31 January 2012

**4th Innovation Grant Call**
**SMART's Innovation Centre Awards S$1.38 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$1.38 million in grants to eight faculty research projects in NUS.

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

**Innovation Grant (Faculty and Researchers Category)**

*"Innovation Grant" means a grant up to S$250,000 for a fixed period of time awarded by the SMART Innovation Centre to accelerate the development of innovations to commercialisation.*

- **ING11033-ENG A membrane-Based Power Management and Storage Device for Hybrid Vehicles:** As a ground-breaking achievement and a continued advancement of the ignition project ING10022-ENG(IGN), the team recently invented the world's first piece of energy-storage membrane for the power management and storage system of hybrid vehicles. The light weight and long cycle life of the membrane help reduce the load and maintenance of vehicles (PI: Xie Xian Ning, NUS).

- **ING11034-ENG High efficiency, low consumption solar-powered street light:** To develop a high-efficient, low-consumption solar-powered street light. The energy is produced directly only when it is needed (PI: Thomas Reindl, NUS).

- **ING11035-BIO Isolation and purification of Trastuzumab using a MIP (molecularly imprinted particles) system:** A low cost system for purifying antibodies with a semi-continuous and a continuous approach (PI: Tong Yen Wah, NUS).

- **ING11036-BIO Development of an endovascular implant for the treatment of aortic aneurysms:** Advancement from ignition grant project no. ING10017-BIO(IGN), the team has developed a novel endovascular implant that seek to overcome the shortcomings of commercially available stent grafts in the treatment of aortic aneurysms (PI: Benjamin Chua, NUS).

- **ING11037-BIO Multi-channel FTIR for high speed spectrometry:** A Multi-Channel FT spectrometer which overcomes known limitations of conventional FT spectrometers through two groundbreaking innovations. Firstly, movable mirror elements are replaced by an arrangement of stepped, micro-fabricated mirror surfaces. Secondly, amplitude beam-splitters are removed (PI: Sascha Pierre Heussler, NUS).

**Ignition Grant**

*"Ignition Grant" means a grant up to S$50,000 for a period of not more than 12 months, to explore early commercial possibilities.*

- **ING11038-BIO(IGN) Development of paclitaxel precursor high producing strains of GRAS Bacterium Bacillus subtilis:** Aim to produce safer and more practical in pharmaceutical industry by using a Generally Recognized As Safe (GRAS, FDA designation) bacterium *Bacillus subtilis*. The high production strains will be intellectually protected as these can be used for the productions of other isoprenoids with commercial potentials (PI: Too Heng-Phon, NUS).

- **ING11039-BIO(IGN) Novel Glaucoma Drainage Device:** Glaucoma Drainage Devices (GDD) design contains novel features for the drainage tube and plate that not only reduce failure and post-operative complications, but are also easier to deploy (PI: Paul Chew, NUS).

- **ING11040-BIO(IGN) Targeted liver cancer drug delivery through sugar-functionalized nanoparticles:** To perform proof-of-concept test of a novel sugar-targeted nanoparticles drug delivery method to liver cancer using existing drug Nexavar (sorafenib) (PI: Ge Ruowen, NUS).

*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.