the basis of calls for proposals:

i. Collaborative projects

Support for research projects carried out by consortia with participants from different countries, aiming to develop new knowledge, new technology, products, demonstration activities or common resources for research. The size, scope and internal organisation of projects can vary from field to field and from topic to topic. Projects can range from small or medium-scale-focused research actions to large-scale integrating projects for achieving a defined objective. Projects will also be targeted towards special groups (SMEs).

ii. Networks of excellence

Support for a 'Joint programme of activities' implemented by a number of research organisations integrating their activities in a given field, carried out by research teams in the framework of longer term cooperation.

iii. Coordination and support actions

Support for activities aimed at coordinating or supporting research activities and policies. These actions may also be implemented by means other than calls for proposals.

iv. Support for 'frontier' research

Support for projects carried out by individual national or transnational research teams. This scheme will be used to support investigator-driven 'frontier' research projects funded in the framework of the ERC.

v. Support for training and career development of researchers

Support for training and career development of researchers, mainly to be used for the implementation of the Marie Curie actions.

vi. Research for the benefit of specific groups
Support for research projects where the bulk of the research and technological development is carried out by universities, research centres or other legal entities, for the benefit of specific groups, in particular SMEs or associations of SMEs. Efforts will be undertaken to mobilise additional financing from the 'European Investment Bank' (EIB) and other financial organisations.

b. To support actions implemented on the basis of decisions by the Council and the European Parliament based on a proposal from the Commission

The Community will provide financial support to multi-financed large-scale initiatives:

i. Financial contribution to the joint implementation of well-identified national research programmes

This joint implementation will require the establishment or existence of a dedicated implementation structure. Community financial support will be provided subject to the definition of a financing plan based on formal commitments from competent national authorities.

ii. Financial contribution to the implementation of 'Joint technology initiatives'

To realise objectives that cannot be achieved through the above-mentioned funding schemes. 'Joint technology initiatives' will mobilise a combination of funding of different kinds and from different sources; private and public, European and national. This funding may take different forms and may be allocated or mobilised through a range of mechanisms: support from the framework programme, loans from the EIB and risk capital support. Community support will be provided subject to the definition of an overall blueprint of financial engineering, based on formal commitments from all parties concerned.

iii. Financial contribution to the development of new infrastructures of European interest

The development of new infrastructures will mobilise a combination of funding of a different nature and origin: national funding, framework programme, structural funds, loans from the EIB and others. Community support will be provided subject to the definition of an overall financial plan based on a commitment from all parties concerned.

The Community will implement the funding schemes in compliance with the provisions of the relevant regulation and State aid instruments, as well as international rules in this area. In compliance with this international framework, it will be necessary to be able to adjust the scale and form of financial participation on a case-by-case basis, in particular if funding from other public sector sources is available, including other sources of Community financing such as the EIB.

In addition, the Community will improve their access to debt finance through the 'Risk-sharing finance facility' by providing a contribution to the EIB. The Community contribution must be used by the EIB, which will be a risk-sharing partner, to contribute to the provision and capital allocation for loan and
guarantee financing from its own resources. Subject to, and in accordance with arrangements to be established, this mechanism will enable the EIB to increase the amount of financing of European RTD actions to help overcome market deficiencies.

In the case of participants in an indirect action established in a region lagging in terms of development (convergence and outermost regions), complementary funding from the structural funds will be mobilised wherever possible and appropriate. In the case of participation of entities from the candidate countries, an additional contribution from the pre-accession financial instruments may be granted under similar conditions. As regards actions in the 'Research infrastructures', the detailed funding arrangements for these will be defined with a view to ensuring that there is effective complementarity between community research funding and other Community and national instruments, notably the structural funds.
3.7 The Sasakawa Peace Foundation

http://www.spf.org/e/grants/index.html

The scope of projects includes those that promote international understanding, exchange, and cooperation and conform to the SPF Operational Guidelines (http://www.spf.org/e/grants/guide.html)

Eligibility

Private nonprofit organizations and institutions of higher education and related organizations are eligible. Business corporations and individuals are not eligible. Nationality is not a factor.

The following are not eligible for grants:
- Purchase of real estate or other capital assets and construction of buildings
- Subsidization of an organization's operating expenses
- Purely theoretical (nonapplied) research
- Disaster relief and other relief activities
- Events of a commercial nature
- Requests by an individual
- Provision of scholarships
- Creation of an endowment or other fund
- Purchase of equipment or other goods

Application Procedures

1. Applications are accepted at any time.

2. There is no prescribed application form or format. The project's aims, expected outcome, beneficiaries, method of implementation, schedule, budget, and other relevant information should be presented concisely on three or four A4 pages.

3. There is no prescribed grant ceiling.

4. Applications must be submitted in either Japanese or English. Applications in other languages will not be accepted.

5. Applications sent by facsimile or e-mail will not be accepted. Applications should be mailed to the following address:

Grant Administration Section
Program Division
The Sasakawa Peace Foundation
Nippon Foundation Bldg., 4th floor
1-2-2 Akasaka, Minato-ku, Tokyo 107-8523, Japan
**Award Process**

In order to implement high-caliber projects within the constraints of a limited budget, SPF undertakes a rigorous and earnest selection process. In some cases even several months are required from receipt of a grant application until the final decision. This should be taken into account when applying for grants for projects that must be completed within a set time frame.

All applications are registered on the Grant Administration System (GAS) database and undergo assessment and selection procedures by the program officer in charge, the program executive director, the president, and others. Applications that have made it through the above process go through an additional two-stage screening process. Each application is studied, and selection or rejection determined, on the basis of such criteria as the project's aim and target, the adequacy of implementation and budget plans, the project's potential, and the outcome expected.

Projects judged to be appropriate to SPF and capable of being funded are submitted to the quarterly meetings of the board of counselors and board of trustees (March, June, September, and December). Grants are awarded to projects approved by the board of counselors and adopted by the board of trustees.
3.8 DARPA (Defense Advanced Research Projects Agency)
http://www.darpa.mil/

Solicited Proposals

Defense Advanced Research Projects Agency ("DARPA") solicits R&D work primarily through advertising in the FedBizOpps and the DoD SBIR Program Solicitation. The FedBizOpps is a GSA service in which all Federal procurements over $25,000 in value are synopsized. Information on DARPA solicitations can also be obtained by going to the Solicitations section of the DARPA Home Page, and through the Technical Office Home Pages. FedBizOpps is available on-line at www.fedbizopps.gov.

Below are directions on how to locate DARPA solicitations on the FedBizOps Web page:

1. Point your browser to http://www.fedbizopps.gov
2. Click on "Vendors"
3. Click on the "DoD" circle and then on "Offices" next to "Other Defense Agencies"
4. Find "DARPA" (listed alphabetically in the table) and click on "Posted Dates"

Or, you can search in a variety of ways using the FedBizOpps "Search" feature, located at http://vsearch1.fbo.gov/servlet/SearchServlet/. Note: DARPA falls under the "Other Defense Agencies" category.

Solicitations in the FedBizOpps may be Broad Agency Announcements (BAA), Requests For Proposals (RFP), Sources-Sought Announcements (SSA), or Special Research Announcements (SRA). The BAA provides a general description of a particular DARPA program, identifies broad evaluation criteria, and solicits proposals for participation in that program. An RFP provides a more specific statement of work, contract deliverables, and evaluation criteria for Government selection. The SSA or SRA provide advance notice of DARPA's interest in a particular area of technology and are a vehicle through which DARPA may develop competition within a technology area or survey the market for potential qualified offerors.

DARPA awards are aimed at projects. It is important to differentiate between projects and programs. Projects focus on a common objective or idea; they have a beginning and end, and a specific, hoped-for result that may have very high risk. Programs, by contrast, emphasize particular academic disciplines or general technologies and tend to be very open-ended. While the selection of program proposals often places heavy emphasis on previous publication histories and peer review, DARPA's selection of projects regards these less heavily. DARPA tries to distinguish itself as an agency that is based almost entirely on good ideas with clear, exceptionally beneficial consequences. It sponsors projects, not programs.

A major task of the program manager is to create new projects. Only about one in three good new project ideas in DARPA are funded. Historically, about half of new project ideas are internally generated and about half are proposed from outside DARPA. About 20 percent of DARPA's projects are ramped down each year and new projects, perhaps in quite different technical areas, are
started to take their place. DARPA can, when appropriate, provide substantial funding, but we do not fund any technical program area in perpetuity. A DARPA project requires: good technical ideas, contractors who can do the work, customers for the program results, a sufficient budget, and a program manager. If there is no DARPA project in your area, the odds of being able to support your proposed work are small.

You can reach a particular program manager via the "Directory of DARPA Technical Staff" link on our Home Page. Alternately, you can send e-mail to webmaster@darpa.mil

Many DARPA solicitations encourage a white paper or abstract submission. This allows prompt feedback to the proposer on the likelihood of a proposal being selected. Historically, about one-third of the white papers DARPA receives results in a recommendation for full proposal submission. Of these, about one-third are funded. Regardless of white paper recommendation, proposers always have the option of submitting a full proposal. Direct contact with program managers (before a solicitation is issued) is encouraged. Telephone calls, e-mail, fax, and "snail-mail" can all be used. Submission of "blind proposals" (i.e., submission without any prior discussion with a program manager) is greatly discouraged because the chance that such a submission will reach the correct customer is not good.

A typical selection process for a US$200,000/year contract is:
1. The program manager solicits proposal abstracts and white papers.
2. Proposal abstracts are reviewed by the program manager and non-binding feedback is given to the proposer.
3. The program manager and additional procurement officials review proposals according to the evaluation criteria in the solicitation.
4. Selectable proposals are examined for potential impact on achieving the DARPA program goals. (Think of this as an inner product between scientific quality and relevance to the program and DARPA mission.) Proposals should include a plan for technical success and a plausible transition plan that gets the developed technology and products into the market place.
5. A subset of the selectable proposals are selected based on step 4 and funds availability. The contract negotiation process is initiated.

It is imperative that your proposal begin by highlighting its key technical idea(s). If it is not apparent in the first three pages, it may well be missed. Your great ideas are wanted, but you can help by presenting them succinctly and well.

Unsolicited Proposals

The Competition in Contracting Act and President Bush encourages competition. Please refer to www.darpa.mil "Solicitations" and look at the seven Technical Offices Broad Agency Announcements (BAAs). BAAs encourage unique and innovative ideas. Additionally, technical dialogues are invited. If your idea is relevant, you will be encouraged to submit a short white paper before a formal proposal is developed. If your ideas do not fit into any of our
BAAs, then you should try another agency within the Department of Defense. For additional information contact Connie Jacobs, connie.jacobs@darpa.mil.
COST brings together researchers and experts in different countries working on specific topics. COST does NOT fund research itself, but supports networking activities such as meetings, conferences, short term scientific exchanges and outreach activities. Currently more than 200 scientific networks (Actions) are supported.

COST invites proposals for Actions contributing to the scientific, technological, economic, cultural or societal development of Europe. Proposals playing a precursor role for other European programmes and/or initiated by early-stage researchers are especially welcome.

Developing stronger links amongst European researchers is crucial to building the European Research Area (ERA). COST stimulates new, innovative, interdisciplinary and broad research networks in Europe. COST activities are carried out by research teams to strengthen the foundations for building scientific excellence in Europe.

COST is organised in nine broad Domains (Biomedicine and Molecular Biosciences; Chemistry and Molecular Sciences and Technologies; Earth System Science and Environmental Management; Food and Agriculture; Forests, their Products and Services; Individuals, Society, Culture and Health; Information and Communication Technologies; Materials, Physical and Nanosciences; Transport and Urban Development). The intended coverage of each Domain is explained at: www.cost.esf.org.

Proposers are invited to locate their topic within one Domain. However, interdisciplinary proposals not fitting readily into a single Domain are particularly welcome and will be assessed separately by the Trans-Domain Proposals Standing Assessment Body.

Proposals should include researchers from a minimum of five COST countries. Financial support in the range of EUR 100 000 p.a. for normally 4 years can be expected.

The Open Call

COST invites researchers throughout Europe to submit proposals for research networks and use this unique opportunity to exchange knowledge and to embark on new European perspectives. A continuous Open Call for Proposals is used to attract the best proposals for new COST Actions.

The Open Call follows a two-stage process whereby applicants, after registering, submit a preliminary proposal by a set collection date. This preliminary proposal provides an overview of proposed Action's goal and its foreseen impact. After assessment, approximately 80 of these preliminary proposals are selected for the second phase. Successful applicants are then invited to submit a full proposal.

Each collection date is announced in the Official Journal of the European Union.
Stages of Assessment

Proposals will be assessed in two stages. Preliminary Proposals (maximum 1 500 words/3 pages), submitted using the on-line template at: www.cost.esf.org/opencall should provide a brief overview of the proposal and its intended impact. Proposals not conforming to the eligibility criteria of COST (e.g. requesting research funding) will be excluded. Eligible Proposals will be assessed by the relevant Domain Committees in accordance with the published criteria at: www.cost.esf.org. Proposers of selected Preliminary Proposals will be invited to submit a Full Proposal. Full Proposals will be peer reviewed according to the assessment criteria at: www.cost.esf.org/opencall. The decision will normally be taken within six months of the collection date and the Actions should expect to start within three months thereafter.

Proposers may wish to contact their national COST Coordinator (CNC) for information and guidance – see: www.cost.esf.org/cnc

Proposals must be submitted on-line to the COST Office website. (http://www.cost.esf.org/participate/open_call)

COST Financial Support

COST receives financial support for its coordinating activities from the EU RTD Framework Programme. The COST Office, administered by the European Science Foundation (ESF), acting as the implementing agent for COST, provides the scientific secretariat for COST Domains and COST Actions.
4. Other Funding Agencies

4.1 Funding Opportunities by Microsoft


Microsoft’s External Research & Programs group supports basic research and curriculum innovation in many areas of computing—including social computing and gaming. It focuses on initiatives that advance the state of the art in computer science and computational sciences, as well as on the teaching of these disciplines. Their engagement model emphasizes public requests for proposals (RFPs) and active collaboration with faculty to ensure maximum success for supported projects.

Microsoft fund specific research or curriculum-development projects only pursuant to identified initiatives or programs. They do not provide general institutional support or funding for ongoing educational or philanthropic activities. All funding is awarded in response to solicited proposals. Microsoft solicits proposals both through private invitations and through published public requests. Currently no unsolicited proposals are accepted.

All public requests for proposals are published on the site http://research.microsoft.com/ur/us/fundingopps/default.aspx. The published announcements contain complete detail on objectives, eligibility, and application requirements for each program.

Unless a request for proposals contains an express statement limiting the geographic scope, a Request for Proposal (RFP) is open to all qualified institutions worldwide.

Awards in most locations are made as unrestricted gifts. In certain locations, which are listed below, other conditions apply. In cases of awards made to an institution in any location listed below, the institution must agree that all results derived from the funded project must, as soon as they are generated, be placed in the public domain, freely and without restrictions. If the university wants to assert any intellectual property rights over any such results, it may only do so if it provides Microsoft with prior written notice thereof, and grants to Microsoft a non-exclusive, perpetual, royalty-free, assignable, and sub-licensable license to use such results for any purpose.

Locations affected by the policy above include: China (including Hong Kong), Taiwan, Japan, Korea, Australia, New Zealand, Singapore, Malaysia, Vietnam, Laos, Philippines, Thailand, and Indonesia.

In-kind contributions from the institution should be reflected so long as they are assigned a reasonable value.
4.2 JSPS-NUS Joint Research Project and Joint Seminar

The Japan society for the Promotion of Science (JSPS) and the National University of Singapore (NUS) conduct programmes in accordance with their mutual agreement on international scientific collaboration. The JSPS-NUS bilateral exchange programme is aimed at providing support for research and seminars jointly conducted by Japanese and Singaporean researchers in the areas of Natural Science, Humanities and Social Sciences.

Two joint research projects and one joint seminar will be supported.

Eligibility

Research Projects should be jointly conducted by Japanese and Singaporean teams.

Seminars should be international ones attended by researchers of both countries to discuss a specific research topic. Researchers from third countries may also participate at their own expense.

Japanese participants must be full-time researchers employed at universities or other research institutions, or individuals holding a PhD or who are in the last half of their PhD courses.

The Singaporean principal researcher must be an academic staff employed at universities or other research institutions managed or designated by NUS.

Funding

a. Joint Research Projects

Allowances for Singapore researchers:
- International travel costs: A round-trip air ticket to and from the designated research location (includes VISA application, travel insurance, etc).
- Research expenses: Costs of expendable supplies, printing fees, communication expenses, conference expenses, honorarium, and miscellaneous expenses, etc.

Allowances for Japanese researchers:
- Living allowances and domestic travel expenses in Singapore.

b. Joint Seminars held in Singapore

Allowances for Singapore researchers:
- Costs associated with holding a joint seminar (include preparatory meeting and post-meeting reviews): Conference expenses, costs of expendable supplies, printing fees, communication expenses, honorarium, and miscellaneous expenses, etc.
• Domestic travel expenses for conducting Joint Seminars

Allowances for Japanese researchers:
• Living allowances and domestic travel expenses in Singapore.

c. Joint Seminars held in Japan

Allowances for Singapore researchers:
• International travel costs: A round-trip air ticket to and from the seminar venue.
• Costs associated with holding a joint seminar (include preparatory meeting and post-meeting reviews): Conference expenses, costs of expendable supplies, printing fees, communication expenses, honorarium, and miscellaneous expenses, etc.

Application Procedures

The duly completed and endorsed application form (in original hardcopy) should be submitted to NTU’s Research Support Office (RSO). RSO will collate and forward to NUS by the stipulated date.

All applications must have concurrent submission to JSPS by the Japanese counterpart. Applications without dual submission will not be considered.

Evaluation Criteria

• Scientific excellence of projects/seminars
• Necessity of cooperation, added value gained, and mutual research advancement through transfer of knowledge and expertise
• Impact of outcomes on improving the quality of life, contributing to socioeconomic development, and/or solving prevailing social issues
• Participation of young researchers and contribution to fostering them
• Feasibility and concreteness of the research plan and expectation of its advancing the research
• Contribution of researcher interaction during the project/seminar to advancing the research
• Appropriateness of the budget plan
• Appropriateness of the venue in case of seminar
• The projects must be carried out in both countries (Japan and Singapore)
The Science & Technology section in the British High Commission is part of the Foreign and Commonwealth Office's global Science & Technology Network. Co-ordinated by the FCO Science and Innovation Group (SIG) in London, the network reports to a wide customer base and works with a number of UK organisations with an interest in science and technology overseas.

The main areas of activity are:
- analysis and reporting on research and technology developments in Singapore to inform UK government policy and keep UK industry and academia abreast of developments in Singapore;
- arranging missions and visits to study particular sectors so that UK experts can share information on developments in the UK and learn about activity in Singapore;
- raising awareness of UK S&T strengths, promoting the UK as modern, creative, successful and relevant;
- encouraging collaboration between scientists in the UK and Singapore; and
- working closely with our UK Trade and Investment colleagues to promote inward investment and trade.

4.3.1 Researcher Exchange Programme (RXP)

The Researcher Exchange Programme (RXP) is a new initiative from the British Council aiming to promote the development of scientific co-operation and contacts between the UK and other countries.

The purpose of the Researcher Exchange Programme is to develop new research links between higher education institutions and research laboratories in the UK and other countries. It aims to encourage mobility and internationalism among early stage researchers for the exchange of information, ideas and knowledge, and for relationship-building.

The awards support new links between researchers in the UK and other countries. These are contacts which have recently been formed, but have not yet resulted in collaborative research. The RXP awards fund single or short term exchange visits for early stage researchers to make international connections.

For early stage researchers, spending time in another country offers many advantages; giving them a chance to acquire new cutting-edge-skills, to participate in multicultural research teams and network with others in the same field.

The research link can be in any area of science, engineering and technology, including social sciences and humanities, as long as it fits within the UK’s current national research priorities for international collaboration:
1. Biotechnology
2. Nanotechnology
3. Climate Change
4. Information Communication Technology (ICT)  
5. Energy

The awards will support new collaborations between UK and international researchers in many fields, including climate change and energy security, nanotechnology, biotechnology, medicine, social science and archaeology.

New research links have been created between researchers in the UK and 32 different countries, including Austria, Brazil, Bulgaria, Finland, Germany, Hungary, India, Mozambique, Singapore, Thailand, Turkey and Uruguay.

For more information, please e-mail science@britishcouncil.org

**Application Procedures**
A completed application form requires the following supporting documents:

1. A statement of support from the head of department of the sending institution, where you are based.

2. A letter of invitation from the head of department of the receiving institution, where the visit will take place.

3. A brief CV, no more than two sides of A4, including references to no more than five recent papers.

4. The statements of support from the two heads of department should include comments on the following questions:
   - Why is this research important?
   - Why do you want to make contact with this institution?
   - How will the link be sustained?

5. All application forms and supporting documents should be submitted electronically.

6. Applications to travel to the UK should be submitted to the local British Council office in the country where the applicant is based. Applications to travel from the UK to another country should be submitted to the British Council office in the country the applicant wishes to visit.

7. Decisions on the distribution of awards will be taken by the selection committee and the British Council Science Department.

8. The decision of the British Council is final

For further details on the Researcher Exchange Programme exchange awards please refer to our British Council Science website or contact the member of staff in your local British Council office.

The application form is available to download now.

**Eligibility**

The RXP awards are open to applicants who fulfill all of the following criteria:
New Link
The proposed exchange must be a new link for the individual researcher. The exchange can be part of an already established link between institutions or research groups, but only as long as the applicant has not previously taken part. These can also be links growing out of contacts made during INYS events. The applicant cannot apply to return to the research group where they carried out their PhD research or have previously taught. If they are applying to return to the same institution they must explain why this constitutes a new link, for example to participate in research with a new research group in the institution.

Early Stage Researcher
The term 'early stage researcher' refers to researchers at the beginning of their research careers, who wish to make international contacts in order to better establish themselves.

The applicant must have:
- either obtained a doctoral qualification or be within 12 months of obtaining a doctoral qualification.
- no more than two years full tenure in a university or research institute.
- no more than six years overall active researcher experience after the completion of a doctoral degree.

International Experience
The applicant should not have significant previous international research experience in the country they are applying to visit. The applicant could have participated in non-research based undergraduate or postgraduate study, workshops or conferences in this country as long as they have not participated in active research either as an individual or as part of a research group.

More than one researcher from the same sending or receiving research group can apply for an award, but each must submit a separate application.

The awards are aimed at supporting new researcher links between institutions or laboratories and will require the support of the heads of department from both the sending and receiving departments or laboratories.

The awards support reciprocal exchanges between the UK and other countries. Applications with a reciprocal element will receive priority during the selection process.

Funding
The maximum award that can be applied for is £5,000. The final value of the award is stipulated in the award letter. The British Council will not increase the value of an award at a later stage.

The awards are for travel, accommodation and subsistence. A small amount of the award can also be used for consumables, up to £250, although it is expected that the receiving lab will provide most of these resources. It cannot be used to cover bench fees, utility bills or staffing overheads, equipment or salaries.
The awards are for funding one or more visits throughout the programme year. The total programme of visits in the programme year should be no more than three months in total. However, the award can be used to support part of a longer visit when funding is supplied by another party.

You can apply for an award for one or more visits. These should be between one week and three months in total.

The award cannot be used to cover bench fees, utility bills or staffing overheads, equipment or salaries.

Awards given to researchers based in the UK will be paid to the institution where they are based. The British Council will transfer the award to the UK university and the department will organise the distribution of funds to the award holder.

Awards for researchers based outside the UK will be paid through the local British Council office. The British Council office will contact the award holder to arrange the payment.

In addition the award holder must comply with ALL of the following conditions. They must:

a) Use the award only for costs relating to travel, accommodation and subsistence, with a small amount for consumables. Researchers must make all their own travel and accommodation arrangements, including visas. The British Council office may be able to give advice.

b) Submit a full itinerary to the British Council, with travel dates and a programme of visits if applicable.

c) Accept full responsibility for all aspects of the visit and take out insurance for any risks associated with taking part in travelling abroad, including all unexpected and uncontrollable events. The British Council will not be liable for the consequences of any such risks or any costs incurred.

d) Submit a complete application form including all required additional paperwork and supporting documentation.

e) Complete and return the award report form within one month of completing the exchange programme. This should include a summary statement of expenses relating to the award and any remaining funds should be returned to the British Council. If the award holder is based in the UK more detailed financial reporting may be required by their institution in order to release funds.
4.3.2 Collaboration Development Awards

The British High Commission Singapore engages in partnership with UK and organizations in selected South East Asian countries to support thematic workshops in identified fields. Currently, the countries selected for partnership with UK includes:

- Singapore
- Philippines
- Thailand
- Vietnam

The areas of research that have been identified include:

- Alternative Energy
- Renewable Energy & Environment in Sustainable Development
- Biosensor
- Membrane Biology
- Nanomedicine
- Drug Discovery

In order to ensure that the momentum from the workshop is carried forward and secure lasting outcomes the Foreign and Commonwealth Office awards a grant under its Global Opportunities Fund to support the development of research collaborations in these fields between the UK and the selected countries. The scheme is intended to support the development of collaboration between scientists and engineers in the UK and the countries in the identified fields.

Eligibility

Researchers in Universities, Polytechnics, Research Institutes and companies in the selected countries are eligible to apply.

Application Procedures

The purpose of the awards is to enable researchers to spend time with potential partner institutions to gain an in-depth understanding of their research and formulate proposals for future collaborative research, which can then be put to funding bodies.

Applications should be made, in English, on the attached application form.

In submitting the application for an award, the proposal will need to include an action plan that gives details of the main activities, including a visit timetable and potential future submissions to funding bodies. Each successful applicant will also be required to write a short report (2-3 pages), within one month of the visit, specifying the actual outcomes and actions arising from discussions with their host(s).

A Peer Review Panel in Singapore will assess each application.

The selection criteria will include:
the benefits likely to accrue from the visit
the potential for collaborative research which may result from the proposed contacts
the complementarity of the experience/expertise of the two teams.

Completed applications (an electronic version can be found at www.brittain.org.sg) should be sent to the British High Commission as specified on the application form. **Email submission will not be accepted.**

**Funding**

The awards are to support travel and subsistence from the respective countries to the UK. Requests for funding can be made to spend time in the UK, visiting one or more laboratories, for example to identify opportunities for collaboration, or to discuss specific projects with Universities or companies. The value of the awards funded under this call will be up to a **maximum of S$5,000 per visit**. Costs that can be requested are economy class airfares, hotel room, subsistence in the UK (at rates to be specified by the British High Commission in the approval letter), travel within the UK and visa costs.

No other costs will be allowed.
4.4 UKERC Energy Summer School
www.ukerc.ac.uk

The UK Energy Research Centre (UKERC) is holding its fourth annual Energy Summer School from 23rd to 27th June 2008 at Parkstead House in London. There will be 100 places available for UK and international students.

The course has been specifically designed to give first and second year PhD students undertaking energy PhDs an understanding of the broader issues relevant to energy research in the UK and beyond. The 4th UKERC Summer School will have a special international flavour as UKERC has reserved 50 places for non-UK students from the most significant universities and research centres worldwide.

We would like to invite you to nominate students to attend. There is no cost for the School; UKERC will provide accommodation and all meals and materials for activities.

Nominations are now open - please go to http://www.ukerc.ac.uk/AboutUs/0608UKERCSummerSchool.aspx to download nomination forms and the course programme.

The deadline for nominations is 5pm Friday 9th May.

During the week-long course, which runs in parallel to UKERC’s Annual Assembly, students will

- Examine the drivers behind current energy policy
- Review the current portfolio of UK research programmes and understand future plans
- Understand the relevance of energy research to industry
- Be involved in high level debate on energy research priorities in a number of key research areas, from demand reduction to future sources of energy
- Be presented with a number of contrasting international perspectives on energy
- Have a better understanding of the worldwide energy landscape and drivers for the initiatives that are being carried out at international level
- Have the opportunity to network with key academic, business and Government energy contacts
- Research and develop a presentation to the UKERC assembly, including external company and government delegates, addressing real-life challenges in energy research

The course is professionally facilitated to provide continual support for participants, and includes a number of networking opportunities as well as social events. All information is available at http://www.ukerc.ac.uk/AboutUs/0608UKERCSummerSchool.aspx

If you have further questions, please call UKERC on 0207 594 1574 or email Angela Knight at angela.knight@ukerc.ac.uk.
5. Fellowship/Scholarship

5.1 Lee Kuan Yew (LKY) Scholarship


The Lee Kuan Yew Scholarship is funded by the Lee Kuan Yew Scholarship Fund which was set up in 1991 with generous contributions from the public in honor of Minister Mentor Lee Kuan Yew. The scholarship is open to outstanding Singaporeans who aspire to be leaders in their respective fields and in the community. The application is open once a year (next cycle: open in October 2007).

Eligibility

- Be a Singapore Citizen;
- Have outstanding academic records. Only those who have at least a Second Class Upper Honors Degree will be considered; and
- Demonstrate leadership qualities and be active in social or community services or sports.
- Have at least 4 years of working experience for those applying to pursue Master’s Programme in General Management.

Applicants who intend to pursue either PhD or other Master’s Programme should pursue an area of study/research that would be beneficial to Singapore. Public Officers are required to submit their applications through their Chief Executive Officers or the Permanent Secretaries of their Ministries.

Terms & Conditions

- Scholars can pursue either Master’s or PhD programmes at local or overseas universities. There is no restriction on the course of study.
- Successful applicants will be given a once-off sum of S$10,000 and annual allowance of S$50,000.
- This Scholarship does not carry any bond.

Pointers

- Applicants should arrange to sit for the necessary pre-admission tests such as the GRE, TOEFL or GMAT and apply for the admission to universities of their choice on their own.
- For more information and enquiries, please contact:
  Ms Sally Tan – 6332 4158
  Ms Sakthi Nirmala – 6332 4199
  Mrs Mildred Tai – 6332 4175
  Mr Zulkiflie Yacob – 6332 4159
  Email: psc@psd.gov.sg
5.2 Singapore Millenium Foundation  
http://www.smf-scholar.org/

The SMF scholarships are highly prestigious awards for only the most dynamic and promising postgraduate candidates to support them in their journey of discovery and achievement. The scholars' proposed research projects need to have a high potential of impact on R&D in their respective fields. To meet the needs of a changing and dynamic environment, the areas of research supported are regularly reviewed. The fields of Research currently supported are:

- Environmental Science, Renewable Resources & Water  
- Engineering  
- Physical & Materials Science  
- Life Sciences

Eligibility

- Aspiring researchers of all nationalities with an excellent academic track record who intend to pursue a research career. Prior research experience and publications in peer-reviewed international journals will be advantageous.  
- Applicants awarded the SMF scholarships must not concurrently hold any other scholarships.  
- Acceptance to the National University of Singapore, Nanyang Technological University or any Singapore-based research institutions is required to enable applicants to be considered for the SMF Scholarships.  
- Researchers already enrolled at the National University of Singapore, Nanyang Technological University or any Singapore-based research institutions can also apply.

Terms & Conditions

1. SMF awards scholarships and a special travel allowance of up to S$2,000 to assist only international scholars to cover one-way economy air travel to Singapore. This allowance will not apply to those who are already located in Singapore.

The levels of financial support are:

<table>
<thead>
<tr>
<th>Type of Candidate</th>
<th>Financial Support</th>
</tr>
</thead>
<tbody>
<tr>
<td>PhD candidate</td>
<td>S$3,000 per month for up to 4 years</td>
</tr>
<tr>
<td>Postdoctoral candidate</td>
<td>S$5,000 per month for up to 2 years</td>
</tr>
</tbody>
</table>

2. The Award does not provide for any other costs like enrolment or course fees, settling-in allowances or any other expenses, which are to be borne by the awardees themselves from their monthly grants.

3. Bond free scholarships are offered annually to outstanding graduate research scientists at the PhD and Postdoctoral levels to support their full-time research efforts at a Singapore-based university (NTU or NUS) or Research Institute.
Criteria for Selection

The SMF Board will establish a review committee comprising experts from the relevant research fields to help review the applications for the scholarships. These reviewers are selected based on their expertise in the research fields of the projects proposed by applicants. The reviewers will use the following criteria in evaluating applications.

- accomplishments, particularly publications in peer-reviewed international journals
- Applicant’s research and training goals and potential for a scientific research career;
- Qualifications and suitability of the proposed scientific advisor and the institutional environment for the research project;
- Research project proposed;
- References and other relevant information.

Applicants will be ranked by the review committee for the decision of the SMF Board. The SMF Awards will be made based on the ranking of the candidate vis-à-vis other applicants and the availability of funds.

Application Procedures

1. Applications must be made online.

2. Applicants should enroll with the University/Research Institute when applying for the SMF scholarship. Existing students/staff of the University/Research Institute need not re-enroll, but should check directly with these organisations on the relevant forms which they may be required to complete.

3. Applicants for our scholarships must ensure that their applications meet the respective dead-lines of the University or Research Institute where they plan to do their research.

4. On submission of the SMF on-line application form, a reference number will be generated and a URL Link will be sent to your e-mail address. This reference number is required for the submission of the hard copy of your application, and is to be written on every page of the documents that you are enclosing.

5. Enclose the following documents (in English and duly certified) when you submit your application:

- Detailed Curriculum Vitae
- Certificates: Basic and post graduate qualifications including detailed transcripts of grades/scores
- Abstract of Proposed Plan of Research (250 words)
- Proposed Plan of Research (2 pages) outlining background information on the proposed research; objectives of the project and the approaches proposed to achieve them; experiments proposed and the results anticipated; significance and novelty of the proposed research; references; research training plan
• Abstract of previous research accomplishments: list titles and references of published works and works in process, patents, papers presented at conferences, etc.
• Letter of support by hosting scientific advisor/supervisor (based in Singapore)
• CV of Advisor/Supervisor (2 pages)
• Two reference letters: Letters should provide information on your mastery of fundamental knowledge in your field, skills in designing research experiments, laboratory skills and techniques acquired, growth during period observed, creativity, originality, self reliance and independence. Your referees should also indicate how long they have known and worked with you)
• Progress Reports (for applicants currently doing research in Singapore)

In addition to the on-line submission, you are required to send printed completed copies of the SMF Application Form together with all supporting documents to the Research Support Office for initial processing on behalf of the SMF.

Post Award

The scientific advisor /supervisor of each successful applicant must submit a report on the awardee’s research progress, endorsed by the Head of Department of the university or research institute, annually to the SMF Secretariat.

This report should address the milestones achieved and the potential that the research has demonstrated vis-à-vis what was set out at the start of the project, and should include the scientific advisor’s comment on his satisfaction with the awardee’s progress and his formal support for the SMF to continue to support the research.
FAQ on Singapore Millenium Foundation

Will the SMF give top-ups for exceptional performance or overseas attachments?
The SMF will not offer top-ups. However, SMF awardees may write to the SMF for approval for them to receive top-ups from other sources. SMF will decide on whether to allow its awardees to receive top-ups from other sources on a case-by-case basis.

Can non-Singaporeans apply?
All nationalities are welcome to apply for the SMF awards.

Do the awards come with a bond or are there any strings attached? Will the SMF lay claim to intellectual property rights?
The SMF awards are non-bonded. The SMF will not lay claim to IP rights but SMF award-holders are obliged to acknowledge in their research papers and publications that their research has been supported by the SMF. The SMF also reserves the right to publicize research works carried out by its award-holders. Please note that the university/research institute however, may reserve some rights to IP – please check with your prospective university/RI directly.

Are applicants who wish to pursue part-time study or part-time research work eligible for the SMF awards?
The SMF awards are for full-time postgraduate study/research work only.

Can students/researchers/scholars already currently pursuing a postgraduate programme apply? If they are presently receiving a grant/salary from the university, will they have to give up the grant/salary?
Current postgraduate students/PDFs may apply, but all applicants must declare if they are in receipt of any financial support/grants/awards/salary, e.g., a stipend from the university, the dollar amount they are receiving, and from which sponsoring organisation/university. The university/research institute will decide whether it will continue to offer financial support to successful applicants of the SMF awards.

Must the scientific advisor be a full-time staff at a Singapore university or research institute?
The scientific advisor must be either a full-time or adjunct professor at a Singapore-based university or research institution.

Is the award subject to review?
The scientific advisor of the PhDs and PDFs would be required to give the SMF a review annually. But at any time, if the applicant is not assessed to be progressing well by his scientific advisor, the award may be withdrawn.

Are SMF awardees allowed to work outside the university/research institute?
Awardees are expected to work on their research proposals in the university or research institutes full-time. However, exceptions may be made in certain cases, e.g., medical doctors may be allowed to continue to practice. Award-holders may be allowed to take on teaching assistant positions at their respective university but will have to seek formal approval from the SMF, which will decide on a case-by-case basis.

**What about annual leave, conferences leave and so on?**
This will be in line with the standard practices of the respective university/research institute.

**Does the SMF support conferences for its scholars?**
To encourage research excellence, we will fund scholars who succeed in being invited to present their research at prestigious conferences. Subject to the selection criteria, we will fund our PhDs and Post-docs for up to S$3000 and S$4000 respectively for the duration of their scholarship.

**What about visa, employment permits etc for the award-holder and his/her spouse/family?**
The successful awardees will have to liaise with their respective university/research institute.
5.3 NRF Research Fellowships

The NRF Research Fellowship will provide attractive funding to brilliant, young scientists and researchers to carry out independent, leading edge research in Singapore. Appointees could be offered concurrent faculty positions at local universities or other research organizations. This will build up a pool of bright, passionate researchers in various fields to augment Singapore’s research talent pool. Application is open twice a year.

**Eligibility**

NRF Research Fellowship is open to the following:
- Young talented scientists/researchers/post-doctoral fellows at or below the age of 35 from all nationalities
- Research in all disciplines of science and technology with no quota on specific disciplines
- Only research conducted in Singapore
- A prior post-doctoral stint at a reputable university or research organization would be a great advantage

**Terms and Conditions**

1. Appointed Fellows will be given complete independence and freedom to pursue their own research directions.

2. Appointed Fellows will be free to choose the host organisations (in Singapore) to work in.

3. Each appointed Fellow will be provided with a research grant of up to US$1.5 million over three years (maximum period of awards is three years) with the option of a second round of three-year funding provided at the discretion of NRF to support projects that exhibit a high likelihood of a research breakthrough.

4. The salary of an appointed Fellow will be covered over and above the research grant, pegged to that of an Assistant Professor at a local university.

**Selection Processes**

1. NRF will invite applications twice a year through open advertisements in prestigious scientific publications, as well as tap on local research organisations and other contacts to identify potential candidates.

2. A Review Panel comprising representations of local research organisations will shortlist applicants who qualify. Shortlisted candidates will be invited to Singapore to present their proposals and visit local research organisations to identify potential hosts.

The NRF is looking for the following qualities in the candidates:
• The best young research talents who are ready for their first independent research, usually having completed their first post-doctoral fellowship stint.
• With the potential to become the next generation of research leaders.
• Quality and scientific excellence of the research project proposal
• Outstanding performance of prior post-doctoral stint at a reputable university

3. The NRF Scientific Advisory Board will interview the shortlisted candidates and make the final selection of applicants for the awards.

**Application Procedures**

Applicant need to submit online through RITA system. Further enquiries can be directed to Mr Ong Pang Chan (Head, Strategic Programs) at 63329014 or Ong_Pang_Chan@nrf.gov.sg
5.4 Tan Chin Tuan Academic Exchange Fellowship

The Nanyang Technological University (NTU) has set up the Tan Chin Tuan Academic Exchange Fellowship in Engineering Programme from a fund provided by The Tan Chin Tuan Foundation to facilitate the exchange of full-time academic staff between NTU and renowned overseas universities and research centres. This is part of the University's ongoing efforts in fostering academic and research collaborations between the University and renowned overseas institutions, and enriching the academic content and culture of the University.

Eligibility

Participants must be full-time staff of a university or research centre. They must already be actively involved in research activities in an engineering discipline. For NTU applicants, they must be full-time faculty staff. Preference will be given to those who are Singapore Citizens or Singapore Permanent Residents.

Terms & Conditions

1. Participants in this programme will be called Tan Chin Tuan Fellows. During their attachment, the Tan Chin Tuan Fellows will be primarily involved in research, including working on joint R&D projects with academics and researchers from the host university. Where appropriate, they may also be involved in teaching or conducting seminars in their field of expertise at the University or public level.

2. The period of attachment may range from 1 to 3 months.

3. The Fellowship will provide for an economy class return airfare by the most economical and direct route, and a monthly stipend of $4,000.

Selection Criteria

The Exchange Fellow will be selected on the basis of good research capability, the merit of the proposed attachment and the potential for research collaboration between NTU and the overseas institution concerned. Applications received will be considered by a Selection Committee set up in NTU.

Application Procedures

1. Application must be made using the prescribed form PER/12A/97.

2. Application forms must be submitted by the stipulated due date.

3. Existing faculty are to submit their applications to the Office of Human Resources through their Heads of Divisions/Chair of the Schools.
5.5 National Medical Research Council (NMRC) Medical Research Fellowship/ Scientist Award Exercise

The NMRC Medical Research Fellowship and Scientist Award are awarded to outstanding and talented researchers who desire to receive training in their areas of interest or to pursue an MSc and PhD in health and medical research in leading local or overseas institutions.

Eligibility

The NMRC Medical Research Fellowship/ Scientist Award is open to medical doctors and research scientists.

Application Procedures

An Application Package should include:
- Duly completed Application Form
- Abstract of Research Proposal
- Letter of Recommendation from Head of Department
- Letter of Undertaking from Proposed Supervisor
- Letter of Appointment/ Employment Contract and Remuneration Package
- Documents for Fees Structure (if applicable)
- Copy of Identity Card

School administrators are to submit to RSO:

- 1 original hardcopy double-sided (Items i-vii) attached with a summary table *(Template as attached)* AND
- 1 CD containing the softcopy (Items i-iv) of the Application Package with the summary table to Office of Research by the stated deadline.

Queries can be submitted to RSO-NMRC queries.
5.6 Neptune Orient Lines (NOL) Fellowship Programme

The NOL Fellowship, an initiative by Neptune Orient Lines Ltd and NUS, aims to develop a first-rate research programme on important global transportation, cargo and supply chain & logistics issues.

The Programme will support research initiatives from universities in Singapore, collaborative efforts between them, and leading universities abroad. Funding will be available for research projects, lectures, conferences and short-term appointments of professors and research or industry fellows.

The research themes of the programme include:
• Supply Chain Management (SCM)
• Transportation, Logistics Infrastructure and Systems.
• Transportation and Logistics Information Technology

Application Procedures

One original and duplicate hardcopy of the research proposal should be submitted to RSO, accompanied by a CD-ROM of the soft copy of all the research proposals in PDF format and the summary list in Excel format.

All queries can be directed through the School Administrators of each School, to the RSO-External Grant Queries mailbox.

• A Call for Proposals is issued once a year in April.
• Researchers should contact the research office of their respective Universities for a copy of the Notes and Guidelines for Proposal and Budget Preparation before they start drafting their research proposals.
• The proposals should be submitted through RSO to the NOL Fellowship Secretariat
• Researchers of shortlisted proposals will be required to make a 10-minutes presentation to the NOLF Governing Board. Presentations will be scheduled sometime between September-October.
• The NOLF Governing Board will be the final adjudicators. Successful applicants will be notified by November 2007.

Pointers

1. PIs are to obtain their HOD’s and Chair of School’s endorsement and comments (where applicable). Any proposal without the endorsement form attached would be regarded as incomplete, and would be returned to the School;
2. School Administrators are requested to submit a summary list of all the proposals submitted by the School after the information has been verified. The School Administrator is to submit a signed copy of the summary list by the stipulated deadline;
3. Indirect costs are not applicable for this grant call;
4. PIs are to apply GST rate of 7% when preparing the required budget;
5. Quotations are to be attached where applicable;
6. C.V.s of PIs and all researchers and collaborators must be submitted with the application form.
Evaluation Criteria

Proposals will be assessed based on academic merit, industry relevance and impact.

Award Process

FLOW CHART FOR SUBMISSION OF RESEARCH PROPOSALS FOR NOL FELLOWSHIP FUNDING

Principal Investigator (PI) submits research proposal through respective Head of Unit and Director of Research to NOL Fellowship Secretariat

NOL Secretariat arranges for referee reviews by 3 members for each proposals

Technical Committee (TC) evaluates proposals and submits recommendations to Governing Board

Proposal recommended

Yes

Proposed supported

Yes

NOL Fellowship Secretariat

forms PI of outcome

Governing Board reviews proposal and recommendations

Proposal supported

No

NOL Fellowship Secretariat

forms PI of outcome

Governing Board gives final approval

NOL Fellowship Secretariat sends grant award letter to PI copy to Chairman, NOL Fellowship Governing Board, Chairman, NOL Fellowship TC, Director of Research/Hosting University, Director of Research/NUS

PI, Collaborators and relevant authorities sign Form of Acceptance and forward to NOL Fellowship Secretariat

PI sends fund request along with progress report and statement of fund usage to NOL Fellowship Secretariat. NOL Fellowship Secretariat informs Office of Finance, NUS to disburse fund to the Department of Hosting University of PI
5.7 Young Defence Scientists Programme (YDSP)

The Young Defence Scientists Programme (YDSP) is an initiative managed by the Defence Science and Technology Agency (DSTA) and its key partner, DSO National Laboratories (DSO), to promote greater interest in defence science and technology amongst students in both secondary schools and junior colleges.

Established in 1992, the YDSP provides the students with invaluable insights into the challenging work being done in the Defence Technology Community*, thus promoting the significance of defence science and technology.

To spur the interest of students from various age groups, DSTA together with DSO National Laboratories regularly organise a wide spectrum of activities and programmes for these students.

**Timeline**

The attachment cycle based on YDSP 2007 is as follows:

**Late June/July**  Request for projects

**August**  Receipt of projects and allocation of projects to schools

Identification of Co-Mentors

**September**  Scheduling of project work between Mentors and Co-Mentors

Interview and confirmation of students

Soft launch

**1 October**  Official Commencement

**December**  End of Research@YDSP

Pre-selected and pre-allocated projects should cover all areas of topics if possible (depending on the projects provided by Partners) to each school for students' selection.

A fixed number of projects should be allocated to each school for bidding system within the school where each student is restricted to apply for a maximum of 2 projects

Selection of students and submission of applicants' details by schools:

- Mentors to choose from the pool of students (from the same school) who bid for their project (interview upon request)
- Each project is assign to students from the same school

In August/September, we will invite Mentors and Co-Mentors to get together to discuss on the scheduling of project work and to agree on a schedule of interaction with the students who will be attached to them. These schedules of work and interaction will ensure that the students get a better understanding
of what they are expected to achieve at each stage of the project and also to ensure that they have sufficient opportunities to interact with the Mentors and Co-Mentors.

In order to improve students' commitment during their 3-month attachment, YDSP Office will implement the following for Research@YDSP 2007:

- YDSP Office will present a Certificate of Participation to the student if he/she has committed at least 75% of efforts in their projects
- Communicate the importance of the students’ commitment to the schools as well as to inform the schools that the students will be rated at the end of the attachment by the Mentors

Application Procedures

Each mentor should host at least 2 students for each project. If any of the projects proposed has a certain level of sensitivity, make a special note on the project proposal form.

If more than 2 students in each school bid for the same project, the YDSP Office will shortlist 3 - 5 students and allow mentors to interview and select the most suitable students.

The selection criteria for students to participate in Research@YDSP, comprising of excellent academics and CCA records, along with notable teachers' recommendations, have been made known to the schools ahead. Upon nomination, YDSP Office will undertake a screening and selection process to ensure that the right calibre of students will be selected for the programme.
5.8 DSTA-NTU Strategic Research Fellowship Scheme

The scheme is to attract outstanding Post Doctoral Fellows (PDF) and good PhD graduates of very good universities in the world, regardless of citizenship, to undertake MINDEF/DSTA/DSO-NTU collaborative research and development work.

The scheme is open to PDFs and good PhD graduates of all nationalities. The cost of employing the PDFs under this scheme would be co-funded by both MINDEF/DSTA/DSO (from the contract funding) and NTU. The number of postdoctoral research fellows will depend on the requirements of MINDEF/DSTA/DSO's projects contracted to NTU. Both MINDEF/DSTA and NTU must agree on the number of postdoctoral fellows to be employed in each collaboration project.

The duration of employment will be a maximum of 3 years subjected to satisfactory performance. A subsequent term is renewable if both DSTA and NTU are satisfied with the progress.

Eligibility

The scheme is applicable to only Joint Collaborative Projects between MINDEF/DSTA/DSO and NTU.

Funding

A monthly salary ranging from $3,500 to $4,500 with other benefits such as Central Provident Fund (CPF) contributions, medical benefits, overseas conference trip grant and annual performance bonus.

Application Procedures

MINDEF/DSTA/DSO Project Investigators (PIs) and NTU researchers will jointly discuss the new projects or collaborations together.

The MINDEF/DSTA/DSO PIs must seek internal approval for requirement to employ the PDFs and also ensure that appropriate project funding has been catered for to support the co-funding of the PDFs required. The NTU researcher must seek NTU’s internal approval on the co-funding of PDFs.

The responsibilities of selecting the right candidates will be left to the discretion of the NTU and their MINDEF/DSTA/DSO counterparts. Both NTU and MINDEF/DSTA/DSO PIs are required to complete the Research Scholarship Top-Up Form. The completed and endorsed form should be sent to Office of Research, NTU and a copy to the Secretary, MINDEF-NTU Joint Collaboration Programme.

Once the contract is signed, the MINDEF/DSTA/DSO PI would transfer the necessary funding for one year's salary to NTU Office of Finance. The Office of Finance would be responsible for the disbursement of the salary to the PDF. MINDEF/DSTA/DSO PI may suggest alternative arrangements.
General Enquiries
Please contact:
Mr Lawrence Low, Secretary
MINDEF/DSTA-NUS/NTU Joint Collaborative Programmes
c/o Ecosystem Development Office
Defence Science and Technology Agency (DSTA)
Tel +65-68795070
Fax +65-68721652
Email: lkimlen1@dsta.gov.sg
5.9 DSTA-NTU Strategic Research Scholarship Top-up Scheme
(http://www.ntu.edu.sg/temasek-labs/)

This scheme is to attract PhD candidates as high quality manpower to undertake MINDEF/DSTA-University joint collaborative research and development work.

Eligibility

The scheme is applicable to only Joint Collaborative Projects between MINDEF/DSTA/DSO and NTU. Candidates need to satisfy the criteria for NTU's Research Scholarship. Preference will be given to Singaporeans and Singapore Permanent Residents (PRs).

The scheme is open to PhD students who have either obtained at least 2nd Upper Honours or converting from accelerated masters programme to PhD programme. The candidate also needs to satisfy the criteria for NTU Research Scholarship.

There are no bonds imposed.

The duration will be 3 years subjected to satisfactory performance. Extension may be provided if the collaborative project requires extension.

Funding

Monthly top-up of up to $800 with no bond imposed.

Application Procedures

Both MINDEF/DSTA/DSO Project Investigators (PIs) and NTU researchers must seek internal approval for employing NTU PhD RS. The MINDEF/DSTA/DSO PI must ensure that the funding for the top up has been catered for from the project funding.

The approval of candidates will be done by NTU. The selection of the right candidates is the responsibility of both the NTU researchers and their MINDEF/DSTA/DSO counterparts. Approval for the candidates will be done through the Research Scholarship Top-Up Form.

General Enquiries

Please contact:

Mr Lawrence Low, Secretary
MINDEF/DSTA-NUS/NTU Joint Collaborative Programmes
c/o Ecosystem Development Office
Defence Science and Technology Agency (DSTA)
Tel +65-68795070
Fax +65-68721652
Email: lkimlen1@dsta.gov.sg
6. Indirect Costs

Indirect research costs (IRC) or otherwise known as overhead charges are expenditure not identified as part of qualifying direct costs.

As part of the University’s Policy on Research Collaboration, a fifteen percent overhead charge or IRC will apply to all research projects to take into account the overhead costs in providing the facilities and resources to carry out research at the University. The overhead charge or IRC shall be distributed in the following ratio:

University (50%): School(s) (50%)

The overhead charge or IRC will be imposed on all direct cash funding received from the external party.

The overhead charge does not apply to unrestricted or outright grants or to government grants that do not allow such overhead charges or IRC unless specifically allowed by the awarding institutions.

Below is a summary of the indirect costs to be recovered:

<table>
<thead>
<tr>
<th>Agency/ Funding</th>
<th>Overhead charges/ IRC</th>
</tr>
</thead>
<tbody>
<tr>
<td>A*Star Grants</td>
<td>Not applicable</td>
</tr>
<tr>
<td>MoE AcRF Tier 1</td>
<td>Not applicable</td>
</tr>
<tr>
<td>MoE AcRF Tier 2</td>
<td>20% wef projects approved in FY 2007 onwards</td>
</tr>
<tr>
<td>NRF</td>
<td>20%</td>
</tr>
<tr>
<td>NMRC</td>
<td>20% (wef May 2007)</td>
</tr>
<tr>
<td>External collaborations</td>
<td>15% (align with general University’s policy)</td>
</tr>
</tbody>
</table>

**MoE AcRF Tier 2**

For MoE AcRF Tier 2 funding, the University will recoup 20% of the total qualifying costs (less exceptional items) as IRC, for each new AcRF Tier 2 projects approved with effect from FY 2007. The total qualifying direct costs refer to the costs of new items approved for funding in the AcRF Tier 2 grant excluding the following exceptional items:

a. Equipment costing more than $100,000;
b. Intellectual property that is needed to carry out the proposed R&D work;
c. Subcontracting of non-research work (e.g. the development of tools for the research);
d. Payment to volunteers and research patients;
e. Infrastructural work that is approved(following strong justifications) as a direct cost of the research grant; and
f. Research scholarship funding for AcRF Tier 2 research scholars.
**NRF**

NRF will provide for IRC up to 20% of the total qualifying direct costs (less Exceptional Items) only to Singapore-based Institutes of Higher Learning and not-for-profit entities.

Indirect costs are meant to defray costs for administration (e.g., personnel, finance, IT, library, etc.), space, utilities and other operating costs incurred by an R&D organization in support of the funded project activities.

In the computation of the IRC, exceptional items are excluded. Exceptional items include:

a. Major equipment costing more than $100,000;
b. Intellectual property that is needed to carry out the proposed R&D work;
c. Subcontracting of non-research work (e.g. the development of tools for the research);
d. Payment to volunteers and research patients;
e. Infrastructural work that is approved (following strong justifications) as a direct cost of the research grant;
f. Intellectual property (For R&D on IDM in Education).

The IRC will be budgeted automatically by RITA.

**NMRC**

From May 07, NMRC will provide overheads support (20% of the project cost) will be given for the New IRG grants as this would help the institutions to defray their indirect costs of supporting research and hence provide a greater incentive for institutions to support their researchers in turn.

IRC are only given to the following Institutions:
- Local and public not-for-profit hospitals and research laboratories;
- Local and public Institutes for Higher Learning.

In the computation of the IRC, exceptional items are excluded. Exceptional items include:

g. Major equipment costing more than $100,000;
h. Intellectual property that is needed to carry out the proposed R&D work;
i. Subcontracting of non-research work (e.g. the development of tools for the research);
j. Payment to volunteers and research patients;
k. Infrastructural work that is approved (following strong justifications) as a direct cost of the research grant.
l. IBG, EG and ED grants are not included in the computation of the IRC.

The IRC will be disbursed to the Institutions as per normal disbursement. Computation of the IRC will be done by the NMRC based on the claims submitted by the Institutions. The amount of IRC to be disbursed is as followed: IRC = [Total claims – exceptional items] * 20%
External Collaborations

External collaborations refer to collaborations with companies and institutions that are not part of government agencies and institutions. Under the University’s policy, the inclusion of the 15% overhead charges or IRC on total cash funding received is mandatory. A request for waiver of the IRC will required Provost’s approval on a case-by-case basis.
7. Ethics

7.1 Ethics Approval

Nanyang Technological University (NTU) has established policies and procedures and created structures to foster a proper research environment, to support and monitor research activities, and to deal effectively with misconduct in research. Grants which touched on the following areas will need to obtain ethics approval:

- Experiments and/or clinical treatment of human subjects
- Experiments and/or clinical treatment of animals

In general, the PI should obtain approval from NTU Bioethics Review Committee and NTU Institutional Animal Care and Use Committee if his/her awarded proposal involves experiments with human subjects/animals. If RSO is informed of the awarded projects in advance, the necessary documents will be forwarded to the NTU Bioethics Review Committee for approval.

The documents to be submitted are the original checklist, one hard copy of the proposal and one soft copy. The PI will be responsible for informing the funding body once approval has been granted by the NTU Bioethics Review Committee.

7.2 NTU Bioethics Review Committee (BERC)

NTU Bioethics Review Committee (BERC), chaired by Prof Lee Sing Kong from National Institute of Education (NIE), review work on human subjects, stem cells etc. The Bioethics Review Committee follows strictly the guidelines laid down by the Bioethics Advisory Committee (http://www.bioethics-singapore.org/), Singapore.

Workflow for Ethical Review of Project Proposals by NTU Bioethics Review Committee

1. The PIs will submit their project proposals to funding agencies through Research Support Office.
2. The funding agencies will then proceed with the scientific review.
3. The funding agencies will inform PIs should their proposals clear the first round of scientific review for funding consideration. It will be the PIs’ responsibility to seek ethics approval from the BERC and subsequently submit the ethics approval to the respective funding agencies.
4. In seeking ethics approval from the BERC, the PIs will need to submit both the hard-and softcopies of their project proposals and the completed “Checklist for Ethics Approval Form” to the BERC.
5. The BERC will be given up to 3 months to review proposals.
6. The BERC will inform PIs on the approval and amendment to protocol, if any.
7. The PIs will need to submit ethics approval and updated protocol (if any) to the respective funding agencies before funding is finally approved.
**Guidelines for Ethical Review**

The following guidelines are adopted by the BERC in its review of applications:

1. If data or experimental materials are from human subjects, informed consent from the latter has to be obtained;

2. The Committee has to be satisfied that biosafety concerns are adequately met;

3. The humane treatment of animals, including their disposal following standard laboratory protocols. All projects involving animals will have to be cleared with the NTU Institutional Animal Care and Use Committee (IACUC).

4. If the project involves extra-territorial collaborations, the onus is on the Principal Investigator (PI) to ensure that all local ethical rules where the experiments are to be carried out are met. In the absence of local ethical rules, the PI must undertake to meet the minimal internationally accepted ethical guidelines, including:

   a. Informed consent from human subjects
   b. Humane treatment of animals, including their disposal following internationally accepted laboratory protocols

The PI should attach a copy of the ethics approval from the local ethics committee where the experiments are to be carried out; or an undertaking that the minimal internationally accepted ethical guidelines will be adhered to, in the absence of a local ethical committee.

**7.3 NTU Institutional Animal Care and Use Committee**

NTU has formed an Institutional Animal Care and Use Committee (IACUC), chaired by Prof Alex Law Sai-Kit (Associate Chair-Biological Sciences (Research), Tel: +65-63162813) from the School of Biological Sciences (SBS). For the research purposes care and use of animals, the University is following National Advisory Committee for Laboratory Animal Research (NACLAR) of Singapore’s guiding principles, which are mandatory locally. NACLAR guidelines set out international standards of care and use of animals for scientific purposes as NACLAR guidelines bench mark is USDA (United State Department of Agriculture) guidelines for care and use of animals for scientific purposes. The NACLAR Guidelines on the Care and Use of Animals for Scientific Purposes and the following forms are as follows:

- Application for Animal Ethics Review by the NTU’s IACUC
- Application for Animal Ethics Review by the NTU’s IACUC – Proposed Modifications to Existing Study Protocol
- PI Proposals Approval Process by NTU’s IACUC
- Application Procedure for Animal Research Facility – SBS/NIE
- Animals Maintenance Charges
- Animals Termination Form
- Control Drugs/Article or Consumable Charge
**7.4 NTU Biosafety Level 3 Committee**

NTU has formed a BSL3 Biosafety Committee, chaired by Prof James Tam (Chair-Biological Sciences, Tel: +65- 63162822) from the School of Biological Sciences (SBS). The Biosafety Committee (BC) is required by law to review and approve all activities or proposed activities within the BSL3 facility.

The Nanyang Technological University School of Biological Sciences Biosafety Level 3 (NTU-SBS BSL3) facility is specifically designed for research involving biological materials of potential hazard. The primary purpose of biohazard containment is to minimize exposures of laboratory personnel and the outside environment to potentially hazardous agents.

All research programmes that require the use of the BSL3 facility are required to submit an application to the Biosafety Committee (BC) for approval before work can commence. The Principal Investigator (PI) is responsible for completion and submission of the following forms:

- Notice of Intent to work with a Hazardous Biological Agent or Toxic Material (BSL3/04)
- Authorization for Entry into NTU-SBS BSL3 Laboratory (BSL3/05)
  


Other Information is available at [http://www.biosafety.moh.gov.sg](http://www.biosafety.moh.gov.sg):

- Biological Agents and Toxins Act (BATA)
- List of Biological Agents And Toxins Under Control
- Regulations, Circulars, etc.
- WHO Laboratory Biosafety Manual

**7.5 Requirements for Research on Genetically Modified Organisms (GMO)**

Research on Genetic Manipulation must adhere to guidelines issued by the Genetic Modification Advisory Committee (GMAC). Those guidelines cover experiments that involve the construction and/or propagation of all biological entities (cells, organisms, prions, viroids or viruses) which have been made by genetic manipulation and are of a novel genotype and which are unlikely to occur naturally, or which could cause public health or environmental hazards. For a summary of the guidelines, please click [here](http://www.biosafety.moh.gov.sg).

Three categories of experiments exist:

- Category A – Regulated Experiments with significant risks which require Institutional Biosafety Committee (IBC) approval and GMAC notification prior to commencement of work
• Category B – Notifiable Experiments with low risks which require IBC approval prior to commencement of work
• Category C – Experiments with no significant risks which are exempted from the guidelines. The IBC shall assess and determine the appropriate categorization status

Researchers who want to conduct experiments with GMO should submit all proposals (including category C projects) to the IBC for approval. The experiments which fall into Categories A and B are to be forwarded to the GMAC with the IBC’s assessments.

Proposals shall include:
  a. Project protocols in details
  b. Completed GMAC proposal form (Please click here for form)
  c. Completed application form for IBC approval for GMO (Please click here for form)
  d. Risk Assessments conducted by the laboratory personnel and the PI. (SBS LAB RA form)

The Singapore Biosafety Guidelines for Research on Genetically Modified Organisms (GMO) is available at www.gmac.gov.sg.
### Research Support Office
Block N2.1, #B4-01
76 Nanyang Drive
Singapore 637331
Tel: 67905637
Fax: 67932019

Prof Lam Khin Yong  
Interim Director  
Associate Provost, Graduate Educations & Special Projects

Assoc Prof Tjin Swee Chuan  
Assistant Director

Ms Valerie Loh Wai Kuan  
Manager

Ms Yennie Kadarusman  
Assistant Manager

Ms Ketut Nita Santoso

Ms Frances Tang

Ms Jesmine Yeo

Ms Jane Ang Yi Ling

Ms Joanne Liang Mingzhu

### Outlook Display Name

<table>
<thead>
<tr>
<th>Display Name</th>
<th>Queries</th>
</tr>
</thead>
<tbody>
<tr>
<td>RSO-SUGqueries</td>
<td>Queries related to SUG</td>
</tr>
<tr>
<td>RSO-AcRFTier1queries</td>
<td>Queries related to AcRF Tier 1: grant calls, progress reports, completed reports, extension of time, virement</td>
</tr>
<tr>
<td>RSO-AcRFTier2queries</td>
<td>Queries related to AcRF Tier 2: grant calls, progress and completed reports, extension of time, virement</td>
</tr>
<tr>
<td>RSO-MOEqueries</td>
<td>Queries pertaining to half-yearly reports, MoE appraisal report &amp; other MoE matters (excluding SUG, AcRF Tiers 1 &amp; 2)</td>
</tr>
<tr>
<td>RSO-ASTARqueries</td>
<td>Queries related to A*STAR</td>
</tr>
<tr>
<td>RSO-NMRCqueries</td>
<td>Queries related to NMRC</td>
</tr>
<tr>
<td>RSO-EWIqueries</td>
<td>Queries related to EWI</td>
</tr>
</tbody>
</table>