

PRESS RELEASE

25 June 2010

NRF CALLS FOR PROPOSALS FOR HIGH IMPACT RESEARCH PROJECTS UNDER THE COMPETITIVE RESEARCH PROGRAMME

- Call for proposals opens on 25 June 2010 for high impact scientific research projects under NRF's Competitive Research Programme (CRP) Funding Scheme
- An international scientific panel convened by NRF to review research supported by CRP grants was impressed with the quality of research carried out

1. The National Research Foundation (NRF) invites submissions of research proposals for the 6th CRP call from today until 5 August 2010.

2. The CRP Funding Scheme offers substantial funding support of up to S\$10 million per proposal, over three to five years. The grant funds a broad base of research programmes through a competitive bottom-up (investigator-led) approach, with submissions assessed via international scientific reviews. Through the scheme, NRF supports proposals that could help develop core capabilities for new industries of the future for Singapore (see **Annex A** for a description of the CRP Funding Scheme).

Launch of 6th CRP call

3. This 6th CRP Call for Proposals is open to all areas of science and technology. Multi-disciplinary research is strongly encouraged as is partnership between industry and academia.

4. Interested applicants are invited to submit a *White Paper* of up to five pages describing their research proposal and objectives as well as expected outcomes by **5 August 2010**. NRF will be assisted by a Local Evaluation Panel (LEP) to shortlist promising White Papers to be developed into *Full Proposals*, which would then be put through an international peer review process. NRF's International Evaluation Panel (IEP), chaired by Dr Rita Colwell, former Director, National Science Foundation, USA will convene in January 2011 and recommend outstanding proposals to NRF for funding support. Proposals will be evaluated on research excellence, manpower development potential, economic impact and industry relevance.

5. Submission of *White Papers must be* made at NRF's Research Portal – the Research, Innovation and Technology Administration system or RITA at <https://rita.nrf.gov.sg>.

6. The CRP was closed after achieving its target of five calls in July 2009. However, NRF has now decided to continue with the programme until the end of the 5-year plan after an international panel of scientific experts (see **Annex B**) convened to review the projects strongly recommended to do so.

7. After reviewing the progress of ten projects that were approved during the first two grant calls in November 2007 and June 2008, panel members were highly impressed with the high quality research carried out by recipients of the grant. They considered several projects to be of world class quality, with discoveries that have high potential impact to the industry and society. For example, the project 'Graphene Related Materials and Devices' by Associate Professor Loh Kian Ping from NUS, reported the first room temperature chemical synthesis of carbon nano-tubes in liquid and demonstrated the use of graphene and its derivatives as optical elements in lasers. The successful outcome from this research could lead to the creation of novel energy storage materials like lithium intercalated graphene batteries, electrochemical double layer storage capacitor or as new molecules which could be applied in solar cells. The progress in this project demonstrated very well the impact of combining good science and good engineering approaches to solve real problems in the industry.

8. Another CRP project which clearly demonstrated the excellent collaboration and partnership between academia and industry was led by Associate Professor Markus Wenk of NUS, who headed a Lipidomics research programme which attracted great interest from industry. The programme reported the generation of the first antibodies against oxidized lipids, which could be used to detect various diseases including neurodegenerative and autoimmune diseases. The team had 12 Non Disclosure Agreements (NDA), seven Research Collaboration Agreements (RCAs), two Contract Research (CR) and five Material Transfer Agreements (MTAs) with industry and venture capitalists.

9. Panel Chair Dr Rita Colwell, Distinguished University Professor at the University of Maryland College Park and a member of NRF's Scientific Advisory Board, said: "High quality research carried out under the CRP scheme would not only establish Singapore as a place for world class R&D, it would also accrue tremendous benefits to Singapore by addressing problems relevant to the country, which are also important challenges at the global level".

10. Dr Francis Yeoh, NRF's Chief Executive Officer, said: "Singapore takes a long term holistic approach in our R&D investment. Through NRF's suite of programmes and initiatives, we aim to support multidisciplinary R&D capable of developing high impact science that would allow Singapore to establish a leadership position in the world and lead to the growth of new industry sectors".

The National Research Foundation (NRF)

The National Research Foundation (NRF), set up on 1 January 2006, is a department within the Prime Minister's Office.

The NRF sets the national direction for research and development (R&D) by developing policies, plans and strategies for research, innovation and enterprise, funds strategic initiatives, builds up R&D capabilities and capacities through nurturing our own and attracting foreign talent, and coordinates the research agenda of different agencies to transform Singapore into a knowledge-intensive, innovative and entrepreneurial economy. It provides secretariat support to the Research, Innovation and Enterprise Council (RIEC), chaired by the Prime Minister. A five-year budget of S\$5 billion has been allocated to the NRF in 2006 to achieve this mission.

The NRF aims to:

- Transform Singapore into a vibrant R&D hub that contributes towards a knowledge-intensive, innovative and entrepreneurial economy; and
- Make Singapore a talent magnet for scientific and innovation excellence.

For more information, please visit www.nrf.gov.sg.

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NRF's Competitive Research Programme Funding Scheme

The National Research Foundation's Competitive Research Programme (CRP) Funding Scheme complements the existing Strategic Research Programmes that have been identified top-down, by funding a broad base of research ideas, through a competitive bottom-up approach. This will help to identify new potential strategic research areas in which Singapore can invest to develop core capabilities for new industries of the future.

The CRP Funding Scheme will support R&D programmes, each comprising multiple related projects under a unifying theme. Each award is for a maximum of S\$10 million per programme, over three to five years. There are expected to be two rounds of grant calls each year.

While the CRP Funding Scheme is open to all areas of science and technology, preference will be given to areas that fall outside of existing NRF Strategic Research Programmes, such as the Biomedical Sciences Translational and Clinical Research (BMS TCR), Environmental and Water Technologies (EWT) and Interactive and Digital Media (IDM).

Open to both public and private sector participants, the CRP Funding Scheme aims to encourage collaboration and partnerships between academia and industry. By funding at the programme level, a more coordinated and integrated support of high impact interdisciplinary research is possible as a larger budget can be allocated to fund a number of related projects to address a given problem.

The CRP Funding Scheme involves two types of calls: General and Scenario-based calls.

Overview of General and Scenario-based CRP

General CRP

The General CRP allows the Principal Investigators (PIs) to surface any new area of research with potential economic and societal benefits for Singapore through a bottom-up approach. Calls for the General CRP will be held annually. Each proposal should be submitted by a Lead PI, who is expected to be actively involved in the overall management of the programme and who will be accountable for the research and its deliverables.

CRP proposals are expected to have the following:

- i. High quality cutting-edge science;
- ii. High likelihood of building up research infrastructure and capabilities in Singapore;
- iii. Competent team consisting of members with credible track records;
- iv. Excellent execution of individual projects within the supported programme; and
- v. High potential to generate economic and societal benefits to Singapore by creating new industries or advancing existing industries.

Scenario-based CRP

The Scenario-based approach to identifying research programmes complements the General CRP scheme. The Scenario-based CRP aims to support R&D programmes that are use-inspired and able to produce technical breakthroughs to address big challenges and opportunities for Singapore.

In each Scenario-based call, NRF will articulate a future scenario that offers a major challenge or opportunity for Singapore. The research community will be invited to submit proposals for research programmes that will address key scientific and technological challenges presented by the given scenario.

In addition to the basic criteria for General CRP proposals, Scenario-based CRP proposals will also be evaluated on the following:

- i. Extent to which the proposed R&D programme address the challenges or opportunities posed by the given scenario;
- ii. Relevance and importance of the proposed R&D programme in terms of the economic, technological, social and environmental impact on Singapore; and
- iii. Quality of the proposed R&D programme, compared to similar international efforts elsewhere.

Eligibility

Principal Investigators from all Singapore-based institutions of higher learning (IHLs), public sector agencies and research institutions, not-for-profit hospitals and research laboratories as well as companies and company-affiliated research laboratories, are eligible to apply. Support for private sector organisations which are based in Singapore would be provided on a co-funding basis.

Only research conducted in Singapore may be funded under the CRP.

R&D proposals already funded by other Singapore agencies would not be considered under the CRP.

Evaluation of Proposals

Both the General CRP and Scenario-based CRP involve a two-stage proposal submission process. Proposals submitted will be evaluated and shortlisted by a Local Evaluation Panel in the first stage. Shortlisted submissions will be asked to be developed into full proposals and sent for international peer review. The final evaluation and selection of projects to be awarded will be made by NRF on the recommendation of the CRP International Evaluation Panel (IEP).

Applications

Calls for both the General CRP and the Scenario-based CRP are publicised on NRF's Research, Innovation and Technology Administration (RITA) system.

Interested applicants may find out more about the specific CRP calls that are open and submit their applications through the system.

For more information, please visit <https://rita.nrf.gov.sg>.

**National Research Foundation
Competitive Research Programme Funding Scheme**

International Scientific Panel	
1.	Dr Rita Colwell (Chairman of CRP Funding Scheme International Evaluation Panel) Distinguished University Professor, University of Maryland College Park and Johns Hopkins University Bloomberg School of Public Health, USA Former Director of the US National Research Foundation (concurrently NRF Scientific Advisory Board Member)
2.	Prof James Foley Professor of Computer Science & Professor of Electrical and Computer Engineering Stephen Fleming Chair in Telecommunications Georgia Institute of Technology, USA (concurrently NRF Scientific Advisory Board Member)
3.	Prof Dr Louis-François Pau Professor of Mobile Business and Media RSM Rotterdam School of Management, Erasmus University, Netherlands (concurrently NRF Scientific Advisory Board Member)
4.	Sir Richard Roberts Chief Scientific Officer, New England Biolabs, USA Nobel Laureate in Medicine (1993)
5.	Mr Thomas Stagnaro President and Chief Executive Officer Americas Biotech Distributor, USA
6.	Mr Peter Tan Managing Partner JP Asia Capital Partner, Singapore
7.	Dr Richard Yen Founder and Managing Director Ednovation Pte Ltd, Singapore
8.	Dr Hal Broderon Founder and Managing Director, Rock Hill Ventures, USA
9.	Sir Richard Friend Cavendish Professor of Physics, University of Cambridge, UK (concurrently NRF Scientific Advisory Board Member)
10.	Dr Andrew Ouderkirk Corporate Scientist, 3M Singapore (concurrently NRF Board Member)