NUS Solar Energy Research Institute: Taking the lead in solar energy research and development
The inauguration of the new premises of the NUS Solar Energy Research Institute of Singapore (SERIS) was held on 19 November 2009. Gracing the event was Guest-of-Honour Chairman of the National Research Foundation Dr Tony Tan, as well as some 250 local and international guests from the industry, government and research sectors.

Said Dr Tan: “SERIS occupies a vanguard position in Singapore’s push towards building up strong R&D capabilities to position Singapore well as a hub for Clean Energy business activities.” He added that cities within the tropics including Manila, Jakarta, Bangkok and Kuala Lumpur would also benefit from SERIS’ research.

A research institute sponsored by the Singapore Economic Development Board and NUS, SERIS was officially launched in early 2008 by Minister of State for Trade and Industry Mr S Iswaran. The institute’s focus is on the research and development of silicon solar cells and molecules (wafer and thin-film), nano-structured solar cells, PV (solar photovoltaics) module performance analysis, solar and energy efficient buildings as well as PV systems technology.

With a S$130 million budget for the next five years, SERIS plans to employ more than 100 researchers by 2012. The institute will be expanding from its current size of more than 3,000m² to a total of approximately 5,000 m² of space by the end of this year.

“With our industry-oriented expertise, global network with leading R&D institutions and high-class technical infrastructure, SERIS is set to make Singapore an important regional hub for further research and development of solar energy in Asia,” said Chief Executive Officer of SERIS Prof Joachim Luther.

Aside from SERIS, NUS President Prof Tan Chorh Chuan noted that the University had much research expertise in the field of environmental sustainability. He cited the NUS Environmental Research Institute, the Centre for Sustainable Asian Cities as well as the Centre for Water Research and the Energy Studies Institute as examples of NUS’ research expertise in this area.
NUS announced four new appointments to the Office of the Provost, Office of the Vice President (University and Global Relations), Faculty of Arts and Social Sciences (FASS) and Faculty of Dentistry on 7 December 2009.

Prof Tan Tai Yong, Director of the Institute of South Asian Studies (ISAS) and former Dean of FASS, has taken up the position of Vice-Provost (Student Life) with effect from 1 January 2010. Assoc Prof Peter Pang, currently an Associate Professor with the NUS Department of Mathematics, has been appointed Assistant Vice President (University and Global Relations). Prof Brenda Yeoh, former FASS Vice-Dean (Research), is now heading FASS as its new Dean. Assoc Prof Grace Ong, former Head of Preventive Dentistry, helms the Faculty of Dentistry as the first female Dean in the Faculty of Dentistry’s 80 years of history.

In his capacity as Vice-Provost (Student Life), a newly-created position, Prof Tan is assisting NUS Deputy President (Academic Affairs) and Provost Prof Tan Eng Chye to oversee student matters, University Town and the Residential Colleges, the Centre for English Language Communication as well the Office of Student Affairs and the Halls of Residence. “I am working towards creating an intellectually, socially and culturally vibrant environment for our students to encourage them to learn and grow beyond the classroom. Students should find full opportunities to enlarge and enrich their learning experiences at NUS,” said Prof Tan, who continues to hold his concurrent appointment as Director of ISAS.

Speaking on his new appointment as Assistant Vice President (University and Global Relations), Assoc Prof Pang said: “NUS is one of the world’s leading global universities. It plays a leadership role in important international university alliances and is a much sought after university partner. As the world undergoes a ‘structural shift’, I believe NUS is in an excellent position to build on its strengths and further enhance its standing as a global university. I am thrilled to join the Office of the Vice President (University and Global Relations) at this critical juncture and will do my best to contribute to NUS’ global profile.”

On the direction of FASS, Prof Yeoh said the faculty would continue to build its strengths as a premier institution for education and research in the humanities, social sciences and Asian studies. She added: “We want to harness our diversity in equipping students with flexible minds and a clear sense of values in a fast-changing world, and also in building pinnacles of research excellence in areas which are meaningful and enduring.”

Regarding her vision for the Faculty of Dentistry, Assoc Prof Ong who is a specialist in periodontics, said: “I look forward to consolidating and building up research capabilities of the Faculty of Dentistry. We will continue to place a strong emphasis on nurturing oral health physicians who are ethical and socially responsible. As part of the National University Health System, the NUS Faculty of Dentistry will enhance our clinical services to serve the oral health needs of Singapore.”

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NUS and Temasek Foundation establish the English Language Training Project in Southeast Asia

NUS and Temasek Foundation Singapore jointly announced the inception of the English Language Training (ELT) programme on 4 December 2009. This is a three-year inaugural project aimed at developing a regional framework of core competencies within ASEAN for the teaching of English language for professional and business communication.

The programme was made possible by a grant of about $450,000 from the Temasek Foundation. It will be led by the NUS Centre for English Language Communication (CELC) Senior Lecturers Ms Lee Kooi Cheng and Dr T. Ruanni F. Tupas, the Project Directors of the ELT programme.

Some 65 regional English Language policy makers and university faculty will enhance their capabilities to develop teaching materials that address current gaps in contextualising the learning of English as a second or third language for business communication.

Besides NUS, six other ASEAN universities will be participating in the programme. They are the Politeknik Negeri Jember, Jawa Timur and Satya Wacana Christian University, Salatiga, from Indonesia; the University of the Philippines’ Los Baños campus and Visayas campus from the Philippines; and Cantho University and the Vietnam National University from Vietnam.

The inaugural series held from 4 to 9 December 2009 was attended by leading faculty members and policy makers from the universities. NUS CELC and the participating universities will develop a framework of competencies for ASEAN learners of English and write materials which are localised and culturally appropriate in specific contexts of learning. The initial framework would lead to three levels of competencies, namely basic, intermediate and advanced.

Up to 70 curriculum developers from the participating countries are expected to attend and join a series of workshops, visits and research in the course of the three-year project.
Residents at Punggol Town can look forward to having a cooler outdoor environment and naturally ventilated indoor spaces in the near future. The team led by Assoc Prof Wong Nyuk Hien, Department of Building at the NUS School of Design and Environment (SDE) has inked an agreement with the Housing Development Board (HDB) to optimise the design and development of a prototype for a green and sustainable township. This is the first climatic study conducted in a residential township in Singapore.

The aims of the year-long study are three-fold:

• Researchers will identify hot and cool spots in the study area with different parametric variations using the Geographical Information System software and the Screening Tool for Estate Environment Evaluation tool, a software tool developed jointly by Dr Steve Jusuf Kardinal and Assoc Prof Wong.

• The wind condition and ventilation potentials of the study area would also be looked into.

• Using a solar radiation and daylight analysis software, the research team will capture the solar radiation profile of Punggol Town. Building environmentally sustainable towns in Singapore

This study would involve a wind tunnel testing and computational fluid dynamics (CFD) simulation study.

On how the idea of conducting the climatic study at Punggol was mooted, Assoc Prof Wong said: “With rapid urbanisation, there has been a tremendous growth in population and buildings in cities. The high concentration of hard surfaces triggered many environmental issues. For example, the Urban Heat Island (UHI) effect is a phenomenon where air temperatures in densely built cities are higher than the suburban rural areas. The primary root of UHI is the rapid urbanisation, which replaces natural landscape with enormous hard surfaces such as building facades, roads and pavements in cities,” he noted.

Assoc Prof Wong said that a long term analysis of the weather data in Singapore has shown that the ambient air temperature has increased by about 1 degree Celsius over the past 20 years. “A study of the UHI effect in Singapore has also revealed that Singapore has a UHI intensity (the temperature difference between rural and urban area) of about 5 degrees Celsius. To combat such an effect, it is essential that designers should be conscious of the inter-relationship between urban design and the climatic conditions,” he said.

The ambitious research project is not without challenges. Assoc Prof noted that conducting the township-scale of CFD study required extensive computing resources and knowledge. “We have to work closely to meet with the development schedule of the Punggol waterway, so that the findings of this study are able to provide feedback to the design of Punggol,” he noted.

The researchers from the HDB Building Research Institute and NUS have a funding of close to S$960,000 from the Ministry of National Development, HDB and NUS. The research project is coordinated by SDE’s Centre for Sustainable Asian Cities. Preliminary results in developing this prototype for a green and sustainable township are expected in the middle of next year.

SUSTAINABILITY STUDY: Assoc Prof Wong Nyuk Hien.
Embarking on the path of a Fulbright Scholar

Ms Gwynne Lim Shimin, an NUS Master of Science (Life Sciences) student, has won the prestigious International Fulbright Science and Technology Award 2009. On becoming a Fulbright scholar, Gwynne said: “The scholarship award came as quite a surprise. My parents knew that I was keen in furthering my studies, but their main concern was funding.” She added that it was a relief for her parents when they knew about the award of the scholarship.

Gwynne was in the University Scholars Programme when she was an undergraduate in NUS and it was during that time when Gwynne was more involved in research. Since then, she has gone on to excel in her research interests in systematic botany and entomology, biogeography and co-evolution as well as Southeast Asian Biodiversity. To date, she has published four papers, including one in Annual Review of Entomology and participated in international conferences including the Willi Hennig Society meetings and the 6th International Congress of Dipterology in Fukuoka, Japan. She was also the Editor-in-Chief of the inaugural issue of NUS’ chapter of “The Triple Helix” which is dedicated to popularising science across the campuses of major world universities.

When asked how her education at NUS will equip her for her PhD studies, Gwynne said: “NUS is magnificent in that it gave me opportunities to do my own research. Beyond anything else, the ability to take control and shape my education was instrumental in building the kind of confidence I have in conducting my own research and writing for publications.”

While she is in the process of applying to American universities, Gwynne already plans to pursue her Ph.D. in systematic botany. “I intend to reconstruct the historical events that have led to the co-evolution of plants and insects in Southeast Asia and look at the unique geography of this region by determining the relationships of a mega-diverse group,” she said.

More on the Fulbright Scholar Program

The Fulbright Scholar Program was established in 1946 under legislation introduced by former Senator J. William Fulbright of Arkansas. The scholarship award provides talented foreign students with the opportunity to pursue PhD studies in top American universities and develop leaders who can contribute in promoting better understanding between the United States and Singapore. Sponsored by the Bureau of Educational and Cultural Affairs of the US Department of State, the scholarship comes with assistance in admission as well as three years of full financial support.

NUS wins at SHOOOT Awards 2009

Three NUS entries won at this year’s SHOOOT Awards, clinching the Best TVC award (school), Best Long Machinima (school) award and Best Visual Effects award (school). The SHOOOT Awards aims to rejuvenate creativity, inspire innovation and proliferate the best of practices in New Media content creation. It is an initiative supported by the Ministry of Information, Communications and the Arts as well as the Creative Community Singapore.

The winning entries from NUS are:

- **Best TVC Machinima award (school) for “Smoking is ‘Good’”** – a humorous short film about the dangers of smoking
- **Best Long Machinima (school) for “The Homecoming”** – a short story about a Peranakan woman returning from abroad to her roots
- **Best Visual Effects award (school) for “Love of Lothlorien”**

“Smoking is ‘Good’” and “The Homecoming” are the short and final assignments of six students reading the course “Serious Games & Learning Media” from the Communications and New Media (CNM) programme, Faculty of Arts and Social Sciences. The course was developed and taught by Dr Timothy Marsh. The students are John Yap Yin Gwee (CNM), Cao Yuanying (CNM), Rosalie Hooi Chet Yeu (CNM), Tan Jian Wei (Computing) and Eugene Seah Zhu En (Computing) and Charles Pang T-Howe (Engineering).

The “Love of Lothlorien” entry was submitted by the NUS Second Life student community.

To view the winning entries from NUS, please visit www.youtube.com/nuscast.
We proudly celebrate the following recent achievements:

- The NUS Logistics Institute – Asia Pacific (TLI - Asia Pacific) clinched the Education & Training Award at the Supply Chain Asia Logistics Awards 2009. The Award is a recognition of TLI - Asia Pacific as a leader in the field of education and training in the supply chain and logistics industry in Asia. Established 10 years ago, TLI - Asia Pacific is a collaboration between NUS and the Georgia Institute of Technology for research and education programmes in global logistics. From 2003 to 2009, the Institute was voted the Best Educational Course Provider at the Asian Freight and Supply Chain Awards.

- Two NUS teams clinched the Grand Winner and the Most Innovative Award respectively at last year’s Food Product Concept Competition organised by the Singapore Food Manufacturers’ Association and supported by SPRING Singapore and International Enterprise Singapore. The team led by Teo Jia Han Herman was the grand winner for their concept of the dragon brand bird’s nest ice cream while Yu Peigen and team won the Most Innovative Award for Flossy Bites – a cracker containing crispy pork floss and crunchy sunflower seeds as filling. Their products, together with those from 24 other competing teams, were showcased at the 6th Asia Pacific Food Expo. Last year, NUS also garnered the Grand Winner and the most innovative award in the same competition.

- NUS Business School (BIZ) has attained the renowned European Quality Improvement System (EQUIS) accreditation that is aimed at raising the standard of management education worldwide. This takes BIZ to the ranks of premier business schools such as the London Business School and Judge Business School at the University of Cambridge. Managed by the European Foundation for Management Development, EQUIS is supported by an international body of academics and professionals. It is a leading international system of quality assessment, improvement and accreditation of higher education institutions in management and business administration.

- In memory of law alumna Ms Lo Hwei Yen who passed away in the 2008 Mumbai terrorist attack, the NUS Faculty of Law announced the launch of the Lo Hwei Yen Memorial Scholarship on 27 November 2009. The scholarship will be an endowment to be maintained in perpetuity. The initial endowment was pledged by Lo Hwei Yen’s law firm Stephenson Harwood, Singapore, and applications are expected to open in the second quarter of 2010 for promising fourth year law students. The first scholarship recipient will be selected for the academic year beginning August 2010. The recipient will receive an award with a minimum amount of S$6,000 to be used towards tuition fees. Chew Choo Hong of the Department of Economics of NUS and HKUST who has researched on this subject with Dr Richard Ebstein, Sylvia Scheinfeld Professor of Human Genetics at the Hebrew University and Dr Zhong Songfa from HKUST, noted that while there has been a psychological explanation for the facet of economic behaviour, the underlying neurobiological and neurogenetic mechanisms have remained obscure until now. The tools of experimental economics and molecular genetics were used to examine the role of a well-characterised gene, monoamine oxidase A (MAOA), in predicting whether subjects are more disposed to purchase lottery as well as insurance under well-controlled laboratory conditions using 350 Han Chinese subjects recruited in Beijing. It was found that subjects with a high-activity MAOA variation of the gene are characterised by a preference for the longshot lottery and less insurance purchase than subjects with the low-activity genetic version. This is the first result to link attitude towards longshot risks to a specific gene.

- In a study led by a team of economists and molecular geneticists from NUS, the Hong Kong University of Science and Technology (HKUST) and the Hebrew University, it was found that the explanation behind the risk-taking behaviours of people could be due to our genetic makeup. Prof.
GIVING TO NUS

Boost for Duke-NUS Graduate Medical School to train new breed of scientist-doctors
A new gift from Ngee Ann Kongsi will provide scholarships to two students every year

By bridging the science lab and hospital ward, students at the Duke-NUS Graduate Medical School (Duke-NUS GMS) experience a new cross-disciplinary learning programme that will train them to deliver medical breakthroughs and improve patient medical care. A generous gift of $5.1 million from Ngee Ann Kongsi in December 2009 will provide up to two scholarships annually to Singaporeans or permanent residents to study at the School. The gift is aimed at helping Singapore to become a leading biomedical centre.

The scholarships, valued at $550,000 per annum each, will help medical students with the cost of tuition fees and living expenses over their four-year training. The first Scholarship will be awarded from the next academic year in 2010. Ngee Ann Kongsi's President Dr Lim Kee Ming said: "Whether the future doctors serve the public in the wards, clinics, or by making breakthrough discoveries in the scientific laboratories, Ngee Ann Kongsi is committed, as much as the school is, to grooming these future medical leaders.”

Duke-NUS GMS’ Associate Dean of Student Affairs and Admissions Dr Craig Stenberg said: “The goal is to develop future leaders in medicine and medical research who will change and improve the practice of medicine and who will bridge the gap between the laboratory and the bedside. Our TeamLEAD curriculum helps prepare our students to be both advocates for their patients and society and also clinician scientists with strong critical and creative thinking skills as well as the ability to communicate effectively.”

Duke-NUS GMS student, Ms Sara Tan, who hopes to specialise in Paediatric Oncology, said that the innovative education gives students the opportunity to conduct research by combining clinical care and clinical science that will ultimately benefit patients.

Help support the transformative education that Duke-NUS students receive by making a gift to the Duke-NUS Colleges and Student Society Help fund at: www.giving.nus.edu.sg/duke-nus. Your gift will allow them to participate in student programmes such as community service projects, which contribute to their holistic education at Duke-NUS GMS.