features:

STATISTICS
WORLD CONGRESS 2008

TO BE REMEMBERED FOREVER: NAMED ACADEMIC MEDALS AND PRIZES

SUSTAINABLE SUPPORT FOR OVERSEAS EXPOSURE
DEAN’S MESSAGE

This issue of OmniScience celebrates our graduates.

We celebrated Commencement this year with four graduation ceremonies spanning 10 and 11 July.

Commencement is a time when young people complete a major milestone in their lives and prepare to commence on their next lap. It is also a culmination of our efforts as teachers. The joy of learning keeps us going, as three of our professors fondly explain.

During the Commencement Ceremonies this year, 1,182 science undergraduate and 302 graduate students donned their gowns and marched up the aisle, crossed the stage, and collected their scrolls. Each year, we see more and more students walk these steps. We have engaged alumni to serve as commencement speakers. This year, they hail from physics, chemistry, pharmacy and biology. Listening to their speeches, I am struck by how close they are to their roots even as they achieved success in their chosen fields.

I am struck by how close they are to their roots even as they achieved success in their chosen fields. We celebrate that Science is more popular than ever, for Science is the foundation of technology. Over the last few years, we have engaged alumni to serve as commencement speakers. This year, they hail from physics, chemistry, pharmacy and biology. Listening to their speeches, I am struck by how close they are to their roots even as they achieved success in their chosen fields.

Commencement is also a time to recognise our best and brightest. We do this by awarding medals and prizes. Medals and prizes are the result of generous donations from well-wishers. They are named after corporations and loved ones. Donations from well-wishers. They are named after corporations and loved ones. We do this by awarding medals and prizes. Medals and prizes are the result of generous donations from well-wishers. They are named after corporations and loved ones.

The view and opinions expressed are those of the authors and do not necessarily represent the views of the Faculty of Science or the National University of Singapore.

We remember and pay tribute to the late Dr Lee Kum Tatt, one of the most illustrious of our graduates. He was one of the first local students to receive a PhD from the University of Malaya (Singapore), and among the first in a long line of Science graduates who have used their knowledge to connect with industry.

Most recently, two Science PhDs – Dr Xie Feng and Dr Mohash-Urmanhood – were the first to be awarded the Wang Gungwu Medal and Prize for the best PhD thesis in Natural Sciences in 2007 and 2008, respectively. Their theses pave the way for future developments in osteoporosis management and large scale protein tests that have commercial potential.

Next year, the NUS Faculty of Science will be celebrating its 80th Anniversary. It will begin with a launch party in conjunction with the NUS Arts Festival on 27 February and end with a Reunion on 24 October. In between, we are planning many activities to increase awareness and science literacy. We look forward to seeing you again.

Wishing you all a happy festive season ahead.

Andrew Wee
Dean, Faculty of Science
In Memory of Dr Lee Kum Tatt
– Alumnus and Friend

Dr Lee Kum Tatt, BSc(Hons) 1952, PhD 1955, was one of the first doctorates in Chemistry from the University of Malaya in 1955.

From his wide ranging and outstanding achievements, particularly in the aspects of medical and industrial research, and quality development, Dr Lee has left his imprints on the pioneering development of many scientific and technological organizations. They include the Singapore Institute of Standards and Industrial Research (SISIR), Science Council of Singapore, Singapore Standards Council and Singapore Polytechnic.

These have paved the way for the implementation of new institutions, projects and schemes such as the Science Centre, Science Park, Singapore Quality Movement, Technical Education and Industrial Orientation Schemes. They have played a highly contributive role and formed the essential foundation towards the moulding of Singapore into the success of today by applying science and technology and networking among important segments of the country. The success embeds the tireless and devoted efforts of Dr Lee.

In terms of industrial research, one of the most notable of Dr Lee’s accomplishments was the creation of the gold-plated RISIS orchid while he was in SISIR. The process was patented in 1976. It aroused much excitement among Singaporeans as an answer to finding Singapore’s national gift and souvenir. The name RISIS evolved into a well-known brand recognized both locally and internationally.

Dr Lee has always been very interested in the activities and initiatives organized by the Department of Chemistry, the Faculty of Science and the National University of Singapore, lending his utmost support whenever possible. In 2005 the Faculty of Science honoured Dr Lee with a Distinguished Science Alumni Award.

Thank you, Dr Lee. We will miss you.

“The world does not care for what we lack; it is interested only in what we can offer.”

Distinguished Science Alumni like Dr Lee are asked to mount plaques in their honor in their respective departments.
One thesis was on the impact of osteoarthritis on quality of life of patients and its economic burden on society; the other focused on high throughput methodologies for systematic enzymatic profiling. Both were winning entries for the Wang Gungwu Medal and Prize for the best PhD theses in Natural Sciences 2007 and 2008, respectively. They were both presented the award during a luncheon ceremony at the Nexus on the top of University Hall on 22 July.

In describing his thesis, “High throughput methodologies for systematic enzymatic profiling”, Mahesh says he studied a class of enzymes, and developed platforms and technologies that not only enabled us to identify potential drug candidates to treat conditions when such proteins ‘misbehave’, but also understand the subtle differences that make each enzyme unique.

On receiving the Wang Gungwu Medal and Prize, Mahesh remarks, ‘Every PhD in the natural sciences has, in his or her own right, reached a pinnacle of excellence, and has contributed meaningfully to science and society. To think that I have been selected amongst my peers to receive this prestigious award is an honour I will cherish my entire lifetime. Where I think I differ from my lifetime. Where I think I differ from my peers is in trying to translate some of my research to industry.’

Mahesh is now working as a research scientist at the Defence Medical and Environmental Research Institute, a division of DSO National Laboratories.

Feng’s research has resulted in many awards, including the Best Graduate Student in 2006 and the Chinese Government Award for Outstanding Self-Financing Students Award in 2006. He also published 11 manuscripts in prestigious international journals as well as numerous others, which were not directly related, and conference presentations. All these he achieved while managing to complete his PhD in three years.

Feng credits his success to the support of the research team headed by LI Shu Chuen, a visiting professor in the Department of Pharmacy, and Adjunct Associate Professor Julian THUMBOO, of the Yong Loo Lin School of Medicine, for their support and guidance. He also praised DSR LO Nga Nung, YEO Sengjin, YANG Kuang-Ying and FONG Kok Yong from the Singapore General Hospital for their help in patient recruitment.

The Wang Gungwu Medal and Prize is awarded from the proceeds of a $150,000 donation from Professor Wang Gungwu to the University and its matching grant from the government.

The first two Wang Gungwu Medals and Prizes for Best PhD Thesis in Natural Science have been awarded to PhD candidates from the Faculty of Science.
Emeritus Professor KIANG Ai Kim is well known as the most senior professor of Chemistry in Singapore. Prof Kiang was born in Singapore and graduated with a First Class Diploma in Science in 1938. He was the first Singaporean scientist to join the Chemistry Department at Raffles College. After the Japanese Occupation during World War II, he played a crucial role in re-establishing the department.

In 2002, alumni and faculty established the Kiang Ai Kim Scholarship Fund to honour a much-loved teacher, mentor and colleague. The committee, headed by WONG Ah Leng, BSc(Hons) 1969, managed to raise more than $500,000. The committee decided to make the donations expendable to benefit students immediately. The amount raised was large enough to create the Kiang Ai Kim Graduate Scholarship. The Kiang Ai Kim Graduate Scholarship is awarded based on academic merit. Scholarship is awarded based on high-pressure syntheses, coordination complex syntheses, and structural and reactivity studies. My research resulted in seven publications in internationally recognised chemistry journals, six of which I was first author.”

Siew Huay now lives in Oxford, England, and is pursuing a career in scientific publishing with Wiley-Blackwell. Her work involves managing a number of life sciences journals, with responsibilities for doing citation analyses to study the performance of journals.

Currently, there are three students on the Kiang Ai Kim Graduate Scholarship.

The Chemistry Department continues to seek donations for the Kiang Ai Kim Graduate Scholarship. For more information, please contact Professor Andy Hor, Head of Chemistry, email: chmhead@nus.edu.sg.

Now, the “Ironman” is gearing up for his next challenge where he will use his triathlon races as a platform to garner fundraising support and participation for the Shaw Foundation Alumni House. After hearing about the Shaw Foundation Alumni House (SFAH) Donor’s Wall, Dr Kua was eager to play his part. Besides making a donation, the lecturer at the NUS School of Design and Environment came up with the idea of using his triathlon races to promote the Donors’ Wall.

Dr Kua, a Physics graduate who earned his BSc(Hons) in 1996 and MSc in 1999, professed that he never left NUS and that it is home for him in many ways. “NUS is the cradle of my triathlon passion. It is where I first learned to swim, where I started my triathlon training and where I completed my first triathlon, the NUS Triathlon 1992,” he said. Even when he was in the United States pursuing his masters and PhD at the Massachusetts Institute of Technology, Dr Kua maintained close contact with his friends in NUS. And these friendships and emotional ties naturally made it easy for him to stay connected to NUS and to give back to his alma mater.

He shared enthusiastically: “Each of us brings with him new perspective and experience that can benefit others. I always believe that there is something that I can do to help, which is exemplified by my involvement in this fund-raising.” Dr Kua was beaming with excitement when he spoke of his upcoming races. Between July and November this year, he will be taking part in five triathlon races called the World Cup Series races. The first race, the Double Iron Triathlon World Championship, will be held in Quebec City, Canada. It will cover 7.8km of swimming, 360km of cycling and 84.4km of running. Dr Kua hopes to clock his personal best timings in the races but added that it is now more than just breaking records. “If my triathlons can help create an awareness towards not just the SFAH Donors’ Wall but to help raise funds for the Shaw Foundation Alumni House in a special manner.

Wring it up, he will return to Monterrey, Mexico, in November for the Deca Iron World Challenge. The race comprises a 38km swim, 180km of cycling and 22km of running. Dr Kua hopes to clock his personal best timings in the races but added that it is now more than just breaking records. “If my triathlons can help create an awareness towards not just the SFAH Donors’ Wall but to help raise funds for one of the main causes behind it – the student and alumni programmes – I think it is really much more meaningful than just doing them to check fast times,” he said. So what keeps him going and not give up halfway through a triathlon? He said: “Passion will change the way we look at things, and when we change the way we look at things, the things we look at will change.”

Source: AlumniUS Jul 2008
THE FACULTY OF SCIENCE ACTIVELY REACHES OUT TO SCHOOLS

Many secondary school student groups visit NUS. Those who especially want to visit Science have the added benefit of a tour. Student guides conduct the tours that take them around the Faculty. The most popular tours include CRISP, Raffles Museum of Biodiversity Research (RMBR) and the new Science Demo Lab.

RMBR is a resource museum for the biological sciences department. In its collection are rare and extinct animals. The Science Demo Lab consists of more than 60 experiments that can be conducted at stations around the Lab. It is situated on level 2 of S6 and was developed from the highly popular Physics Demo Lab by A/Prof Sow Chorng Haur and physics department lab staff. The Science Demo Lab will progressively include demonstration stations from all Science disciplines.

Since the beginning of the year, 325 students from Singapore schools – Pioneer Junior College, Millinia Institute, St Gabriel’s Primary School and Punggol Secondary School – Fook Yew High School in Johor, Malaysia, and a delegation of 40 parents who came for the Asia Pacific Conference on Giftedness, visited NUS Science. We encourage schools to visit us as it has been found that prospective students are more likely to choose a university they have visited and had a positive experience.

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Road Shows or Career Fairs are a mainstay of our yearly school outreach activities. Junior Colleges have such events to bring to their students’ attention regarding options after JC. We work with the NUS Admissions Office to maximise our reach to pre-university students. Since the beginning of the year, we participated in the Higher Education Fairs at Serangoon, Tampines, Pioneer, Jurong, Anglo Chinese, Innova, Catholic, Victoria, Raffles, and Meridian Junior Colleges, Hwa Chong Institution, and NUS High School. In recent years, Polytechnics have also joined in the push. This year, our team set up booths in Ngee Ann, Republic, Temasek Polytechnics. Not to be out done, Dunman High School, organised a career fair for their secondary school students that included tertiary institutions and employers.

We have a very close relationship with schools and junior colleges. This includes encouraging high achieving students to work on projects with our researchers under the Science Research Programme and Science Mentorship Programmes, and conducting Science camps for secondary school children.
The Faculty of Science graduated 1,182 PhD.

Chong Siew Huay, Alumni Development and Scholarship Office, said “The Kiang Ai Kim Graduate Scholarship is a prestigious award given to chemistry graduate students based on merit. It was therefore a great honour to be the first recipient of the KAK Graduate Scholarship for my PhD studies in Organometallic Chemistry. I firmly believe that for Singapore to remain at the forefront of international chemistry research, the implementation and establishment of such scholarships in imperative” – Chong Siew Huay, PhD.

During the second week of July, NUS held commencement ceremonies for students who graduated in academic year 2007/08. This year, outstanding graduands were invited to attend the first ceremony presided by the Chancellor of the University, President S.R. Nathan. Among those in this first ceremony was Chong Siew Huay. She was the first recipient of the Kiang Ai Kim Graduate Scholarship. (Read about the Kiang Ai Kim Scholarship Fund on pages 6).

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WINSTON TAN
BSc 1972 in Physics

Winston is Managing Director of Corporate Brokers International Pte Ltd, a company that invests and helps nurture high growth SMEs. Long before the term entrepreneur became the buzzword it is today, Winston embarked on this path at the youthful age of 47, after 24 years in the highly competitive world of banking and finance. The Faculty of Science conferred him an Outstanding Science Alumni Award in 1985.

“I had never heard of the words Assets or Liabilities. I told them that Physics is all about understanding nature and being able to provide solutions that will ultimately improve the life of mankind. Physics is a science of management and, stretching it to the extreme, you would need to imagine a lot of things in the world of finance.” – Winston Tan, on his interview with Citibank.

PETER NG
BSc (Hons) 1983 in Zoology, PhD 1990

Peter started his career as a teacher while working on his PhD. He is a recognised expert in the field of crustacean and fish systematics, Indo-Pacific biogeography and marine biodiversity, and Northeast Asian conservation biology. He is a professor in the biological sciences department, heading concurrent positions as director of the Raffles Museum of Biodiversity Research and the Tropical Marine Science Institute.

“At NUS did not just provide us lessons in class. During our time here, we’ve also learnt many invaluable lessons out of class. We’ve learnt team spirit over our many group projects. And for many, extracurricular activities like dancing, debating and sports, were also an integral part of the NUS experience. In short, NUS has been more than an academic institute for us. Rather it has been on all round learning experience, both in and out of the classroom.” – Pamela Pun, on the NUS experience.

LIM YEN CHUI
BSc(Hons) 2008 in Mathematics

Yen Chui was member of the NUS Volunteer Action Committee and participated in the Student Exchange Programme for a semester at the University of Edinburgh, UK.

“Now, at this very ceremony, we are seated among strangers who have become familiar faces to us and watching the end unfold, and we start feeling nostalgic about those times when we attended lectures together, whiled away the hours of break between lessons, or drank cup after cup of Milo at bazaars.” – Lim Yew Lay

PAMELA PUN
BSc(Hons) 2008 in Life Science

Pamela attended NUS under the Defence Science & Technology Agency Undergraduate Scholarship. She was also a member of the Special Programme in Science and worked on several research projects. She won a team bronze for the NUS Medical Society Biomedical Quiz and was awarded the NUS Medical Society for Biology and Molecular Biology Medal during commencement. Besides English and Mandarin, Pamela is also fluent in German and French.

“All of us students have a spirit of continuous learning. As we move on in life, on our competitive and fast-paced society, I hope that we will learn to slow down, so as to gain greater clarity on our purpose in life, by remembering who we are and treasuring the things that are truly important to us, like fostering deep relationships and learning from past experiences. Then we can realign our priorities, be empowered to face new challenges ahead of us and enjoy the journey of defining success in our own way” – Rachel Ng

RACHEL NG
BSc(Hons) 2008 in Chemistry

Rachel’s achievements include a stint at the University of Washington, USA, under the Ang Kong Peng Student Award. She represented NUS at the 46th Universities 21 Undergraduate Research Conference, the Tufts University Education for Public Inquiry and International Citizenship Symposium in Boston, and the USNA Leadership Forum in Washington, DC. She also went on study trips to Europe and China. She is also an active volunteer and founder of a start-up company – a learning centre that inspires students to become motivated individuals with a spirit of continuous learning.

Ours is the first ceremony for students who graduated in academic year.

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Ng Qiao Ming Rachel was chosen to deliver the Valedictorian address for the graduating Chemistry Class of 2008. She graduated with a Bachelor of Science Second Class Honours (Upper Division) in Chemistry from the Faculty of Science and the University Scholars Programme. Here she writes about her undergraduate experience.

The journey prior to gaining admission into NUS Faculty of Science (FoS) and the University Scholars Programme (USP) was not easy. I did not have a high enough score for my A Level examinations to qualify as a strong applicant to the NUS Faculty of Science. Hence, I applied through the Discretionary Admissions (DA) exercise in 2004. This was the first year that the DA exercise was introduced. Through the DA, I would be recognized for my talents instead of solely by my academic results. I had submitted my CV and was subsequently called up for an interview, where I had the opportunity to share the leadership and interpersonal skills that I had developed through co-curricular activities, community service involvement and work experience.

Six months before entering NUS, I had the opportunity to contribute to society by volunteering at Beyond Social Service Centre and Toa Payoh Senior Citizen Healthcare Centre. Through the Kids United Programme at Beyond Social Service Centre, I helped to monitor the children from low income families and broken homes. In addition, at the Toa Payoh Senior Citizen Healthcare Centre, I volunteered at the day care centre three or four times a week over the few months before the university term began. There, I provided supportive service – such as attending to the patients’ hygiene, serving food, grooming, exercising and interacting with them. I also facilitated the community service learning programme for schools by giving talks on elderly care to various levels of school children who visited the centre, to help them understand the importance of community service and learn to provide care for the elderly.

In the midst of my desire to develop a bigger heart for the less privileged, I also strove to become financially independent. I started a private learning centre, one that inspires children to become motivated individuals and to develop a spirit of continuous learning. This was a challenging task, but an exciting and fulfilling one as well. By running a learning centre, I had the flexibility to continue volunteer work and have a source of income to be financially independent. However, I felt extremely overwhelmed by the growth of the small start-up company. Many times, I felt like giving up just from physical fatigue and mental stress. But when our thoughts of downsizing the company flashed through my mind and made me doubt my ability to carry on, I would always take time to pray, and call upon the Lord. This reminded me that it is only humankind to experience weakness, and that I could not rely on just my own strength. Instead, I simply placed my trust in God.

Life over the last four years has been hectic. I had to cope with the responsibilities of school, co-curricular commitments (Varsity Christian Fellowship, University Scholars Club, church commitments and community service involvements), part-time jobs, as well as making time for family and friends. No matter how stressful it was in school, I had to continue in my work because I had decided to be self-sufficient.

I also planned for a year of study abroad in the student exchange Programme (SEP) during the second year. This resulted in a heavier than normal workload during the first year to ensure that I could graduate within four years with an Honours degree. In addition, I also took up driving lessons. All this required much effort and my grades in the first year were rather disappointing. No matter how hectic my life was every semester, with the increasing workload and depth of the courses I was required to take, I just did my best and prayed to make gradual improvements in grades. As each semester went by, my CAP improved and I had an increasing number of As on my transcript. In my final semester, my CAP was 5.00 and I was placed on the Dean’s list.

The rigorous courses in FoS and USP has trained me to become more analytical, resourceful and efficient. The tough and intensive research projects that I participated in enabled me to develop greater tenacity, perseverance and determination in facing trials of many kinds. In addition, the responsibilities that I took upon myself taught me to multi-task more effectively. I have also been humbled through my experience that often times I do not know it all. These were priceless lessons that money cannot buy. I am extremely grateful for the well-rounded education that I have received at the FoS and the USP in NUS.

I would like to express my sincere gratitude to those who have struggled with me and who have been there to offer support, encouragement, and guidance throughout my last four years in NUS. To my educators, professors and lecturers, especially to my research project supervisor A/Prof Kang Hway Chuan, thank you for your dedicated tutelage and the countless invaluable lessons you have imparted, as well as the inspiration you have been to us. To all the chemistry administrative staff, thank you for your strong support.

The discretionary admissions exercises for FoS and USP were held in June 2004. While waiting for the results of these interviews, I received a letter of rejection from NTU’s newly formed Department of Biological Sciences. Then I got a call for a third interview from NUS. The last interview was conducted by the then Dean of Science, Professor Tan Eng Chye and USP Director, A/Prof Peter Pang. As I was going to be away the following week for an overseas community service project, the professors asked me to step out while they discussed their decision so that I could be informed of the results immediately. After a few minutes, I was called back into the room, and the professors smiled, extended warm handshakes and welcomed me to the Faculty of Science and the University Scholars Programme. It was just amazing.

I am sure my four years at NUS as being more motivated towards enjoying the process of accumulating several meaningful years of learning, growing, character building and shared memories than solely on the results or my CAP score.

To my dear professors, thank you for the wise guidance, for your strong support to your family members, especially to my grandparents: thank you for believing in me, nurturing and supporting me, and for your love, prayers and encouragement. To my dear friends: thank you for being there for me and for your friendship. Most importantly, I would like to thank God for His great favour upon me, His Mercies and unfailing love, and for fulfilling His promises in my life.
The 7th World Congress in Probability and Statistics was held at NUS from 14 to 19 July this year. It was held under the auspices of the Bernoulli Society and the Institute of Mathematical Statistics, and organized jointly by the Department of Statistics and Applied Probability (DSAP), Department of Mathematics and the Institute for Mathematical Sciences. The World Congress takes place once every 4 years.

This was the first time that such a major event on the statistical calendar was held in Asia, and DSAP was honored to play a major role in organizing this prestigious conference.

Ten out of the twelve members of the Local Organizing Committee are members of DSAP, including the Chair (Louis Chen), and the Organizing Secretary (Chen Krok Pui), as well as half the Secretariat (Irene Tan and Tony Kiat Ling). I was the Co-chair. Professor Louis Chen also served on the Scientific Committee, A/Prof Xia Tay Ket Ling). I was the Co-chair. Professor Louis Chen, captivated the audience by his rendition of the famous Indonesian song “Bengawan Solo” in Mandarin and the old Chinese song “Three Years”, with accompaniment provided by the Yong Siew Toh Conservatory of Music in the persons of the very talented and award-winning Dui Le (clarinet), Zhou Mi (cello) and a pianist who was none other than Bernard Lanskey, Director of the Conservatory. In between the two songs, the instrumental trio played the Second Movement of Violin Concerto composed and specially arranged by Professor Bernard Tan who is a physicist and our former Dean of Science!

The World Congress came to a happy conclusion on Saturday morning. All in all, the conference was a great success. It was a great occasion for participants to learn about the state of the art developments in probability and statistics, to interact and synergize, to catch up with old friends and to make new friends, and to experience the hospitality that is Uniquely Singapore.

It was great to see that our months of preparation came to fruition. Featuring the latest scientific developments and applications in the field of probability and statistics, the event attracted close to 600 participants with a program that consisted of 13 main lectures delivered by some of the world’s leading authorities...

Teaching is definitely one of the most visible jobs of a professor. OmSci’s teaching is Uniquely Singapore. Hence, it was ushering in new teaching methods to help students overcome difficulties in learning. For Prof Ip, excellent teachers look beyond mastery of strategies, skills techniques and best practices. They are also concerned in the students’ genuine understanding of how students learn, and they therefore relate student learning with their own learning to facilitate that kind of learning in their students. They also develop new teaching methods to help students overcome difficulties in learning.

What Do Our Professors Do?

Professor Anthony Kuk
Head, Department of Statistics & Applied Probability

A few times a week, you will see A/Prof Sow surrounded by schoolchildren with the look of wonderment on their faces in a room with many strange gadgets. Over the last few years, he has been having a lot of fun developing the Physics Demo Lab. The Physics Demo Lab has expanded and, from the beginning of this year, moved to Level 2 of S16 to become the Science Demo Lab with demonstrations from other disciplines. The lab now comprises more than 60 experiments where visitors can try out and observe interesting scientific phenomena. Very often, these observations appear to be counter-intuitive. This helps to generate great curiosity. The Leon at the Science Demo Lab continually adds more demonstrations to show that Science is fun.

A/Prof Sow sees the demonstrations in his Science Demo Lab as a way to relate to the way students learn. “The main idea of the demo lab is to have lots of interactive, hands-on apparatus where learning is achieved through a fun-filled journey of discovery.”

In the case of Biological Sciences Professor Alex Ip, his joy comes in learning how to learn. He believes effective teachers achieve excellence in teaching not because they have mastered teaching, but because they have mastered learning.

“Effective teachers aim to understand how students learn, and they therefore relate student learning with their own learning and have a fervent desire to facilitate that kind of learning in their students. They also develop new teaching methods to help students overcome difficulties in learning.”

For Prof Ip, excellent teachers look beyond mastery of strategies, skills techniques and best practices. They are also concerned in the students’ genuine understanding of how they study, but how we study it. “The main reason I wanted to become a professor is because I love learning! I feel privileged to have made my hobby my job.”

The Faculty of Science is fortunate to have such great teachers who are learners as well. They certainly deserve being called Outstanding Educators.

One of his main goals is to make students see that mathematics is not about formulae but about patterns in the world around us. Mathematics is not defined by what we study, but how we study it. “The main reason I wanted to become a professor is because I love learning! I feel privileged to have made my hobby my job.”

Another Outstanding Educator is Associate Professor Helmer Aslaksen who loves to show how mathematics is fun. He is well known on campus for his general education module “Heavenly Mathematics: Cultural Astronomy.”

As he describes it, “I love mathematics, both for its internal beauty and for its relevance to the world around us. Unfortunately, many of our students have been deeply traumatised by the way mathematics is taught in schools.”

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How Alumni can help NUS

As NUS becomes more internationally well-known, we have a happy problem that needs your help. NUS has become one of the more popular universities of choice for foreign students, both as an institution for short term exchange as well as for degree-seeking foreign students.

Support the Faculty

Donate to help needy students, contribute to or create an endowment, or dream up a new idea to support students and faculty at the FoS.

Call Karen Wong at 6516 8198 or email karenwong@nus.edu.sg to find out how you can help.

Support for Overseas Exposure

The Science Student Overseas Exposure Fund (SSOEF) was set up in May 2006 to help students, who would not otherwise be able to afford to, in their quests for overseas educational exposure. Only students who will especially benefit from such assistance are selected. Since the beginning of 2008, 35 individuals have benefitted from the $38,000 disbursed. We have also funded 169 students who participated in Project Angel, Science Club’s humanitarian mission.

To date, we have an endowed fund totalling $700,000 (made up of gifts and government matching grants). In order to sustain the future of the SSOEF we need to endow a further $300,000 in gifts. This together with government matching funds will assure us of $50,000 to disburse each year. We appreciate your support of our effort to give students an enhanced educational experience while pursuing their degrees at NUS Faculty of Science.

To make a donation to the SSOEF, please write a cheque payable to “National University of Singapore” and mail it c/o Karen Wong, Science Dean’s Office 6 Science Drive 2, S16-09, Singapore 117546, or visit www.science.nus.edu.sg/aboutfos/giving to make an online donation.

Jacinth Liew, Science Summer Programme at University of New South Wales, Australia

“As a teacher-to-be, I learnt from the instructors that being passionate about your field of study is vital as an educator. The students will be able to feel the teacher’s dedication and eagerness to share his knowledge. Furthermore, I experienced the different teaching methods engaged by the instructors, which will be useful for my future career. The funds generously contributed by the SSOEF donors have not only benefitted me, but my future students as well.”

Chiang Ming Min, Science Summer Programme at the University of Waterloo in Canada, Summer 2008

“I had a great summer in 2008. It was not only about studying or travelling, I also learned to be independent since this was the first time I left for a place that was so far and for so long. Apart from that, I learned to appreciate. Appreciate love given by family when I missed home, appreciate friends surrounding me when I was alone and appreciate this opportunity given by NUS when I found that this summer would be a great memory that would last forever.”

Ong Chee Yen, Science Summer Programme at the University of California at Los Angeles, USA, Summer 2008

“I have planned to go on overseas exchange since Year 1, and so I have been looking out for opportunities. I decided on summer programme as it best fitted my schedule. I was glad to be selected to go to University of California at Los Angeles (UCLA) but at the same time I was in a dilemma. As I have 5 other siblings and I do not come from a wealthy family, my parents could not support me financially to UCLA. Fortunately, I came across the SSOEF Fund, which offered financial aid to help me achieve my plans of going abroad.”

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TO BE REMEMBERED FOREVER:
NAMED ACADEMIC MEDALS AND PRIZES

Expendable gifts are for immediate use and donations are used for the purpose of the gift. Once the donation is used up, the prize ceases to be presented. One such prize is the Mrs PC Lim Medal. The gift was made by the family of the late Mrs PC Lim in her memory. It is for the student who achieved the highest grade in the module LSM2 System Neurobiology.

Endowed gifts are invested by the University to earn an income. This resultant income is then used for the award. As such, prizes from the endowed gift cannot be awarded immediately. The Lijen Industrial Development Medal is such a prize. The gold medal is awarded to the honours students with the best academic exercise/project in each discipline. The Faculty of Science awards 9 Lijen Industrial Development Medals each year.

More than fifty named academic awards are given to Faculty of Science students each year. These awards may take the form of book vouchers, cash or medals. They were the result of gifts made to the university over the years. Some of them are expendable and some of them are endowed.

Some gifts were made many years ago and under interesting circumstances. One of them is the Rachel Meyer Book Prize. It was formed by the Trustees of the Rachel Meyer Charitable Trust from £500 in British War Loans. It awards a $100 book prize annually in alternate years to the best woman student in the Faculty of Arts and Social Sciences, and the Faculty of Science.

Graduate students are not forgotten. The Lim Chin Kuan Prize is awarded to the best student who obtained a Master of Science degree in Chemistry. It is the result of a gift to the University from the daughters of the late Mr Lim Chin Kuan to honour the man who obtained the first Master of Science in Chemistry from the University of Malaya (Singapore).

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More information about donations that have resulted in Prizes and Medals for the Faculty of Science may be found in this webpage: http://www.nus.edu.sg/registrar/edu/awards/listgroup.html#fs

Dr Lim Hwee Ling, daughter of the late Mrs PC Lim (far left) with graduating student Kenneth Tan and his family (right)

Sharon (centre) with her UROPS supervisor A/Prof Maxey Chung

Choon Leng with Dr Anne Lee and Ms Valerie Lim, daughter’s of the late Mr Lim Chin Kuan

TAN KIAN BOON KENNETH, MRS PC LIM MEDAL
“I would like to express my heartfelt gratitude for awarding me the Mrs P C Lim medal. The medal has given me confidence and encouragement in pursuing a higher degree. I intend to pursue my PhD in NUS. My research interest will probably be in the field of neuroscience, cancer, or microbiology.”

ANG KAILIAN PRISCILLA, LIJEN INDUSTRIAL DEVELOPMENT MEDAL (CHEMISTRY)
“I would like to express my heartfelt gratitude to Lijen Industrial Development Private Limited for the donation of the Lijen Industrial Development Medals to Honours Year students of NUS like myself. This medal not only congratulates them on their excellent endeavours in education and research, it serves as an enhanced motivation for them to strive towards greater challenges ahead. This recognition for their achievement and meaningful contributions to society will undoubtedly boost the vibrant research culture in Singapore and aid NUS in developing itself as a world-class research enterprise.”

CHANG CI’EN SHARON, JURONG SHIPYARD PRIZE AND OUTSTANDING UNDERGRADUATE RESEARCHER PRIZE (GROUP CATEGORY)
“I am privileged to be a recipient of the Jurong Shipyard Book Prize. This prize recognises conscientious and consistent physics students. The key to receiving this award is not only diligence on the student’s part but more importantly, it is the support and encouragement from the professors. I was blessed with professors who were very patient and never once minded my simplistic questions. They motivated me to never give up and to try again when I fail.”

LAU CHOON LENG, LIM CHIN KUAN PRIZE
“It is my greatest honour to be the recipient of the Lim Chin Kuan Prize. I would like to take this opportunity to express my gratitude to you for providing this award. This is my third degree with NUS and receiving this award marks an important milestone in my life. It gives me great encouragement and motivates me to continue to strive for excellence in my future undertakings.”
MEDAL & PRIZES
Gifts to the University

BIOLOGICAL SCIENCES (Life Sciences)
- Fraser & Newton Book Prize
- Gilliland Memorial Medal
- Hutton Prize
- Lee Foundation Medal
- Malaysian Nature Society Silver Medal
- Mr. P.C. Lim Medal
- Pharmacia Medal and Prize in Pharmacology
- Raffles Prize
- Robert Lim Memorial Medals
- Rumme Shue Medal and Prizes
- Singapore Society for Microbiology Biotechnology Medal & Prize
- Singapore Society of Biochemistry and Molecular Biology Medal
- Straits Times Science Medal
- Wallace Prize

CHEMISTRY
- Chartered Semiconductor Gold Medal
- Goh Choon Gold Medal
- Schering-Plough Gold Medal
- Sim Gek Seng Gold Medal
- Singapore National Institute of Chemistry Gold Medals & Book Prize
- Pitzer Prize
- Lim Chin Kuan Prize

MATHEMATICS
- Leong Tong Kuan Memorial Prize in Mathematics
- Lim Soo Peng Book Prizes
- Singapore Mathematical Society Medal & Prize
- Tan Soh Chooe Book Prizes
- Tan Soh Chooe Book Prize
- The Yen Lee D.Y. Cheithauk Gold Medal

PHARMACY
- Chalmers Prize
- Pharmaceutical Society of Singapore Book Prize
- PSI Prize for Pharmacology
- T.H. Elliott Gold Medal and Book Prize

PHYSICS
- IPS Medal
- Jurong Shipyard Prizes

STATISTICS & APPLIED PROBABILITY
- Saw Swee Hock Gold Medal

SCIENCE
- Lee Kuan Yew Gold Medals
- Lijen Industrial Development Medals
- Materials Research Society (Singapore) Medal
- PSA Prize
- Rachel Mayer Book Prize
- Sugar Industries of Singapore Book Prize
- Outstanding Undergraduate Researcher Prize

RISK MANAGEMENT INSTITUTE
- ISPMB Gold Medal
- ABN-AMRO Finance Prize
- DBS Gold Medal for Financial Engineering
- MAS Prize
- Raffles Book Prize
- ST Engineering Prizes

For full description of all University level medals and prizes, please visit: www.nus.edu.sg/registrar/edu/award/ulevelmp.html

SINGAPORE SOCIETY FOR BIOCHEMISTRY AND MOLECULAR BIOLOGY MEDAL
PC LIM MEDAL
KENNETH TAN KIAN BOON
LIFE SCIENCES
NUS Science made a clean sweep of the National Science Awards this year. The award ceremony was held on 21 August.

Professor Mohan Babu Subramaniam, who holds joint appointments at the Temasek Life Science Laboratories and the Department of Biological Sciences, was the individual winner “for his outstanding contribution towards unravelling mechanisms that control cell division in eukaryotic cells.”

A/Prof Christian Kurtzleb, A/Prof Valerio Scarani and Dr Antia Lamas-Linares, of the Centre for Quantum Technologies and Physics department, were the group winners “for their outstanding theoretical and experimental studies on quantum entanglement.”

The National Science and Technology Awards (NSTA) are Singapore’s highest honours presented to recognise outstanding research scientists and engineers for their invaluable contributions to the development of Science and Technology in Singapore. These annual awards are administered by the Agency for Science, Technology and Research (A*STAR).

Acting University President, Professor Tan Chorh Chuan, was honoured “for his distinguished contributions to the development of Singapore’s scientific capability, particularly in the biomedical sciences sector.”

For more information about this year’s National Science Awards, please go to www.a-star.edu.sg/its_star/243-National-Science-Award.

Meet Our New Professors

WEIL Tanja
Assistant Professor (Chemistry)

CHAN Yin Thai
Assistant Professor (Chemistry)

CHEW Eng Hui
Assistant Professor (Pharmacy)

COOK Alex Richard
Assistant Professor (Statistics & Applied Probability)

LIU Shao Quan
Assistant Professor (Chemistry)

RUSYDI Andrivo
Assistant Professor (Physics)

TANG Cheng Yong
Assistant Professor (Statistics & Applied Probability)

WANG Haifeng
Assistant Professor (Physics)

WEBB Edward Layman
Assistant Professor (Biological Sciences)

XIA Jianming
Assistant Professor (Mathematics)

YAP Chun Wei
Assistant Professor (Pharmacy)

ZHANG Chun
Assistant Professor (Physics)

WANG Qinghui
Lecturer (Physics)

You may find more information about new professors on www.science.nus.edu.sg/faculty/newmembers/

Promotions

LIN Ping
Professor (Mathematics)

TOH Kim Chuan
Professor (Mathematics)

CHEN Ping
Associate Professor (Chemistry and Physics)

SONG Jianxing
Associate Professor (Biochemistry and Biological Sciences)

TAY Seng Chuan
Associate Professor (Physics)

WOHLAND Thorston
Assistant Professor (Physics)

WONG Yan Loi
Associate Professor (Biological Sciences)

Also highlighted in nanowerk.com is the article authored by A/Prof Suresh Valiyaveettil and others in the departments of chemistry and biological sciences, “Toxicity of silver nanoparticles in zebrafish models,” first published in Nanotechnology.

Noteworthy Chemistry in www.ACS.org, the website of the Journal of the American Chemical Society, 2008, highlighted A/Prof S Valiyaveettil and co-authors’ article “Pelovaterin is the ‘defensin’ in turtle eggshells”.

The Department of Biological Sciences’ Biodiversity Lab was hot news these few months. Two articles gained much media attention both locally and around the world. “UVB-based mate-choice cues used by females of the jumping spider Phintella vittata.” It was published in the journal Current Biology, written by our biologist scientists Matthew Lim and Daqing Li, and others from Hubei University, China. The article featured the sexy nature of jumping spiders as they recognise their mates under UVB light. Current Biology also published an article “A lungless frog discovered on Borneo”. The discovery was made by A/Prof David BICKFORD and others from the Institut Teknologi Bandung in Indonesia. The endangered frog was discovered in a remote part of Borneo. It breathes only through its skin.

“Cobalt-catalyzed hydrogen desorption from the LiNH2-LiBH4 system”, published in Dalton Transactions, was selected as a hot article. An all-NUS Science team from Physics, Chemistry and the Singapore Synchrotron Light Source authored the article.

Three articles by Pharmacy Professor CHEN Yu Zong and others from NUS and China were in the most-cited lists of 2005. Topping the American Chemical Society’s Chemical Research in Toxicology is “Prediction of Genotoxicity of Chemical Compounds by Statistical Learning Methods”. Two others were published in the American Chemical Society’s Journal of Chemical Information and Modelling.

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WANG Qinghui
Lecturer (Physics)

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Science Research Congress was held on 24 May this year.
Dr Tony Tan, former Deputy Prime Minister, and currently Chairman of the National Science Foundation and Deputy Chairman of the Research, Innovation and Enterprise Council, was the guest of honour. He launched the first Congress when he was the Minister for Education 20 years ago. The Science Research Congress is the culmination of the Science Research Programme (SRP), a mathematics and science enrichment programme for JC students. Its aim is to "provide students an opportunity to work with established scientists and professors on a one-on-one basis, to have the real taste of world-class research with all of its excitement, challenges, and dilemmas," explained Dr Tan.

During the Congress, Dr Tan presented Commendation Certificates to students who supported the SRP over the 20 years of its existence.

To assist us in updating your record, include in the message your name, address and telephone contact details, the degrees you received, your major/department and the year(s) you graduated.

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OmniScience is assessable online 24/7. Just visit our website and click the link to OmniScience or type in the url: www.science.nus.edu.sg/alumni/omniscience.

OmniScience is Green

Also Meet Us on Facebook!

Besides the online version of OmniScience, NUS Science has also created a Facebook group for faculty, staff, alumni, current students, prospective students and friends to keep in touch.

“Its purpose is to connect the NUS Science family, and see the extent of it. Currently, there are more than 800 members. Most of them are current students. We have noticed that alumni have started to join now,” says creator of the group Karen Wong, assistant manager at the Science Dean’s Office and editor of OmniScience.

“Even the Prime Minister talked about Facebook in his National Day Rally speech!”

Karen urges everyone to have fun and join us in the “National University of Singapore, Faculty of Science” group.