TL@NTU SEED RESEARCH PROJECT CALL FOR PROPOSAL

This is a call for proposals for the Seed Research Project under Temasek Laboratories at Nanyang Technological University (TL@NTU) to take advantage of emerging opportunities from recent scientific advances. The primary considerations in funding the seed research projects are novelty, potential impact and relevance in defence applications. The work may include conducting technology scanning, literature search and preliminary research, building computer model and/or physical proof-of-concept prototype, collecting data and studying the feasibility of technical ideas.

Possible research areas are:

a. Hardware Assurance
   - Blockchain technology for establishing trust in IoT and embedded systems in defence systems;
   - Techniques for hardware vulnerability research on detection, analysis, efficiency, effectiveness and flexibility in scaling up to various types of devices.

b. Advanced and Protective Materials
   - Piezoelectric materials/device design & tests for high voltage power output;
   - Advanced functional gradient metal ceramic composites;
   - Brazing for ceramics/metal bonding;
   - 3D printing cellular ceramics.

c. Communication System And Signal Processing for practical sampling schemes for radio receiver
   - High Dynamic Range Wideband Signal Reception;
   - Sub-Nyquist Schemes that mitigates noise folding;

Applicants are allowed to initiate collaborative research project with professors or researchers in NTU, or other universities and research institutes. The research project may involve graduate and undergraduate students if applicable.
Eligibility

1. Open to faculty in NTU and TL researchers. The research work of the seed project shall be carried out in NTU.

Funding

2. The small-scale internally funded seed research project is typically up to S$100,000. It may include manpower cost, direct expenses such as equipment, materials and facility charges.

Duration

3. The seed research project is generally for a period up to 12 months, exceptions may be made for special circumstances. The project must commence within one (1) month upon accepting the award. Failing to do so may result in the award being rescinded.

Submission Process

4. Please submit the completed proposal (Using the template provided) electronically by 15 December 2018. Late or incomplete applications will not be considered.

Evaluation Process

5. The Director of TL@NTU, or a designated committee appointed by the Director, will review the proposals received, subjected to endorsement by the Future Systems and Technology Directorate, Ministry of Defence (FSTD, MINDEF). Proposals will be evaluated based on novelty, potential impact on defence technology and application, rigour of approach and potential for the research to provide a basis for further funding from MINDEF. The decision from the evaluation committee will be final.
Schedules for TL@NTU Seed Research Project Call for Proposals

<table>
<thead>
<tr>
<th>Call Status</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Call for Proposal</td>
<td>1 November 2018</td>
</tr>
<tr>
<td>Submission of Proposal</td>
<td>By 15 December 2018</td>
</tr>
<tr>
<td>Notification of Award</td>
<td>1st February 2019</td>
</tr>
<tr>
<td>Project Start Date</td>
<td>1st March 2019</td>
</tr>
</tbody>
</table>

If you have any questions pertaining to the call for proposal, please email to TLadmin@ntu.edu.sg.
Further Information on the administration of the awarded project

a. A TL@NTU representative will be appointed to oversee the progress of the project. The TL@NTU representative shall be notified at least 14 days in advance and clearance from the TL@NTU representative must be obtained before the project team may submit publications linked to the project to any editors, journals, seminars, public talks, teaching materials, publicity and the like.

b. The project shall be governed by the terms and conditions of the DSTA-NTU Master Agreement (POD0713727) and the Seed Research Program Agreements (PA No 9017103024) signed between DSTA and TL@NTU where applicable.

c. Equipment acquired using the project fund shall belong to TL@NTU.

d. Progress Reporting - at six monthly intervals from the project, the project team shall submit a detailed progress report and conduct a technical presentation in TL@NTU.

e. Final Report - by the completion date of the project, a final research report shall be submitted to TL@NTU. This shall cover the research and design methodologies, models & prototypes, algorithms & codes, measurement and test results, follow-on research and direction. If necessary, a final technical presentation is to be conducted to provide a comprehensive update on the research findings and outcome of the project.