

18 July 2011

3rd Innovation Grant Call

SMART's Innovation Centre Awards S\$1.5 Million in Grants to Scientists
The Centre's Grant Programme Adopts the MIT Deshpande Center Model to Accelerate Good Scientific Discoveries Toward Commercialisation

Singapore – SMART Innovation Centre is awarding S\$1.5 million in grants to ten faculty research projects. Amongst the winners are scientists from local universities and research institutes including NUS, NTU, SMART and SUTD.

The list of recent recipients for the Innovation Centre's Innovation Grant award:

Innovation Grant (Faculty and Researchers Category)

"Innovation Grant" means a grant with a certain sum of money for a fixed period of time awarded by the SMART Innovation Centre to accelerate the development of certain innovations to commercialisation.

- **ING11023-BIO 3D compass navigational tool to augment laparoendoscopy (NUS)**
To develop a standalone three dimensional compass system that provides real time spatial orientation of the endoscope to aid surgeons in advancing and maneuvering during an endoscopic procedure (PI: Victor Lee).
- **ING11027-ENG Silicon-Nanocrystal-Based Anti-Reflection Coating for full-spectrum harvest silicon solar cells (NTU)**
Enhance silicon solar cell efficiency by making use of the leftover solar energy based on the Si nanocrystal (nc-Si) anti-reflective coating (ARC) developed in lab (PI: Chen Tupei).
- **ING11028-ENG Oxide nanoparticles doped hollow carbon spheres - An anode material of Lithium-ION Battery (SUTD)**
Achieving high energy density LIBs (lithium-ion batteries) by doping various metal-oxide nanostructures into a hollow core-shell carbon sphere structure (PI: Yang Hui Ying).
- **ING11031-ICT High Speed Optical Access Networks (NUS)**
A fiber-optic access network which is capable of upgrading the transmission system for internet data traffic on as-needed basis in a cost-effective manner (PI: Hoon KIM).
- **ING11032-ICT Mobile Intelligent Travel Agent (NTU)**
To develop a mobile game application and design an open mobile cloud server platform for introducing travelling services from the real world (PI: Miao Chunyan).

Ignition Grant

"Ignition Grant" means a subset of the "Innovation Grant" for grant period of not more than 12 months.

- **ING11024-BIO(IGN) Generation of autologous pericyte progenitors from peripheral blood for therapeutic angiogenesis (NUS)**
The team has developed a proprietary process to grow potential pericyte progenitors from peripheral blood in therapeutically relevant amounts (PI: Michael Raghunath).
- **ING11025-BIO(IGN) μ Magnetic Resonance Relaxometry for label-free, rapid malaria diagnosis (SMART)**
New system for sensitive, quantitative and rapid detection of parasitemia level in malaria parasites infected red blood cells (iRBCs) by means of based Magnetic Resonance Relaxometry (MRR) (PI: Peng Weng Kung).
- **ING11026-BIO(IGN) Partially biodegradable percutaneous caval valve implantation for severe tricuspid regurgitation (NUS)**
Aims to create a competent unidirectional valve in the superior and inferior vena cava. This serves to prevent high systolic pressures to be transmitted distally to the end organs, permit improved forward flow and translate into improved symptoms (PI: Edgar Tay).

- **ING11029-ENG(IGN) A Hybrid Composite Desiccant/Nano-Woven Membrane Air Dehumidifier for Warm and Humid Climates (NUS)**
To dehumidify moist air using a novel hybrid system integrating composite desiccant/nano-woven membrane (PI: Ernest Chua).
- **ING11030-ENG(IGN) Solution-Processed Conducting Polymers for Transparent Electrode of Optoelectronic Devices (NUS)**
Develop novel approaches to prepare solution-processed conducting polymer films with conductivity and transparency comparable to Indium tin oxide (ITO) (PI: Ouyang Jianyong).

For more details on funded projects, please visit:

- *Innovation Grant Recipients* - <http://web.mit.edu/smart/innovationgrant/funded-projects.html>
- *Explorer Grant Recipients* - <http://web.mit.edu/smart/explorer/funded-projects.html>

About SMART Innovation Centre

The Innovation Centre operates under the Singapore-MIT Alliance for Research and Technology (SMART) and is funded by the National Research Foundation (NRF). Its programmes and grants are available to all Universities and research centers in Singapore.

Through its INNOVATION GRANTS (up to S\$250,000) and EXPLORER GRANTS (up to \$50,000 for students), the SMART Innovation Centre enables faculty and students to pursue exciting new avenues of market-driven research and participate in programmes that will help accelerate their innovations toward commercialization.

Modeled after the successful Deshpande Center at MIT, the Innovation Centre has created a fertile environment for faculty to accelerate their innovations from the laboratory to the marketplace. In addition to grant funds, the Centre connects faculty innovators, investors, entrepreneurs and the Singapore and international business community. Through its Catalyst Programme, the Centre provides business advice, market input and IP strategy to define a go-to-market strategy for each funded project. The Centre, in a cross-campus collaboration forms qualified pre-selected teams of researchers and business students (called "i-Teams") to assist each project in plotting its business direction.

About SMART

SMART is a major new research enterprise established by the Massachusetts Institute of Technology (MIT) in partnership with the National Research Foundation (NRF) in 2007. It is the first entity in the Campus for Research Excellence and Technological Enterprise (CREATE) being developed by NRF. Serving as an intellectual hub, cutting-edge research projects in areas of interest to both Singapore and MIT are undertaken at the SMART and interdisciplinary, experimental, computational and translational research are conducted.

Five interdisciplinary research groups (IRG) have been established to date: they are BioSystems and Micromechanics (BioSym), Centre for Environmental Sensing and Modelling (CENSAM), Future Mobility (FM), Infectious Disease (ID) and Low Energy Electronic Systems (LEES). The SMART Innovation Centre, similar to MIT's Deshpande Center, has also been established to identify and nurture ideas for emerging technologies and accelerate their migration from laboratories to the marketplace.

More information about the SMART Centre can be found at <http://smart.mit.edu/home.html>.