

STUDENTS



Dean's freshmen welcome tea 2011

Over 1,000 freshmen attend the event hosted by Dean of Science, Prof Andrew Wee.



Cambodia calling

Students from the Faculty of Science leave behind city comfort to live among the Cambodians in the village and help them build a school, among others. It is part of Project Angel.



NUS Science: Experiencing it firsthand

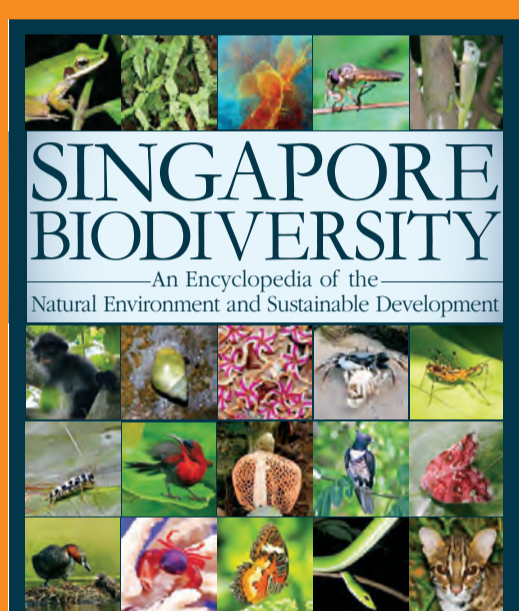
The Faculty of Science Open House is thronged with students that have come to experience for themselves the university life they can look forward to, if they study at NUS.

PRIME



New elective for students

An Undergraduate Professional Internship Programme is introduced to allow students to engage in their own career preparation and job seeking exercises, among others.



Singapore's flora and fauna documented in encyclopedia

The first comprehensive guide to nature, the encyclopedia covers almost 200 years of studies on the island's natural history and the issues that pertain to biodiversity, ecosystems and sustainability.

ALUMNI/DONORS



Congratulations, Class of 2011!

Faculty of Science welcomes its graduating students to the alumni family.



Faculty of Science Commencement Class 2011 pays it forward

For doing more to help needy Science students, the Faculty is acknowledged for best participation at this year's inter-faculty Commencement Class Fund-raising.



Giving to Science education

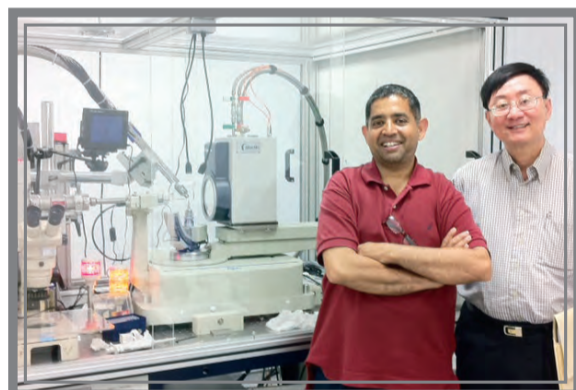
Personal donors and organisations do their part for a good cause.

Science on Saturday

What's Up...

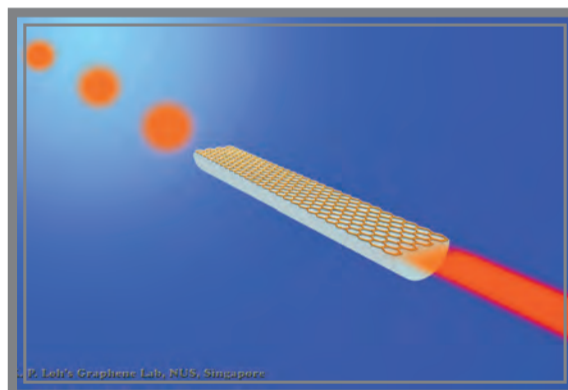
Check out the events held from September to December 2011!

RESEARCH



Exploring a novel drug delivery material to combat cancer

A virus that infects Hibiscus may prove to be a boon in clinicians' fight against cancer – the exploration of the researchers from the Department of Biological Sciences is yielding results.



Singapore researchers invent broadband graphene polariser

Thanks to this invention, the bandwidth of prevailing optical fibre-based telecommunication systems can be broadened.



Multiplicity one in symmetry breaking

Prof Zhu Chengbo of the Department of Mathematics establishes a unique 'multiplicity one' property when studying symmetry patterns in representation theory.

DEPARTMENT



Sorely missed, but not forgotten

We pay tribute to Dr Navjot Sodhi, Department of Biological Sciences' Professor of Conservation Ecology and one of the most cited and respected conservation biologists among his contemporaries in the world.



Mathematical research and casino gaming: What they have in common

The Department of Mathematics signs Memorandum of Understanding with the Casino Regulatory Authority of Singapore to jointly promote research and development in mathematical research that pertains to casino gaming.



Summer School Programme: The French connection

Students will have a chance to immerse in French culture and broaden their undergraduate experience, thanks to an agreement inked with CPE Lyon.



Making the first move

NUS' Department of Chemistry holds its first Environment, Energy and Catalysis Symposium with its counterparts from King Fahd University of Petroleum & Minerals, Saudi Arabia.

Website: <http://www.science.nus.edu.sg/alumni/omniscience>

EDITOR
Yong Tsuey Ling
Email: sciycl@nus.edu.sg

DESIGNER
James Wee

DEAN
Professor Andrew Wee

ADVISORS
Associate Professor Chin Wee Shong
Vice Dean (Outreach & Student Life)
Rita Lau, Director (Administration)
Perry Hee, Associate Director, Corporate Communications

Dean's Office
Faculty of Science
Block S16 Level 2
6 Science Drive 2, S(117546)

All information is correct at the time of circulation. Faculty of Science reserves the right to make changes and modifications to the contributions submitted without prior notice. The views and opinions expressed by individual contributors do not represent the positions of Faculty of Science, NUS.

August 2011

PRIME

New elective for students

An Undergraduate Professional Internship Programme is introduced to allow students to engage in their own career preparation and job seeking exercises, among others.



Looking to an all round education: From Academic Year 2011/2012, non-Applied Science undergraduates will pick up skills in competing for and securing a job, as well as apply their discipline-related knowledge and professionalism in the workplace during their studies.

Non-Applied Science undergraduates can now undertake structured internship in an organisation during their studies, thanks to the new **Undergraduate Professional Internship Programme (UPIP)**.

Through UPIP, students can relish the challenge of competing for and securing a job, as well as apply their discipline-related knowledge and professionalism in the workplace. This programme initiated by the Faculty of Science will be rolled out starting from Academic Year 2011/2012.

What students can expect

Students undertaking UPIP will pick up skills of career planning and preparation and internship application before embarking on an internship.

To be eligible, students are required to register for the Career Planning & Preparation module or SP1001, which they can do so in any semester of their undergraduate studies. In the SP1001 module, students will learn how to strategise for their job search, write resume, and observe techniques of interview and networking, and more. Students are responsible for their

internship positions and can seek the help of an Academic Advisor to be their mentor and guide them through their internship applications. The Faculty will attempt to secure as many relevant internship positions as possible.

Students can also source for their own internship, although this will require prior approval.

Students who have passed their Career Planning & Preparation module satisfactorily, found an Academic Advisor and secured an internship position can undertake an internship module – either XX3311 or XX3312 – in the subsequent semester.

To obtain more information about UPIP, students can click [here](#).

© Dean's Office | Text: Yong Tsuey Ling



Website:
<http://www.science.nus.edu.sg/alumni/omniscience>

EDITOR

Yong Tsuey Ling
Email: sciycl@nus.edu.sg

DESIGNER

James Wee

DEAN

Professor Andrew Wee

ADVISORS

Associate Professor Chin Wee Shong
Vice Dean (Outreach & Student Life)
Rita Lau, Director (Administration)
Perry Hee, Associate Director, Corporate Communications

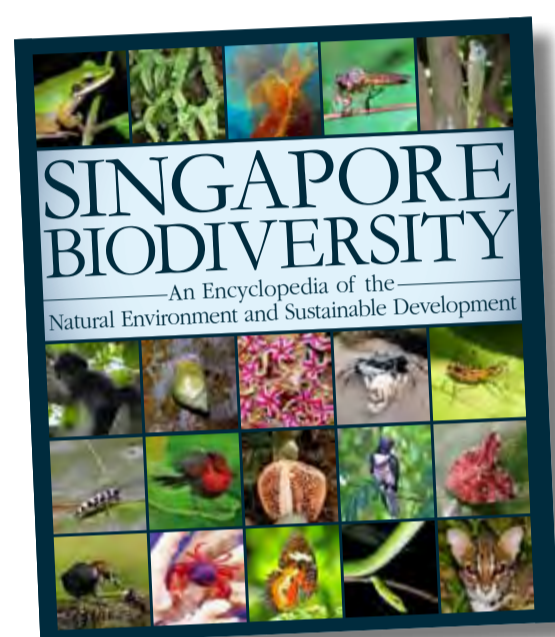
Dean's Office
Faculty of Science
Block S16 Level 2
6 Science Drive 2, S(117546)

All information is correct at the time of circulation. Faculty of Science reserves the right to make changes and modifications to the contributions submitted without prior notice. The views and opinions expressed by individual contributors do not represent the positions of Faculty of Science, NUS.

PRIME

Singapore's flora and fauna documented in encyclopedia

The first comprehensive guide to nature, the encyclopedia covers almost 200 years of studies on the island's natural history and the issues that pertain to biodiversity, ecosystems and sustainability.



Check out the promotional price of the Singapore Biodiversity encyclopedia offered by NUS Co-op bookshop campus wide, at \$55.60 (20 per cent off retail price).

NUS launched Singapore's first biodiversity encyclopedia with the aim of creating awareness among our local community for environment conservation and sustainability.

The 552-page publication titled 'Singapore Biodiversity: An Encyclopedia of the Natural Environment and Sustainable Development' was launched on 18 July, at University Hall by His Excellency President S R Nathan.

Also present at the event were Dr Vivian Balakrishnan, Minister for the Environment and Water Resources, Mr Mah Bow Tan, Member of Parliament for Tampines GRC, Prof Tommy Koh, Ambassador-at-large at the Ministry of Foreign Affairs, NUS



The launch of Singapore's first comprehensive guide to biodiversity is officiated by (from left) Prof Peter Ng, NUS; National Parks Board CEO Poon Hong Yuen; President S R Nathan; Mr Mah Bow Tan; NUS President Prof Tan Chorh Chuan; and publisher Didier Millet.

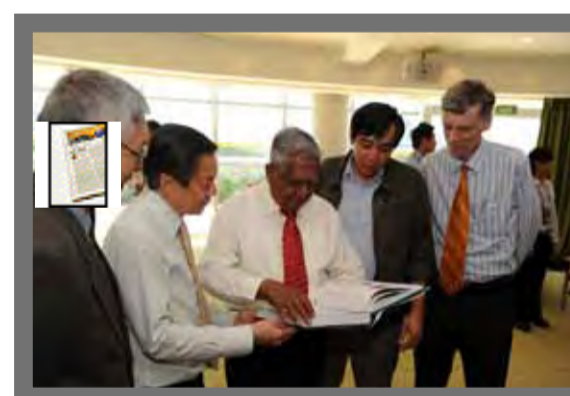
President Prof Tan Chorh Chuan and other distinguished guests.

Prof Tan gave a welcome speech, citing examples of how the university has supported environmental sustainability within the campus.

National treasure

The Singapore Biodiversity encyclopedia was initiated by NUS' champions of environment conservation, Prof Leo Tan and Prof Peter Ng. Hailed from the Faculty of Science, they had put together the book after finding support from 65 contributors across various bodies such as the Ministry of the Environment and Water Resources (MEWR), National Parks Board, and the Nature Society (Singapore).

The encyclopedia detailed Singapore's natural environment and conservation efforts through a series of essays and



The editorial team, taking President S R Nathan (centre) through the Singapore Biodiversity encyclopedia, comprises (from left) Assoc Prof Hugh Tan, Prof Leo Tan, Prof Peter Ng and Prof Richard Corlett at the book launch.

interviews. Some of which include the sharing by Dr Yaacob Ibrahim, Minister for Information, Communication and the Arts and the former MEWR Minister. Dr Yaacob tackled the preservation of biodiversity whilst Mr George Yeo, the former Minister of Foreign Affairs, offered his take on the importance of nature awareness.

The encyclopedia also provides a comprehensive documentation of more than 40,000 non-microbial species of organisms alphabetically categorised, with accompanying photos, illustrations, graphs or maps.

A resource on Singapore's natural heritage, the encyclopedia is a useful tool for education and research; it speaks not only to subject experts, but also enthusiasts and the public.

The encyclopedia that was three years in the making had the support of sponsors, namely, ExxonMobil Asia Pacific Pte. Ltd., Keppel Corporation Limited, Lee Foundation, Ngee Ann Kongsi and private entrepreneurs Mr Sam Goi and Mr Oei Hong Leong. Their donation would also be channelled into funding the new *Bachelor of Environmental Studies* programme rolled out by NUS.

© Dean's Office | Text: Karen Low

Website:

<http://www.science.nus.edu.sg/alumni/omniscience>

EDITOR

Yong Tsuey Ling
Email: sciycl@nus.edu.sg

DESIGNER

James Wee

DEAN

Professor Andrew Wee

ADVISORS

Associate Professor Chin Wee Shong
Vice Dean (Outreach & Student Life)
Rita Lau, Director (Administration)
Perry Hee, Associate Director, Corporate Communications

Dean's Office

Faculty of Science
Block S16 Level 2
6 Science Drive 2, S(117546)

All information is correct at the time of circulation. Faculty of Science reserves the right to make changes and modifications to the contributions submitted without prior notice. The views and opinions expressed by individual contributors do not represent the positions of Faculty of Science, NUS.

August 2011

STUDENTS

Dean's freshmen welcome tea 2011

Over 1,000 freshmen attend the event hosted by Dean of Science, Prof Andrew Wee.



Dean Prof Andrew Wee, extending a warm welcome to the new Faculty of Science undergraduates.

The annual Dean's Welcome Tea, for Academic Year 2011/2012 freshmen was held on 22 July, at the Lim Seng Tjoe Lecture Theatre 27 Atrium.

As new undergraduates, some may find university life to be an overwhelming experience. The Welcome Tea helps these freshmen gain a better understanding of the environment in order for them to settle in and get to know new course mates through a series of talks.

Life on campus

This year, freshmen were welcome by Assoc Prof Chin Wee Shong, who gave the opening address. As Vice-Dean for Student Life and Outreach, Assoc Prof Chin provided students with an insight to a myriad of opportunities for incoming undergraduates. She shared that life in the university can be fulfilling with the ability to balance studies and co-curricular activities outside the classroom.

Following this, associate professors Chua Tin Chiu and Tay Seng Chuan, associate deans of Undergraduate Programmes and Special Duties respectively, took the students through the NUS Modular System and the Centralised Online Registration System (CORS).

The morning programme ended with Dean, Prof Andrew Wee coming on stage to address the audience. Introducing the key faculty members and programme directors, students got to familiarise themselves with the Heads of the respective departments.

Sarenya and Nanthinii, both intending to major in Life Sciences, shared that they were looking forward to a new experience in the Faculty of Science,



Freshmen of the Faculty of Science engaged in the Modular System Briefing delivered by Assoc Prof Chua Tin Chiu.



Sarenya (left) and Nanthinii are freshmen looking to enrol in the Life Sciences Programme.

particularly the summer programmes that will enable them to travel overseas.

The two alumni of Yishun Junior College felt that the talk delivered by Assoc Prof Tay had also provided them with information relevant to the registration of their courses.

© Dean's Office | Text: Karen Low

Website:

<http://www.science.nus.edu.sg/alumni/omniscience>

EDITOR

Yong Tsuey Ling
Email: sciycl@nus.edu.sg

DESIGNER

James Wee

DEAN

Professor Andrew Wee

ADVISORS

Associate Professor Chin Wee Shong
Vice Dean (Outreach & Student Life)
Rita Lau, Director (Administration)
Perry Hee, Associate Director, Corporate Communications

Dean's Office
Faculty of Science
Block S16 Level 2
6 Science Drive 2, S(117546)

All information is correct at the time of circulation. Faculty of Science reserves the right to make changes and modifications to the contributions submitted without prior notice. The views and opinions expressed by individual contributors do not represent the positions of Faculty of Science, NUS.

STUDENTS

Cambodia calling

Students from the Faculty of Science leave behind city comfort to live among the Cambodians in the village and help them build a school, among others. It is part of Project Angel.



Cambodia, here we come!
Students from the Faculty of Science bound for an adventure of a lifetime.

Twenty-three students from the Faculty of Science (FoS) made a trip to the outskirts of Cambodia in May. The team headed for the simple life, living among the local villagers in humble abodes complete with basic facilities.

Imagine not being able to use handphones and having absolutely no access to Internet!

Relying on food grown on the land was also something the students had to get used to although to the rural folks, this was the norm. Students found themselves putting their 'culinary skills' to the test, cooking whatever that was available in the kitchen and using the host's basic utensils.

Learning to make do and improvise, they inculcated new values and grasped the importance of working as a team.

Still, their proudest achievement was assisting the local villagers to build a school, including three concrete classrooms with roofs and a new library. They took at least two weeks to build the school. When completed, they even organised an opening ceremony, inviting representatives from Singapore's Ministry of Education and the head of the province.

The school was a necessity that was much looked forward to, as the local children had yearned to study in a more conducive environment.

The FoS students relished what they had learnt during their trip dubbed Project Angel XIII. When they left Cambodia, they brought with them memories and friendships to last a lifetime.

Survival 101

To ensure the team survived the trip, they underwent a year-long preparation for a 19-day Overseas Community Involvement Project at Siem Reap, Cambodia.

The students embarked on the project by organising fundraising drives during Halloween and Valentine's Day and sought the generosity of local contributors.

They also went to Chen SuLan Methodist Home for their pre-trip community service so as to learn how to handle and coordinate activities for



Labour of love: Students put their heart and soul into painting the school built for the local children.

children in similar age groups to those they would find in Cambodia.

Through the local community service, they learnt to be more sensitive to the needs of children, as well as cultivate better understanding of the children's plight. Not surprisingly, they found themselves able to relate easily to the children during their Cambodia trip, the language barrier notwithstanding.

Although there was a lack of communication, the students could see that the Cambodian children appreciated their presence when they taught them basic English and indulged them in some Singaporean culture of songs and dance.

All of these were made possible with the aid of the Youth Expedition Projects (YEP) and funding from Science Student Overseas Exchange Funds (SSOEF), along with the efforts of the participants to make Project Angel XIII a success.

Funding Project Angel

Project Angel XIII was supported by the SSOEF – CJ Koh Award.

The SSOEF offers financial aid to students who would otherwise not be able to take advantage of the many study abroad programmes available to them.

For more information about the SSOEF, please click [here](#).



Sign language: To communicate with the Cambodian children, some imagination and a lot of signing helps.

Click [here](#) to view the students' compilation of their Cambodia trip.

© Dean's Office | Reference: Report from Karen Wong, Senior Manager, Outreach & Student Lifestyle

Science Student Fund

The Science Student Fund (SSF) was originally set up to help students in times of emergency, when they find themselves in dire need all of a sudden.

In 2009, as part of the Faculty of Science's 80th Anniversary celebrations, the FoS set up the SSF Bursary.

Data from the NUS Office of Financial Aid indicate that 7 to 8 per cent of Science undergraduate population belongs to families where each person in the household lives on less than S\$1,000 per month. These 400 to 500 students are eligible for loans and/or other aids to cover tuition fees and living expenses, according to NUS guidelines.

Last August, the SSF disbursed 40 bursaries of \$2,000 each. There is plan to do the same for 2011.

To give to and learn more about the SSF, please click [here](#).

Students benefitting from SSF

For several years now, I have been spending up to 42 hours a week, giving tuition to support my family and myself. This is while pursuing my degree in Physics and a minor in Computer Science. I always believe tough times don't last – tough men do. I thank God every day for gifting me with intelligence and resilience. He has answered my prayers and granted me a special gift from you. I believe you have a special place in Heaven for giving kindness to people in need. After I graduate, I would like to pass this kindness on to future students who share the same need as I. Your kindness will go a long, long way. Once again, thank you so much.

Local student
Physics, Year 2

Please accept my thanks for awarding me the SSF Bursary. Your generosity will help me to continue undergraduate education in the Faculty of Science. Throughout my education, I have worked hard to prove that I am a responsible and dedicated student that pursues good grades and has good participation in CCA. Having the gift of the bursary means a lot to me because it has reduced my family's financial burden.

International student
Applied Mathematics, Year 2

Thank you, for your generous donation. Your kind donation helped to cover some of my expenses such as the buying of textbooks. I intend to become a chemistry teacher upon graduation. Your donation comes as an encouragement for me to strive for good results in my course of studies.

Local student
Chemistry, Year 1

This bursary has given me a leg up. With the financial support, I can focus on my studies with peace of mind. At least, for this period of time, my finances are secured. So, to everyone who contributed, thanks lots! I hope that more people will continue to contribute to the fund in order to help more financially strapped students.

International student
Life Sciences, Year 1

Website:
<http://www.science.nus.edu.sg/alumni/omniscience>

EDITOR
Yong Tsuey Ling
Email: sciytl@nus.edu.sg

DESIGNER
James Wee

DEAN
Professor Andrew Wee

ADVISORS
Associate Professor Chin Wee Shong
Vice Dean (Outreach & Student Life)
Rita Lau, Director (Administration)
Perry Hee, Associate Director, Corporate Communications

Dean's Office
Faculty of Science
Block S16 Level 2
6 Science Drive 2, S(117546)

All information is correct at the time of circulation. Faculty of Science reserves the right to make changes and modifications to the contributions submitted without prior notice. The views and opinions expressed by individual contributors do not represent the positions of Faculty of Science, NUS.

August 2011

STUDENTS

NUS Science: Experiencing it firsthand

The Faculty of Science Open House is thronged with students that have come to experience for themselves the university life they can look forward to, if they study at NUS.



Experimenting science: Showing students what they can expect from the Faculty of Science is Assoc Prof Sow Chong-Haur, Department of Physics.

"On whether or not I choose to take up the offer from NUS, the ranking of the university will play a big part in my decision-making," said Yeo JunCong, a former Victoria Junior College student and one of the 1,000 participants that showed up at the Faculty of Science (FoS) Open House.

JunCong, 19, who is serving National Service, was glad he took time out from camp. He came to the Open House to

find out how he could pursue his interest in Mathematics at NUS and the choices that were available to him. He was not disappointed.

"I especially found the sharing by NUS alumnus Vincent Tan useful. He highlighted the different modules that I could take up to ensure a broad education whilst still pursuing a specialisation in Math," added JunCong.

Alumnus Vincent Tan's talk was one of the many talks lined up for the Open House. Participants were treated to a fair representation of talks from Biological Sciences, Chemistry, Food Science and Technology, Mathematics and Statistics, Pharmacy, and Physics, as well as Outreach and Student Life and NUS' Science Club.

Why NUS Science

Prof Andrew Wee, Dean of FoS, kicked off the Open House with his talk on '3 Reasons Why You Should Choose NUS Science'. His talk was web cast live to two other lecture theatres to cater to the capacity crowd.

Just as well received was the talk on 'The NUS Science Advantage' delivered by Assoc Prof Roger Tan, Vice Dean (Undergraduate Programmes), FoS.

The rain that poured the entire morning did not deter the students, many of whom came with their parents.

The FoS Open House was held on 21 May at Lim Seng Tjoe Lecture Theatre 27 Atrium.

© Dean's Office | Text: Yong Tsuey Ling



Crowd puller: Participants at the Faculty of Science Open House queue up for the Soyato ice-cream.



Slice of student life: Potential students checking out the booth of NUS' Science Club.

Website:

<http://www.science.nus.edu.sg/alumni/omniscience>

EDITOR

Yong Tsuey Ling
Email: sciycl@nus.edu.sg

DESIGNER

James Wee

DEAN

Professor Andrew Wee

ADVISORS

Associate Professor Chin Wee Shong
Vice Dean (Outreach & Student Life)
Rita Lau, Director (Administration)
Perry Hee, Associate Director, Corporate Communications

Dean's Office

Faculty of Science
Block S16 Level 2
6 Science Drive 2, S(117546)

All information is correct at the time of circulation. Faculty of Science reserves the right to make changes and modifications to the contributions submitted without prior notice. The views and opinions expressed by individual contributors do not represent the positions of Faculty of Science, NUS.

ALUMNI/DONORS

Congratulations, Class of 2011!

Faculty of Science welcomes its graduating students to the alumni family.

COMMENCEMENT

Celebrating Excellence 2011



Commencement 2011 saw a total of 1,259 Faculty of Science undergraduates being conferred their Bachelor degrees. In addition, the faculty conferred the Masters and Doctor of Philosophy degrees on 534 post-graduate students.

Their commencement was held in four ceremonies held over two days on 7 and 8 July, at the University Cultural Centre.

Following tradition, four prominent Science alumni delivered the commencement speeches, while two valedictorians nominated by heads of departments rounded off the ceremony.

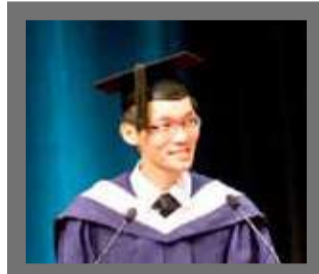
This year's alumni speakers and valedictorians were:

First ceremony on 7 July at 3.00 pm

- SPEAKER:** Mr Wan Pong Lim, Class of 1970
Director, Andermatt Investments Pte Ltd
- VALEDICTORIAN:** Koh Siang Boon, Bachelor of Science (Pharmacy) (Honours)
- VALEDICTORIAN:** Kevin Oh Swee Long, Master of Science (Mathematics)



Speaker:
Mr Wan Pong Lim
Class of 1970



Valedictorian:
Koh Siang Boon



Valedictorian:
Kevin Oh Swee Long

Second ceremony on 7 July at 8.00 pm

- SPEAKER:** Assoc Prof Lim Tit Meng, Class of 1984
Chief Executive Officer, Science Centre Singapore
- VALEDICTORIAN:** Matthias Lee Yi En, Bachelor of Science (Honours),
Bachelor of Social Science (Honours)
- VALEDICTORIAN:** Jose Christopher E Mendosa, Doctor of Philosophy



Speaker:
Assoc Prof Lim Tit Meng
Class of 1984



Valedictorian:
Matthias Lee Yi En



Valedictorian:
Dr Jose Christopher E Mendosa

Third ceremony on 8 July at 10.00 am

- SPEAKER:** Dr Lee Fook Kay, Class of 1983
Chief Scientific Officer, Ministry of Home Affairs
- VALEDICTORIAN:** Lim Ting Liang, Bachelor of Science (Honours)
- VALEDICTORIAN:** Junie Tok, Doctor of Philosophy



Speaker:
Dr Lee Fook Kay
Class of 1983



Valedictorian:
Lim Ting Liang



Valedictorian:
Dr Junie Tok

Fourth ceremony on 8 July at 3:00 pm

[shared ceremony with NUS Graduate School Integrative Sciences & Engineering (NGS)]

- SPEAKER:** Prof Lui Pao Chuen, Class of 1966
Special Advisor to NUS President



Speaker:
Prof Lui Pao Chuen
Class of 1966



Click [here](#) to catch the four ceremonies on webcast.

Click [here](#) to view the photos in the Science Commencement Picture Gallery.

© Dean's Office | Text: Perry Hee

Website:
<http://www.science.nus.edu.sg/alumni/omniscience>

EDITOR
Yong Tsuey Ling
Email: sciylt@nus.edu.sg

DESIGNER
James Wee

DEAN
Professor Andrew Wee

ADVISORS
Associate Professor Chin Wee Shong
Vice Dean (Outreach & Student Life)
Rita Lau, Director (Administration)
Perry Hee, Associate Director, Corporate Communications

Dean's Office
Faculty of Science
Block S16 Level 2
6 Science Drive 2, S(117546)

All information is correct at the time of circulation. Faculty of Science reserves the right to make changes and modifications to the contributions submitted without prior notice. The views and opinions expressed by individual contributors do not represent the positions of Faculty of Science, NUS.

August 2011

ALUMNI/DONORS

Faculty of Science Commencement Class 2011 pays it forward

For doing more to help needy Science students, the Faculty is acknowledged for best participation at this year's inter-faculty Commencement Class Fund-raising.

The Faculty of Science (FoS) bagged the Best Participation Award with 40.4 per cent in the 'Faculty with over 1,000 graduating students' category for Commencement Class Giving 2011. The Faculty performed better than its previous year's performance of 27.8 per cent.

Yet another feather in FoS' cap was the achievement by one of its six departments. The Department of Pharmacy bagged 'An Outstanding Achievement Award', having scored 100 per cent participation rate for the fourth consecutive year.

This year's Commencement Class Giving yielded almost a 50 per cent increase from last year. The amount generated through the seniors will be contributed to five Science Student Fund (SSF) bursaries (at a quantum of \$2,000 each) allocated for the juniors. More information on SSF can be found [here](#).

Of support and solidarity

FoS Dean Prof Andrew Wee, was presented the 'Faculty's Best Participation Award' at the Annual Giving 2011 Commencement Class Ceremony held on 8 July, at University Hall.

Of the win, Prof Wee said: "We are truly touched that the Faculty of Science Commencement Class 2011 has shown such strong support in giving back to their alma mater. Their donation will go to support bursaries for needy students. It is not the amount they gave that counts, it's their participation. We believe they are proud to be NUS alumni."

The award ceremony was hosted by NUS Provost Prof Tan Eng Chye.

In addressing guests at the ceremony, Prof Tan alluded to the purpose of Commencement Class Giving. He said: "I am very pleased to see our students demonstrating such a strong feeling of solidarity towards the NUS community. They appreciate what NUS has given them and want to perpetuate this trend of giving, so as to enable the next generation of students to enjoy the same privileges they had."

© Dean's Office | Text: Yong Tsuey Ling

*Make a gift to Annual Giving
To know more about making a gift to NUS, please contact Ms Ho Yuen Kwan at 6516 5755 or email askdvo@nus.edu.sg.*



Congrats! Prof Andrew Wee (left), Dean, Faculty of Science, receiving an award from NUS Provost Prof Tan Eng Chye, at the Annual Giving 2011 Commencement Class Ceremony. The Faculty outshone its performance last year and emerged the winner for Inter-faculty Commencement Class Fund-raising.

Website:
<http://www.science.nus.edu.sg/alumni/omniscience>

EDITOR

Yong Tsuey Ling
Email: sciycl@nus.edu.sg

DESIGNER

James Wee

DEAN

Professor Andrew Wee

ADVISORS

Associate Professor Chin Wee Shong
Vice Dean (Outreach & Student Life)
Rita Lau, Director (Administration)
Perry Hee, Associate Director, Corporate Communications

Dean's Office
Faculty of Science
Block S16 Level 2
6 Science Drive 2, S(117546)

All information is correct at the time of circulation. Faculty of Science reserves the right to make changes and modifications to the contributions submitted without prior notice. The views and opinions expressed by individual contributors do not represent the positions of Faculty of Science, NUS.

ALUMNI/DONORS

Giving to Science education

Personal donors and organisations do their part for a good cause.



Deloitte Prize: Representing Deloitte Southeast Asia, Mr Janson Yap (centre), Regional Industry Leader for Life Sciences & Healthcare based in Singapore, presents a \$1,000 cheque to Mr Jonathan Seah Thiam Hock (right), Doctor of Pharmacy, Class of 2011. The cheque is one of five presented to the Department of Pharmacy, being represented by Mr Ong Kheng Yong (left), President, 50th NUS Pharmaceutical Society Executive Committee. All five cheques were presented at Pharmacy Commencement Dinner held in July.

One of our regular donors, Mr Wong Ah Long, finds joy in being able to lend a helping hand to those in need. The NUS Science alumnus is not the only one who believes that a little help goes a long way.

Organisations are also doing their part, among them, DSM Nutritional Products Asia Pacific Pte Ltd, SIS'88 Pte Ltd, and Deloitte & Touche Enterprise Risk Services.

NUS Science alumnus Wong Ah Long

Science (Chemistry) alumnus, Mr Wong, donated \$50,000 to the Faculty's Science Student Fund. The donation will go towards funding two student recipients, one of whom must be from the Department of Chemistry, over a period of 12 years. The gift will commence this year.

"It is a joy to give and to provide a helping hand to empower those in need to achieve success in life. I strongly believe that the bursary recipients will be encouraged to continue the cycle of giving to empower another person's life. It is in giving that we receive!"

Mr Wong Ah Long
NUS Science alumnus

DSM Nutritional Products Asia Pacific Pte Ltd

First-time donor to the Science Student Fund, DSM Nutritional Products Asia Pacific donated \$33,000. The donation will enable the university to help two student recipients over a period of eight years. The gift is intended for students from Physics, Chemistry and Biological Sciences.

"In Singapore, where DSM has a regional hub, we want to play a part in creating a sustainable pool of talents for the community where we operate – there is no better way than giving back to a world class institution like NUS."

Mr Alvin Khoo
Affiliate Manager
DSM Nutritional Products Asia Pacific Pte Ltd

SIS'88 Pte Ltd

The organisation's donation of \$7,647.72 will go towards a SIS Prize. This donation top-up will bring the Endowed Prize to \$10,000. With this donation, the Faculty will be able to give out two prizes of \$200 to two recipients every year. The SIS Prize will take effect from August 2012.

"At SIS, we are honoured to be able to recognise outstanding students in NUS Faculty of Science through our 'SIS Sugar Prize Award'. As part of our Corporate Social Responsibility (CSR), the group not only places great emphasis on sustainable production through sound social and environmental practices, but also extends this CSR to donations and other charitable acts. We hope these prize awards will make a real difference in the lives of these students and spur them on towards making an impact in the future."

Mr Joseph Toh
General Manager, Sales & Marketing
SIS'88 Pte Ltd

Deloitte & Touche Enterprise Risk Services

First-time donor, Deloitte & Touche Enterprise Risk Services has pledged a Deloitte Prize of \$15,000 (to be fulfilled over three years, starting from 2011) to the Department of Pharmacy. The first pledge of \$5,000 was given to five students during Pharmacy Commencement Dinner on 9 July.

The organisation accords the prize to Pharmacy students due to its expanding involvement in Southeast Asia's life science and healthcare industries.

"We were discussing with NUS about how to recognise and develop the life sciences industry in Southeast Asia and Singapore. With this award, we hope that the life sciences industry will receive greater prominence and that more students will be motivated to embark on careers in this field while the achievements of the most successful students are celebrated."

Mr Janson Yap
Deloitte's Regional Industry Leader for Life Sciences and Healthcare

© Dean's Office

Website:

<http://www.science.nus.edu.sg/alumni/omniscience>

EDITOR
Yong Tsuey Ling
Email: sciycl@nus.edu.sg

DESIGNER
James Wee

DEAN
Professor Andrew Wee

ADVISORS
Associate Professor Chin Wee Shong
Vice Dean (Outreach & Student Life)
Rita Lau, Director (Administration)
Perry Hee, Associate Director, Corporate Communications

Dean's Office
Faculty of Science
Block S16 Level 2
6 Science Drive 2, S(117546)

All information is correct at the time of circulation. Faculty of Science reserves the right to make changes and modifications to the contributions submitted without prior notice. The views and opinions expressed by individual contributors do not represent the positions of Faculty of Science, NUS.

RESEARCH

Exploring a novel drug delivery material to combat cancer

A virus that infects Hibiscus may prove to be a boon in clinicians' fight against cancer – the exploration of the researchers from the Department of Biological Sciences is yielding results.

How does the virus that infects the Hibiscus plant, potentially distorting their flowers and giving them a speckled look, can help in cancer therapy?

Prof Wong Sek Man of Faculty of Science, who started researching the Hibiscus virus in 1996, found that the virus which targets the Hibiscus plant is unique to Singapore. Called Hibiscus latent Singapore virus (HLSV), it is a member of the Tobamovirus and one of 15 types found in the world to date.

The HLSV has a length of 300 nanometres and a width of 18 nanometres. Its minuscule size makes it ideal as effective nano-material for drug delivery.

Side effects minimised

Prof Wong explained that clinicians would usually inject medication systematically into cancer patients. The treatment induces side effects to the entire body and if chemotherapy is involved, patients tend to suffer from hair loss and nausea.

"If we put the medication into a container that is similar to a 'capsule' and then place it into a tumour, the capsule would gradually release the medication and we believe that this will allow better efficacy with fewer side effects," added Prof Wong.

The HLSV coat protein subunits bind the RNA of the virus. Using tumour-specific monoclonal antibody that can be bound



Prof Wong Sek Man (right) and Assoc Prof Kunchithapadam Swaminathan, seen with an in-house X-ray diffraction machine, similar to but 1,000 times smaller than the Advanced Photon Source (APS) synchrotron at the Argonne National Laboratory (ANL), Chicago, USA, which was used to study the Hibiscus latent Singapore virus.

to the HSLV protein 'cages' prepared by the researchers, a capsid that better targets cancer sites can be prepared.

With the component, Assoc Prof Kunchithapadam Swaminathan said that researchers will be able to separate the cylindrical capsid of the virus from the genome inside. This can help to remove the infectivity of the virus and 'load' anti-cancer medication or other substances into the capsid. Assoc Prof Swaminathan worked along with Prof Wong on the research.

Challenges encountered

Fibre diffraction is a relatively rare technique which the research team employed for the HLSV structure determination two years ago.

In explaining the challenges faced, Assoc Prof Swaminathan said: "Even though the virus sample diffracted X-rays to a good resolution – 2.5 Å in one direction – the HLSV structure could be solved only to a moderate resolution of 3.5 Å.

Assoc Prof Swaminathan added that fibre diffraction software is limited and even if a suitable computer programme was procured, proper documentation would be a challenge.

Collaboration was sought from one of the authorities on fibre diffraction, Prof Gerald Stubbs of Vanderbilt University, USA. Student Sunil Kumar Tewary flew to the US, but a cutback in resources led to Prof Stubbs discontinuing the project.

Other collaboration ensued upon the recommendation of Prof Keiichi Namba of Osaka University. This time, Assoc Prof Swaminathan brought along his student Sunil to Japan's Riken Institute, Spring 8.

In 2009, collaboration was set up with Prof Toshiro Oda. This yielded positive outcome, which saw the HLSV structure being solved although refinement halted at the R-factor of 18 per cent – the R-factor of well-refined fibre diffraction is 9 per cent.

The challenge for the team continues. Seeking refinement, Assoc Prof Swaminathan flew to Japan yet again last year. They identified a minor discrepancy in the selection of an input value. This was rectified; the refinement of the HLSV structure was successfully completed.

© Department of Biological Sciences | Reference: Article published in *Lianhe Zaobao*, 10 February 2011

Website:

<http://www.science.nus.edu.sg/alumni/omniscience>

EDITOR

Yong Tsuey Ling
Email: sciycl@nus.edu.sg

DESIGNER

James Wee

DEAN

Professor Andrew Wee

ADVISORS

Associate Professor Chin Wee Shong
Vice Dean (Outreach & Student Life)
Rita Lau, Director (Administration)
Perry Hee, Associate Director, Corporate Communications

Dean's Office

Faculty of Science
Block S16 Level 2
6 Science Drive 2, S(117546)

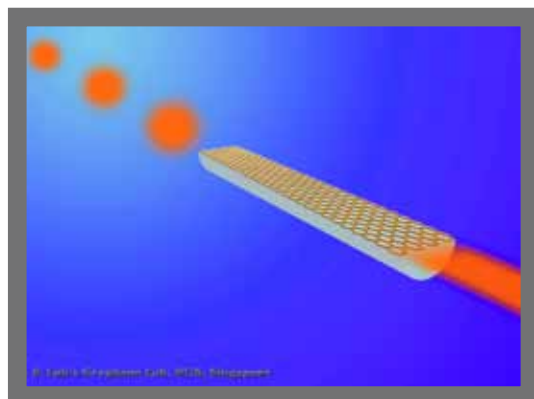
All information is correct at the time of circulation. Faculty of Science reserves the right to make changes and modifications to the contributions submitted without prior notice. The views and opinions expressed by individual contributors do not represent the positions of Faculty of Science, NUS.

August 2011

RESEARCH

Singapore researchers invent broadband graphene polariser*

Thanks to this invention, the bandwidth of prevailing optical fibre-based telecommunication systems can be broadened.



The ultra-slim broadband polariser that uses graphene, a single-atomic-layer crystallised carbon, can convert light beam into polarised light.

The research, led by Prof Loh Kian Ping, Vice Dean (Research), invented an ultra-slim broadband polariser that uses graphene, a single-atomic-layer crystallised carbon, to convert light beam into polarised light.

This is the first experimental demonstration of using graphene as an ultrathin waveguide to couple and modulate light. Light modulation by means of polarisation management is vital to avoid signal fading and error in coherent optical communications as well as optical gyroscopes and interferometric sensors.

All-in-one solution

In principle, the polarising ability of graphene covers the telecommunication bands from visible to mid-infrared. This means that graphene polariser can provide all-in-one solution for multiple-channel high-speed optical communications, the researchers said.

The researchers transferred graphene grown by chemical vapour deposition on the side-polished optical fibre to fabricate the graphene polariser and measured light polarisation at different wavelengths.

Unlike polarisers made from thin metal film or semiconductor dielectric, a graphene polariser has the unique ability to filter out transverse-magnetic-mode and supports transverse-electric-mode surface wave propagation.

The broadband graphene polariser work was published in the journal Nature Photonics and appeared online in May.

"The results reported in this paper can have a strong impact in the development of graphene-based optical devices for photonic applications...the science behind it is excellent," said Prof Antonio Castro Neto, Department of Physics, and Director of Graphene Centre, NUS.

"In the near future, we can envision ultrathin graphene-based photonic circuits with multiple functions of light creation, routing, modulation or detection," said Dr Bao Qiaoliang, senior researcher in Prof Loh's group.

© Department of Chemistry

**The other Singapore-based partners of this research included teams from NTU and Institute of Materials Research and Engineering. One Belgium group from Université Libre de Bruxelles participated in the project and verified the work of the Singapore group.*

Website:

<http://www.science.nus.edu.sg/alumni/omniscience>

EDITOR

Yong Tsuey Ling
Email: sciytl@nus.edu.sg

DESIGNER

James Wee

DEAN

Professor Andrew Wee

ADVISORS

Associate Professor Chin Wee Shong
Vice Dean (Outreach & Student Life)
Rita Lau, Director (Administration)
Perry Hee, Associate Director, Corporate Communications

Dean's Office
Faculty of Science
Block S16 Level 2
6 Science Drive 2, S(117546)

All information is correct at the time of circulation. Faculty of Science reserves the right to make changes and modifications to the contributions submitted without prior notice. The views and opinions expressed by individual contributors do not represent the positions of Faculty of Science, NUS.

August 2011

RESEARCH

Multiplicity one in symmetry breaking

Prof Zhu Chengbo of the Department of Mathematics establishes a unique 'multiplicity one' property when studying symmetry patterns in representation theory.



Prof Zhu Chengbo, along with Prof Sun Binyong of the Chinese Academy of Sciences, have established the validity of a longstanding conjecture called 'multiplicity one'. Their paper, entitled 'Multiplicity one theorems: the Archimedean case', will be published in the November 2011 issue of the *Annals of Mathematics*, one of the most prestigious journals in the mathematical community.

This phenomenon of multiplicity one was first predicted in an influential lecture of J. Bernstein in the Piatetski-Shapiro symposium in May 1989. Sun and Zhu proved his conjecture in 2008 for real or Archimedean cases, and the p-adic analog was shown by Aizenbud, Gourevitch, Rallis and Schiffmann the year before. (The latter's paper appeared in the *Annals of Mathematics* in 2010.)

Contextually, the theorems established by the team stemmed from representation theory, which is a field in mathematics that studies symmetry patterns. Symmetry breaking, also known as branching, is a process of comparison for two symmetry patterns, one larger than the other. In analysing any symmetry pattern, it is important to understand how it branches. The situation is particularly favourable if one can show the property of multiplicity one, namely the larger symmetry pattern breaks into sub-symmetry patterns, each of which appears at most once.

The theorems of Aizenbud-Gourevitch-Rallis-Schiffmann-Sun-Zhu thus say that classical pairs indeed have this remarkable property, over any local fields. Collectively, their results are expected to have important implications for the study of L-functions, especially the special values at the centre of symmetry.

© Department of Mathematics

Website:

<http://www.science.nus.edu.sg/alumni/omniscience>

EDITOR

Yong Tsuey Ling
Email: sciycl@nus.edu.sg

DESIGNER

James Wee

DEAN

Professor Andrew Wee

ADVISORS

Associate Professor Chin Wee Shong
Vice Dean (Outreach & Student Life)
Rita Lau, Director (Administration)
Perry Hee, Associate Director, Corporate Communications

Dean's Office
Faculty of Science
Block S16 Level 2
6 Science Drive 2, S(117546)

All information is correct at the time of circulation. Faculty of Science reserves the right to make changes and modifications to the contributions submitted without prior notice. The views and opinions expressed by individual contributors do not represent the positions of Faculty of Science, NUS.

August 2011

DEPARTMENT

Sorely missed, but not forgotten

We pay tribute to Dr Navjot Sodhi, Department of Biological Sciences' Professor of Conservation Ecology and one of the most cited and respected conservation biologists among his contemporaries in the world.

Dr Navjot Sodhi was struck by lymphoma and passed away on 12 June, at the age of 49.

Students, post-doctoral researchers and colleagues of Faculty of Science, whose lives Dr Sodhi had touched, echoed a common sentiment: "He will be sorely missed, but not forgotten".

Colleague and head of Department of Biological Sciences, Prof Paul Matsudaira said: "He was one of the intellectual leaders in the department, and raised awareness about ecology and climate change in Singapore."

Conservationist, first and foremost

Dr Sodhi was a pioneer amongst biologists to have embraced true multi-disciplinary efforts to conserve biodiversity.

He had worked on wide-ranging and often multi-disciplinary topics. His research foci had been conservation biology, invasive species and environmental management for the past 15 years.

Although his main focus was on birds, his research soon spanned every order of creature and every aspect of conservation biology – from the extinction risks in amphibians to the



Field trip: Dr Navjot Sodhi, taking a breather from fieldwork during a trip to Sulawesi in 2002.

number of species that are yet to be discovered in the tropical rainforests.

While on his field trips, he baulked at eating unfamiliar dishes, surviving on canned spaghetti instead.

Mentor, author and more

A mentor to students and post-doctoral researchers, Dr Sodhi had supervised over 20 Master of Science and PhD students. He had taught both graduate and undergraduate courses, which students enjoyed immensely.

He was also one of the department's most prolific authors. He served as an editor and associate editor on top journals such as *Biological Conservation*, *Conservation Biology*, *Animal Conservation*, and *Biotropica*. He co-authored several books, as well.

He had published more than 100 scientific papers in some of the most influential international scientific journals. These include *Nature*, *Science*, *Trends in Ecology and Evolution*, *Annual Review of Ecology, Evolution*

and *Systematics*, *BioScience*, *Journal of Applied Ecology*, *Conservation Biology*, and *Biodiversity and Conservation*.

In addition, he wrote and edited several books and monographs such as *Southeast Asian Biodiversity in Crisis* (2006, Cambridge University Press); *Tropical Conservation Biology* (2007, Blackwell Press); and *Biodiversity and Human Livelihoods in Protected Areas: case studies from the Malay Archipelago* (2008, Cambridge University Press).

Dr Sodhi's last major work as co-editor was a textbook called *Conservation Biology for All* (2009, Oxford University Press), the online version of which is freely available to students of conservation science in poor countries.

He received his PhD from the University of Saskatchewan in Canada and embarked on his career at NUS as an assistant professor in 1995.

His scientific body of work is his legacy; it will continue to inspire future generations and remind us that there once was a great man named Dr Navjot Sodhi.

© Department of Biological Sciences | Reference: Text by Asst Prof David Bickford and The Straits Times' article published on 14 June 2011

Website:

<http://www.science.nus.edu.sg/alumni/omniscience>

EDITOR

Yong Tsuey Ling
Email: sciycl@nus.edu.sg

DESIGNER

James Wee

DEAN

Professor Andrew Wee

ADVISORS

Associate Professor Chin Wee Shong
Vice Dean (Outreach & Student Life)
Rita Lau, Director (Administration)
Perry Hee, Associate Director, Corporate Communications

Dean's Office
Faculty of Science
Block S16 Level 2
6 Science Drive 2, S(117546)

All information is correct at the time of circulation. Faculty of Science reserves the right to make changes and modifications to the contributions submitted without prior notice. The views and opinions expressed by individual contributors do not represent the positions of Faculty of Science, NUS.

August 2011

DEPARTMENT

Mathematical research and casino gaming: What they have in common

The Department of Mathematics signs Memorandum of Understanding with the Casino Regulatory Authority of Singapore to jointly promote research and development in mathematical research that pertains to casino gaming.

With the Memorandum of Understanding (MoU), the Casino Regulatory Authority of Singapore (CRA) and NUS will now have a framework for collaboration.

Mathematical algorithms used in the gaming industry, and in particular gaming integrity, will be among the areas for joint research projects. The CRA will also be able to leverage the expert views of NUS' mathematics faculty in areas such as the specialist field of gaming mathematics.

Prof Andrew Wee, Dean, Faculty of Science, and CRA Chief Executive, Mr T Raja Kumar signed the MoU, at the second CRA Gaming Technology Forum, on 20 January. The signing was witnessed by industry partners, comprising gaming manufacturers, suppliers and testing laboratories.

© Department of Mathematics



Seal the deal: Prof Andrew Wee (right), Dean, Faculty of Science, and Mr T Raja Kumar, Chief Executive of Casino Regulatory Authority of Singapore (CRA), are looking forward to joint collaboration between the two institutions. They signed an MoU, witnessed by Chairman of CRA Technology Advisory Committee Prof Lee Kwok Cheong and NUS Provost Prof Tan Eng Chye.

Website:

<http://www.science.nus.edu.sg/alumni/omniscience>

EDITOR

Yong Tsuey Ling
Email: sciycl@nus.edu.sg

DESIGNER

James Wee

DEAN

Professor Andrew Wee

ADVISORS

Associate Professor Chin Wee Shong
Vice Dean (Outreach & Student Life)
Rita Lau, Director (Administration)
Perry Hee, Associate Director, Corporate Communications

Dean's Office
Faculty of Science
Block S16 Level 2
6 Science Drive 2, S(117546)

All information is correct at the time of circulation. Faculty of Science reserves the right to make changes and modifications to the contributions submitted without prior notice. The views and opinions expressed by individual contributors do not represent the positions of Faculty of Science, NUS.

August 2011

DEPARTMENT

Summer School Programme: The French connection

Students will have a chance to immerse in French culture and broaden their undergraduate experience, thanks to an agreement inked with CPE Lyon.

Paris today, Marseille tomorrow! Thirty Chemistry students will have a chance to visit these cities and immerse in some French culture when they sign up for the Summer School Programme.

The programme to be run over three weeks comprises activities held during the students' visits to Paris and Marseille (or other alternative city or cities).

It will be conducted in June each year starting from 2011 through to 2014.

The Department of Chemistry through Faculty of Science inked the agreement with CPE Lyon in March.

While CPE Lyon will be responsible for organising the activities, as well as incorporating safety issues, the Department of Chemistry will undertake the selection of students.

© Department of Chemistry



Work and play: Year 2 and Year 3 Chemistry students undertake practical learning, industry visit and a cultural trip as part of the NUS-CPE Lyon Summer School Programme.

Website:

<http://www.science.nus.edu.sg/alumni/omniscience>

EDITOR

Yong Tsuey Ling
Email: sciysl@nus.edu.sg

DESIGNER

James Wee

DEAN

Professor Andrew Wee

ADVISORS

Associate Professor Chin Wee Shong
Vice Dean (Outreach & Student Life)
Rita Lau, Director (Administration)
Perry Hee, Associate Director, Corporate Communications

Dean's Office
Faculty of Science
Block S16 Level 2
6 Science Drive 2, S(117546)

All information is correct at the time of circulation. Faculty of Science reserves the right to make changes and modifications to the contributions submitted without prior notice. The views and opinions expressed by individual contributors do not represent the positions of Faculty of Science, NUS.

August 2011

DEPARTMENT

Making the first move

NUS' Department of Chemistry holds its first Environment, Energy and Catalysis Symposium with its counterparts from King Fahd University of Petroleum & Minerals, Saudi Arabia.

The inaugural symposium saw the two universities foster appreciation of each other's interests and strengths.

Six faculty members from the respective chemistry departments presented their research works at the symposium. Their presentations touched on the application of joint research funding and an exchange of graduate students and faculty members.

The symposium was organised with the objective of enabling potential research collaboration between two institutions of repute. It was held in May.

© Department of Chemistry



Mutual cooperation: Faculty members from NUS' Department of Chemistry and its counterparts from King Fahd University of Petroleum & Minerals, Saudi Arabia, get together for joint collaboration.

Website:

<http://www.science.nus.edu.sg/alumni/omniscience>

EDITOR

Yong Tsuey Ling
Email: sciycl@nus.edu.sg

DESIGNER

James Wee

DEAN

Professor Andrew Wee

ADVISORS

Associate Professor Chin Wee Shong
Vice Dean (Outreach & Student Life)
Rita Lau, Director (Administration)
Perry Hee, Associate Director, Corporate Communications

Dean's Office
Faculty of Science
Block S16 Level 2
6 Science Drive 2, S(117546)

All information is correct at the time of circulation. Faculty of Science reserves the right to make changes and modifications to the contributions submitted without prior notice. The views and opinions expressed by individual contributors do not represent the positions of Faculty of Science, NUS.

August 2011

Science on Saturday

Not Been Back To NUS Faculty Of Science For Some Time?

We would like to invite you and your family back to share in your fascination with science!

For Alumni and Families
Date: 24 September 2011 (Sat)

1. Talk: "Science on Saturday" - Introduction to the Nanoworld

Speaker: Assoc Prof Sow Chong Haur

Date: 24 September 2011 (Saturday)

Venue: LT 31, Level 3, S16, Faculty of Science, National University of Singapore

Time: 10.30am-11.15am

The aim of this talk is to give audience an appreciation of the nano-sized regime and scientists' fascination with Nanoscience and Nanotechnology. These are very broad fields.

After an introduction of these fields and a discussion on the applications of nanotechnology, the talk will focus on atoms and molecules. It will also include the components and structure of individual atoms and how atoms combine together to create the various forms of matter.

To study the properties of the atoms and matter up close, very powerful microscopes are needed. Two fascinating microscopic techniques will be introduced, namely, the electron-scanning and tunneling-scanning microscopes that scientists use to probe tiny structures. "Images" of atoms and molecules obtained using these techniques will be shown. Finally, you will learn how scientists manipulate individual atoms and arrange them into various structures.

Map to locate event venue



2. Visits to NUS Science Demonstration laboratory!

Date: 24 September 2011 (Saturday)

Venue: SDL, Level 2, S16, Faculty of Science, National University of Singapore

The NUS Science Demonstration laboratory (SDL) was developed in the spirit of allowing students to discover and re-discover science through hands-on experience and interactive learning. The Science Demonstration Laboratory highlights 30 or more illuminating science experiments and demonstrations.

Seeking to expound the principle of "I see and I remember; I do and I understand", the lab builds students' understanding around visually and intellectually impactful examples of scientific phenomena.

A team of dedicated guides complements the equipment and hardware. They relay and explain the most exciting aspects of scientific concepts to participants.

We cordially invite you and your families to visit the Science Demo Lab.

The visiting time slots are shown below:

Time	Activity	Venue
9am-10.30am	Science Demo Lab Tour	Science Demo Lab, Level 2, S16, NUS
12nn-1.30pm	Science Demo Lab Tour	Science Demo Lab, Level 2, S16, NUS
1.30pm-3pm	Science Demo Lab Tour	Science Demo Lab, Level 2, S16, NUS

Maximum number of visitors: 30 per slot.

Families should be accompanied by the alumnus during the session.

To sign up, please do so [here](#).

For further enquiries, please contact Mr Lim Kim Yong at scilky@nus.edu.sg



Website:

<http://www.science.nus.edu.sg/alumni/omniscience>

EDITOR

Yong Tsuey Ling
Email: sciycl@nus.edu.sg

DESIGNER

James Wee

DEAN

Professor Andrew Wee

ADVISORS

Associate Professor Chin Wee Shong
Vice Dean (Outreach & Student Life)
Rita Lau, Director (Administration)
Perry Hee, Associate Director, Corporate Communications

Dean's Office

Faculty of Science
Block S16 Level 2
6 Science Drive 2, S(117546)

All information is correct at the time of circulation. Faculty of Science reserves the right to make changes and modifications to the contributions submitted without prior notice. The views and opinions expressed by individual contributors do not represent the positions of Faculty of Science, NUS.

August 2011

What's Up?

Check out the events held from September to December 2011!

SEPT2011 5	>	SEPT2011 6	• NUS-Imperial College Symposium
SEPT2011 6			• Science Day cum Student Awards Ceremony
OCT2011 3	>	OCT2011 7	• eLearning Week
OCT2011 27	>	OCT2011 29	• Halloween Celebrations
NOV2011 14	>	NOV2011 16	• 12th Frontier Science Symposium
NOV2011 16			• Faculty Awards Ceremony 2011
NOV2011 26			• 'Science Alumni Specials Dinner cum Alumni Award Ceremony
DEC2011 6	>	DEC2011 8	• Science Focus 2011
DEC2011 12	>	DEC2011 14	• 7th Mathematics & Physical Sciences Graduate Congress • 16th Biological Sciences Graduate Congress

Website:
<http://www.science.nus.edu.sg/alumni/omniscience>

EDITOR
Yong Tsuey Ling
Email: sciylt@nus.edu.sg

DESIGNER
James Wee

DEAN
Professor Andrew Wee

ADVISORS
Associate Professor Chin Wee Shong
Vice Dean (Outreach & Student Life)
Rita Lau, Director (Administration)
Perry Hee, Associate Director, Corporate Communications

Dean's Office
Faculty of Science
Block S16 Level 2
6 Science Drive 2, S(117546)

All information is correct at the time of circulation. Faculty of Science reserves the right to make changes and modifications to the contributions submitted without prior notice. The views and opinions expressed by individual contributors do not represent the positions of Faculty of Science, NUS.