A heritage to preserve

The new Lee Kong Chian Natural History Museum is on its third phase of fundraising to engage a talent pool before setting to open in 2014.

Science Club: Unity through participation

Meet the 33rd Science Club Executive Committee who will unite Science through welfare and participation.

What’s Up...

Check out the events held from April 2013 to September 2013!

E-beam Allows for Precise Manipulation of Nanoparticles

For the first time, scientists demonstrate the possibility of manipulating nanoparticles and pave the way for useful applications.

Co-discoverer of evolution and Singapore

For the first time, lesser known co-discoverer of the theory of evolution, Alfred Russel Wallace gets his well-deserved recognition by having his complete works available online.

When drugs do damages

For the first time in Singapore, Assistant Professor Nancy Ko reviewed drug interactions in medications prescribed for cancer patients.

An outstanding young scientist

Recognised for his works on interface engineering for molecular, organic and graphene electronics, Assistant Professor Chen Wei was awarded Young Scientist Award for 2012.

Help for the needy students

The Goh Foundation made a munificent gift that brings hope and help to deserving and needy Science students.

Are you ready to face the world?

Hear it from alumni who have taken similar paths, and meet potential employers right here at your Faculty.

A prestigious win

For having a breakthrough research in the understanding of cell movement, Professor Michael Sheetz received the Lasker Award 2012.

An outstanding young scientist

Recognised for his works on interface engineering for molecular, organic and graphene electronics, Assistant Professor Chen Wei was awarded Young Scientist Award for 2012.

Faculty Champions

From a humble beginning, the Faculty of Science is where it is today as a result of an undoubtedly capable and talented pool of faculty and support staff. The annual Faculty Level Awards pay tribute to them.

Help for the needy students

The Goh Foundation made a munificent gift that brings hope and help to deserving and needy Science students.

A heritage to preserve

The new Lee Kong Chian Natural History Museum is on its third phase of fundraising to engage a talent pool before setting to open in 2014.

Science Club: Unity through participation

Meet the 33rd Science Club Executive Committee who will unite Science through welfare and participation.

What’s Up...

Check out the events held from April 2013 to September 2013!

E-beam Allows for Precise Manipulation of Nanoparticles

For the first time, scientists demonstrate the possibility of manipulating nanoparticles and pave the way for useful applications.

Co-discoverer of evolution and Singapore

For the first time, lesser known co-discoverer of the theory of evolution, Alfred Russel Wallace gets his well-deserved recognition by having his complete works available online.

When drugs do damages

For the first time in Singapore, Assistant Professor Nancy Ko reviewed drug interactions in medications prescribed for cancer patients.

An outstanding young scientist

Recognised for his works on interface engineering for molecular, organic and graphene electronics, Assistant Professor Chen Wei was awarded Young Scientist Award for 2012.

Help for the needy students

The Goh Foundation made a munificent gift that brings hope and help to deserving and needy Science students.

A heritage to preserve

The new Lee Kong Chian Natural History Museum is on its third phase of fundraising to engage a talent pool before setting to open in 2014.

Science Club: Unity through participation

Meet the 33rd Science Club Executive Committee who will unite Science through welfare and participation.

What’s Up...

Check out the events held from April 2013 to September 2013!

E-beam Allows for Precise Manipulation of Nanoparticles

For the first time, scientists demonstrate the possibility of manipulating nanoparticles and pave the way for useful applications.

Co-discoverer of evolution and Singapore

For the first time, lesser known co-discoverer of the theory of evolution, Alfred Russel Wallace gets his well-deserved recognition by having his complete works available online.

When drugs do damages

For the first time in Singapore, Assistant Professor Nancy Ko reviewed drug interactions in medications prescribed for cancer patients.

An outstanding young scientist

Recognised for his works on interface engineering for molecular, organic and graphene electronics, Assistant Professor Chen Wei was awarded Young Scientist Award for 2012.

Help for the needy students

The Goh Foundation made a munificent gift that brings hope and help to deserving and needy Science students.
March 2013

OmniSCI
A heritage to preserve

The new Lee Kong Chian Natural History Museum is on its third phase of fundraising to engage a talent pool before setting to open in 2014.

A dream come true

The idea of a Southeast Asian natural museum was first conceived by Professor Tommy Koh, who was then Chairman of the National Heritage Board in 2004. The idea was eventually “a dream come true” when two passionate individuals, Professor Leo Tan and Professor Peter Ng embarked on an ambitious journey to transform this idea into reality.

Fundraising campaigns have been taking place in three parts to address specific needs of the new museum. Namely, for the construction of the building, exhibits and then a pool of talent.

At the moment, the museum has captured strong interest for its near-complete dinosaur fossils, fondly nicknamed, Twinky, Apollonia and Prince. Prof Leo Tan believes that “when the museum is completed, it will serve as a hub for learning and discovering natural history.”

The final phase of raising $10 million for employing talent in the enlarged museum is now underway. The museum is looking to appoint those who have the knowledge, passion, credibility and ability in biodiversity and natural heritage to excite others.

Construction for the museum commenced on 11 January 2013, with a groundbreaking ceremony held in the presence of 40 guests including Guest-of-Honour Prof Tommy Koh, Singapore’s Ambassador-at-Large and Honorary Chairman of Singapore’s National Heritage Board, sixth President of Singapore Dr S R Nathan and Dr Lee Seng Tee, Director of Lee Foundation.

The new seven-storey museum that has been designed by W Architects, will be completed in 2014 and will serve a crucial role in preserving Southeast Asian heritage and as Prof Peter Ng pointed out, “house collective memories.” He added that it will also allow for the current Raffles Museum of Biodiversity Research (RMBR) to expand its research and “scale up what we do to a higher level.”

In his speech, NUS President Professor Tan Chorh Chuan commented on how his task to “scale up its works on biodiversity preservation, education and research has been made more crucial against the backdrop of climate change and a rapidly developing Asia.”

Website:
http://www.science.nus.edu.sg/alumni/omnisciience

© Copyright 2012 Faculty of Science, National University of Singapore. All Rights Reserved.
Prime
Science Club: Unity through participation

Meet the 33rd Science Club Executive Committee who will unite Science through welfare and participation.

Through a symbolic handover ceremony, the newly elected Science Club’s 33rd Executive Committee (ExCo) officially took over from the 32nd ExCo on 11 September 2012.

Carrying on the “black-and-white” tradition, the ceremony saw the ExCo’s incoming members dressed in all white and receiving a key pendant from the outgoing ExCo members who were dressed in all black.

“I am very honoured to be able to have this opportunity to lead the Science Club. The 33rd ExCo seeks to reach out to more students in Science and put the welfare of Science students as a priority as we plan the various upcoming events,” said the newly elected president of Science Club, Joyce Fu.

In her first speech as the incoming President of the 33rd ExCo, the Year 2 Life Sciences student also called upon Science students to join the club as subcommittee members and participate in the events organised, “as we move forward together as friends and family towards an even better Science Faculty!”

The new members of Science Club’s 33rd Executive Committee (ExCo) are:

- President – Fu ZiHui Joyce, Year 2, Life Sciences
- Vice-President (Internal Affairs) – Chua Si Hao, Year 2, Life Sciences
- Vice-President (Projects Orientation Projects) – Tan Jun Kai, Year 2, Applied Mathematics
- Honorary General Secretary – Tan Chin Yee, Year 2, Life Sciences
- Honorary Treasurer – Low Jing Wen Vanessa, Year 2, Chemistry
- Welfare Director – Ting Le Hua, Year 2, Chemistry
- Sports Director – Chen Wei Wei, Year 1, Statistics
- Publications Director – Ng Kian Wee Aaron, Year 2, Applied Mathematics and Economics
- Dinner & Dance Director – Marcus Chong, Year 2, Applied Mathematics
- Science Volunteer Corps (SVC) – elgin ting Zhi Hong, Year 4, Chemistry
- Freshmen Orientation Project Assistant Chairperson (FOPAC) – Shawn Poh, Year 1, Statistics
- Science CAMP Director – Ng Shun Xiang Alan, Year 3, Chemistry
- Science Orientation Week Director – Koh Choon Hong Kenneth, Year 2, Mathematics
- RAG Director – Doh Poh, Year 4, Life Sciences
- Flag Director – Law Min Joo, Vanessa, Year 2, Life Sciences
- Business Director – Tan Kai Bin, Year 3, Statistics
- Project Angel Director – Enka Ivanne Halim, Year 3, Life Sciences
We see and use various light sources every day, but how much do we know about and appreciate them? Faculty of Science (FoS) students built a meritorious exhibit that demonstrated the concepts of light spectra and diffraction that won the hearts of the judges at the Amazing Science-X Challenge 2012.

Organised by DSO National Laboratories (DSO), National University of Singapore (NUS) and Science Centre Singapore, the Amazing Science-X Challenge sets out to find exhibits with the X-factor that best explain a science phenomenon. The winning team from NUS on their way to national fame as they receive their awards from Dr Tan Kim Siew, Commissioner and Chief Executive Officer of Inland Revenue Authority of Singapore (second from left). From left: Alisa Lim, Dr Tan Kim Siew, Amelia Tan and Ernest Tan.

The X-hibit
Using some everyday materials such as table lamps to construct the exhibit, Ernest Tan, Alisa Lim and Amelia Tan from the Special Programme in Science (SPS) demonstrated the concepts of light spectra and diffraction. The exhibit revealed the rich and interesting structure hidden in ordinary “white” light and comparisons were also done between different light sources such as fluorescent, incandescent and LED lamps. It allowed viewers to appreciate the differences between these everyday light sources, and thereby gain a better understanding of the nature of light.

Their captivating exhibit earned them top prize in Category D (Polytechnics, Universities and Others), which is a first for FoS.

Also worth mentioning is another team from SPS, Joey Wang, Ng Wei Jie and Rebecca Khoo, whose exhibit seeks to explain superhydrophobicity or commonly known as the “Lotus leaf” effect. Their exhibit won them a Special Mention Award in Category D.

“I’m very proud for both teams’ achievements. Indeed, their winnings justify the amount of effort and commitment they put in as they spent the whole of their June holidays to prepare for this competition,” Mr Andreas Dewanto, from the Department of Physics and staff advisor for participating teams from FoS said about the achievements of the Faculty this year.

The winning team from FoS is now on their way to gaining national fame as their exhibit is being displayed in the Science Centre Singapore and viewed by millions, alongside other winning exhibits from other categories.

The X-Factor in Science!
For the first time, Faculty of Science students clinched top prize in the Amazing Science-X Challenge.

© Copyright 2012 Faculty of Science, National University of Singapore. All Rights Reserved.

Website:
http://www.science.nus.edu.sg/others/omniscience
For Ong Zongjin, recipient of the Arthur Rajaratnam Prize for Experimental Physics II, the prize certainly gave his confidence a boost before he embarks on a teaching career upon graduation. “It was really a very big surprise to me. Part of the module included oral presentation of our experiment, and I guess that was what made me stand out as I have always been keen to share about Physics with people. That is also why I chose to be a Physics teacher,” beamed the Ministry of Education Teaching Scholarship (Local) holder.

To encourage more students to continue their pursuit of physics, the Arthur Rajaratnam Prize is awarded to two top performing students who have excelled in their pursuit of physics, the Arthur Rajaratnam Prize. Toinh Long Teng, Tan Ying Zhe Ernest, Ng Kia Boon, and Tan Ying Zhe Ernest were declared the winners of the prize. The prize is awarded to students who have excelled in their respective fields of studies for having outstanding academic achievements.

These awards are made possible from the proceeds of donations by individual and corporate donors. This year’s ceremony was graced by our kind donors, including our kind donors, Emeritus Professor Goh Suat Hong, Ms Dora Wee, and Mr Philip Ong from SIS’88 Pte Ltd. The Science Students’ Awards are given out annually to honour students who have performed exceedingly well in their respective fields of studies.

Proud moment for Mr and Mrs Ong (first and second from left), who specially took leave off work to witness their son, Zongjin (second from right) receive his prize. Also in the picture is Zongjin’s younger brother (far right).
Elgin shared his experience but too bad I couldn’t bring any back at making a batch of J&J skin lotion. “I followed a formula and tried my hands to the Quality & Compliance (Q&C) and selected by J&J to be an intern attached to the Research & Development (R&D) lab!” chuckles Elgin Ting, a Year 4 Chemistry major.

Through the 2 months internship, Elgin also managed the raw material database and had to ensure quality and compliance with other offices. “I had to correspond with offices in the neighbouring regions and that was an eye-opener for me.” Elgin said. “Having colleagues from different countries and cultures also sharpened my communications skills and definitely better prepared me for the working world. I learnt how to communicate in different ways with different counterparts from other parts of the world in order to get them to cooperate with me for certain tasks as they have different working styles,” he added.

Recalling his experience at J&J, Elgin was all positive about it; initially he took up the module SP1001, Career Planning & Preparation, to learn about transitioning himself from school to work. Thereafter, he decided to take what he has learnt from the module to another level by participating in UPIP where he will get a chance to put what he learnt in SP1001 into good use, get some relevant working experience and also a taste of how it is like to work in a big corporation like J&J.

“Having colleagues from different countries and cultures also sharpened my communications skills and definitely better prepared me for the working world.”

Elgin said, “I was feeling very nervous because of fear of the unknown, read on to find out how exciting life can be by actively participating in activities outside the curriculum!

Having a go at making a skin lotion

“My hands were always smooth after working at the Research & Development (R&D) lab!” chuckles Elgin Ting, a Year 4 Chemistry major. He was reminiscing about his internship at Johnsons & Johnsons (J&J) Singapore, which is part of the Undergraduate Professional Internship Programme (UPP). Elgin managed to impress the interviewers by putting the interview skills he learnt into practice and was selected by J&J to be an intern attached to the Quality & Compliance (Q&C) and R&D departments.

“I followed a formula and tried my hands at making a batch of J&K skin lotion, but too bad I couldn’t bring any back with me.” Elgin shared his experience working at the R&D department. Enjoying himself tremendously at the event, Shankart Ganesan, a Year 2 Life Science major said, “It was a fresh concept as it enlightened us about scientific concepts behind movies such as the principles of 3D movies demonstrated by the Physics Society.”

“As students of the Faculty of Science, Science Day gave us a unique opportunity to perceive Science in a brand new way. Despite watching and dealing with movies a lot in our daily lives, not many of us would have a good understanding of the workings behind movies. Science Day 2013 allowed many students to learn about principles and concepts certainly not covered in any lectures. Science Day also gave many students a chance to really feel proud about being a student of Science, as it showed how useful and integrated Science is to the world around us,” Si Hao, who is a Life Science major himself, said with a wide smile.

Members of the Physics Society chose to demonstrate scientific principles behind 3D movies.

University life is not all about paper chasing for that degree. While pursuing academic excellence, why not try out something enriching? If you hesitate because of fear of the unknown, read on to find out how exciting life can be by actively participating in activities outside the curriculum!

Having a hand in faculty events

For Chua Si Hao, Vice President (Internal Affairs) of the NUS Students’ Science Club, science and movies are his passion. Thus, weaving movies into celebrating Science came naturally.

“I was thinking of a way to integrate the various Academic societies and their respective disciplines into a common theme to showcase Science for Science Day 2013. In the end, I decided that ‘Science in the Movies’ will be an elegant solution as the sheer breadth of topics that movies cover will provide us with many topics to discuss and showcase,” explained Si Hao. Furthermore, the accessibility of movies to the student population made the topic easy to relate to,” he added.

His decision proved to be a brilliant one as students flooded the foyer of LT27, participating in activities held as a celebration for Science Day on 22 January 2013. Each Academic Society had a booth for students to visit as part of a crosswalk puzzle game, and at the end of the day, a lucky winner walked away with an iPod Nano, amongst other prizes.

Enjoying himself tremendously at the event, Shankart Ganesan, a Year 2 Life Science major said, “It was a fresh concept as it enlightened us about scientific concepts behind movies such as the principles of 3D movies demonstrated by the Physics Society.”

“As students of the Faculty of Science, Science Day gave us a unique opportunity to perceive Science in a brand new way. Despite watching and dealing with movies a lot in our daily lives, not many of us would have a good understanding of the workings behind movies. Science Day 2013 allowed many students to learn about principles and concepts certainly not covered in any lectures. Science Day also gave many students a chance to really feel proud about being a student of Science, as it showed how useful and integrated Science is to the world around us,” Si Hao, who is a Life Science major himself, said with a wide smile.

Members of the Physics Society chose to demonstrate scientific principles behind 3D movies.

University life is not all about paper chasing for that degree. While pursuing academic excellence, why not try out something enriching? If you hesitate because of fear of the unknown, read on to find out how exciting life can be by actively participating in activities outside the curriculum!

Having a hand in faculty events

For Chua Si Hao, Vice President (Internal Affairs) of the NUS Students’ Science Club, science and movies are his passion. Thus, weaving movies into celebrating Science came naturally.

“I was thinking of a way to integrate the various Academic societies and their respective disciplines into a common theme to showcase Science for Science Day 2013. In the end, I decided that ‘Science in the Movies’ will be an elegant solution as the sheer breadth of topics that movies cover will provide us with many topics to discuss and showcase,” explained Si Hao. Furthermore, the accessibility of movies to the student population made the topic easy to relate to,” he added.

His decision proved to be a brilliant one as students flooded the foyer of LT27, participating in activities held as a celebration for Science Day on 22 January 2013. Each Academic Society had a booth for students to visit as part of a crosswalk puzzle game, and at the end of the day, a lucky winner walked away with an iPod Nano, amongst other prizes.

Enjoying himself tremendously at the event, Shankart Ganesan, a Year 2 Life Science major said, “It was a fresh concept as it enlightened us about scientific concepts behind movies such as the principles of 3D movies demonstrated by the Physics Society.”

“As students of the Faculty of Science, Science Day gave us a unique opportunity to perceive Science in a brand new way. Despite watching and dealing with movies a lot in our daily lives, not many of us would have a good understanding of the workings behind movies. Science Day 2013 allowed many students to learn about principles and concepts certainly not covered in any lectures. Science Day also gave many students a chance to really feel proud about being a student of Science, as it showed how useful and integrated Science is to the world around us,” Si Hao, who is a Life Science major himself, said with a wide smile.

Members of the Physics Society chose to demonstrate scientific principles behind 3D movies.

University life is not all about paper chasing for that degree. While pursuing academic excellence, why not try out something enriching? If you hesitate because of fear of the unknown, read on to find out how exciting life can be by actively participating in activities outside the curriculum!

Having a hand in faculty events

For Chua Si Hao, Vice President (Internal Affairs) of the NUS Students’ Science Club, science and movies are his passion. Thus, weaving movies into celebrating Science came naturally.

“I was thinking of a way to integrate the various Academic societies and their respective disciplines into a common theme to showcase Science for Science Day 2013. In the end, I decided that ‘Science in the Movies’ will be an elegant solution as the sheer breadth of topics that movies cover will provide us with many topics to discuss and showcase,” explained Si Hao. Furthermore, the accessibility of movies to the student population made the topic easy to relate to,” he added.

His decision proved to be a brilliant one as students flooded the foyer of LT27, participating in activities held as a celebration for Science Day on 22 January 2013. Each Academic Society had a booth for students to visit as part of a crosswalk puzzle game, and at the end of the day, a lucky winner walked away with an iPod Nano, amongst other prizes.

Enjoying himself tremendously at the event, Shankart Ganesan, a Year 2 Life Science major said, “It was a fresh concept as it enlightened us about scientific concepts behind movies such as the principles of 3D movies demonstrated by the Physics Society.”

“As students of the Faculty of Science, Science Day gave us a unique opportunity to perceive Science in a brand new way. Despite watching and dealing with movies a lot in our daily lives, not many of us would have a good understanding of the workings behind movies. Science Day 2013 allowed many students to learn about principles and concepts certainly not covered in any lectures. Science Day also gave many students a chance to really feel proud about being a student of Science, as it showed how useful and integrated Science is to the world around us,” Si Hao, who is a Life Science major himself, said with a wide smile.

Members of the Physics Society chose to demonstrate scientific principles behind 3D movies.
One deserving PhD candidate will benefit from the prestigious scholarship, Rhodia Graduate Fellowship in Science, in Academi’s year 2013/14, made possible by the generous donation of $150,000 by Rhodia Novecare Asia Pacific.

Encouraging excellence in science

“This collaboration with NUS is evident in all the strong commitment our organisation has placed on developing talents to meet the needs of sustainable growth in the region” said Dr Chen Pu, Vice President & General Manager, Novecare Asia Pacific, during the signing ceremony held at the Scholars NUSS Guild House on 25 October 2012.

Also present at the ceremony were Mr. Pierre-Franck Valentin, Vice President, Product Line Management, Novecare Global, Ms Chay Choy Fun, Human Resource Director, Novecare Asia Pacific, Mr Galder Cristobal, Research & Development Manager, Novecare Asia Pacific.

Professor Andrew Wee, Dean of FoS, graciously acknowledged the gift and said; “The Rhodia Graduate Fellowship in Science will be a highly-regarded award that will enable the Faculty of Science to groom the next generation of outstanding students. It would further spur the developments and recognise the achievements of graduate students in science.”

About Rhodia Novecare Asia Pacific

Rhodia is a member of the Solvay Group, an international industrial company offering a broad range of products and solutions that contribute to improving the quality of life.

With 14,250 employees and sales of EUR 6.17 billion in 2011, Rhodia is a world leader in the development and production of specialty chemicals. They provide added-value products and high-performance solutions to diversified markets, including automotive, electronics, flavors and fragrances, health, personal and home care, consumer goods and industrial, through their 11 Global Business Units.

Rhodia has a strong geographic presence in high-growth markets and a resolute commitment to sustainable development. The company also stands strong in supporting and encouraging NUS in their efforts to foster education to achieve the same goal. This donation to the Science Graduate Fellowship further serves as a testament of their commitment to nurturing young talent in Singapore.

Founded in 1865, Rhodia stands as a world leader in chemical innovation; with 11 Global Business Units, it offers solutions to diversified markets, including automotive, electronics, flavors and fragrances, health, personal and home care, consumer goods, and industrial, through an active innovation strategy and a strong geographic presence in high-growth markets.

© Copyright 2012 Faculty of Science, National University of Singapore. All Rights Reserved.
The Goh Foundation made a munificent gift that brings hope and help to deserving and needy Science students.

Started in 2012, the Goh Foundation Bursary has helped four needy students from the Faculty of Science (FoS).

Made possible by a generous gift of S$150,000 from the Goh Foundation, a signing ceremony and lunch was held on 4 December 2012 to show the Faculty’s appreciation for the gift.

Held at the Shaw Foundation Alumni House, the ceremony and lunch were attended by Dr Tan Eng Liang and Dr Chew Tuan Chong, Directors from the Goh Foundation, Professor Andrew Wee, Dean, Associate Professor Chin Wee Shong, Vice-Dean, Dr Lawrence Chia and Ms Anna Chia, Associate Director.

Acknowledging the gift, Prof Wee noted that this gift will be an encouragement to needy students, giving them hope and help to complete their education in NUS despite their family’s financial situation.

“The gift will propel students to achieve academic excellence and to continue in the cycle of giving and receiving,” added Prof Wee.

The Goh Foundation Bursary targets to benefit up to 6 needy students by Academic Year 2014/15.

About the Goh Foundation

The Goh Foundation is committed to helping the sick and the needy through various community-based efforts. Through corporate philanthropy, the Goh Foundation seeks to improve the quality of health and education through pro-active programmes in the Singapore National Cancer Centre, Singapore General Hospital, Universities and Polytechnics, amongst others.

© Copyright 2012 Faculty of Science, National University of Singapore. All Rights Reserved.
In getting our students ready for their future, the Faculty of Science (FoS) brings Science Career Nexus and Science Alumni—Student Networking Evening back in their second and fourth run respectively.

Science Career Nexus

Held annually, the Science Career Nexus gives employers from various industries a chance to meet some 1,000 intelligent and ambitious Science students who will be soon graduating and embarking on a professional career. At the same time, our students get to talk to these employers and assess their suitability and determine their interest in a specific field.

This year, the Faculty is pleased to have companies from diverse industries to participate in this one day event held on 8 March at University Hall. Some participating companies were Singapore Economic Development Board, Pall Filtration, Applied Materials SEA Pte Ltd, Institute of Bioengineering and Nanotechnology, Unicorn Financial Solutions, Kelly Services and AXA Hedging Services.

The employers were certainly heartened to see the enthusiasm from students seeking to know more about the various trades and skills required for different industries.

Science Alumni-Student Networking Evening

Being able to learn from seniors who have taken similar paths was what made the Science Alumni-Student Networking Evening a repeated success.

The networking evening this March saw 20 Science alumni making a special trip "home" to share with the juniors their career possibilities with a degree in Science. The event was a great success and students were still crowding around alumni way past 9pm.

Coming from a wide representation of industries, participating students found it particularly useful as they learned about the endless opportunities waiting for them. Both alumni and students enjoyed themselves during this sharing session, and the students particularly look forward to more of such occasions to consult with their seniors.

The Science Alumni-Student Networking Evening session was held at the University Hall on 8 March 2013, from 7pm to 9pm.

Website:

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

© Dean's Office | Text: Yong Lai Cheng

Ms June Chiam from Applied Materials SEA Pte Ltd sharing with 2 enthusiastic students the opportunities in her organisation.

Mr Karine Tan (far right) explaining what a Food Safety Executive with 7-Eleven does and the satisfaction she derives from the job.

SUN SCIENCE
When drugs do damages

For the first time in Singapore, Assistant Professor Nancy Ko reviewed drug interactions in medications prescribed for cancer patients.

Thus, in order to put the focus on cancer patients, Ass Prof Ko, together with Associate Professor Alexandre Chan, led a team of researchers to conduct a retrospective investigation on interacting drugs on 8,857 cancer patients; a first in Singapore, and one of the few worldwide.

Conducted over 2 years from 2007 to 2009 at the National Cancer Centre, Ass Prof Ko and her team reviewed 39,772 oral anti-cancer drugs prescribed, aiming to find the extent to which drugs that have potential harmful effects when taken in combination, are prescribed to patients.

In the study, some commonly prescribed interacting drug combination included prednisone with aspirin, that induces an increased risk for gastrointestinal ulceration when taken together and methotrexate with aminoside or ketoprofen, which may increase methotrexate toxicity when combined. Methotrexate toxicity may result in a wide range of systemic adverse events, such as myelosuppression, mucositis, renal dysfunction and central nervous system toxicity.

"However, the extent of harm to patients from the drug-drug interaction co-prescriptions is unknown," Ass Prof Ko shared her concerns.

A need to raise awareness

Concerned over the results of her study, Ass Prof Ko commented that there is a need to raise the awareness of the importance of interactions between drugs among healthcare providers, particularly those involving oral anti-cancer drugs, since the use and availability of these drugs are increasing. In addition, doctors' prescribing support systems should be put to the best use, and pharmacists' screening of the prescriptions during dispensing should be valued.

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

© Copyright 2012 Faculty of Science, National University of Singapore. All Rights Reserved.

Editors
Sarah Loke
Email: scilwms@nus.edu.sg

Design
Angela Lim

© Dean's Office | Text: Sarah Loke

DEAN
Professor Andrew Wee

ADVISORS
Associate Professor Chen Wei Sheng
Vice-Dean (Outreach & Student Life)

Priscilla Soh
Senior Associate Director (HR and Admin)
Did you know that Southeast Asia was the birthplace of evolution, and not the Galapagos Islands?

Back in 1854, British naturalist Alfred Russel Wallace began his research in the biodiversity of Southeast Asia. Using Singapore as his base, he did extensive research throughout the region observing the distribution and habits of local wildlife and discovering hundreds of new species. In total he and his assistants collected 125,000 specimens of insects, birds and animals.

The specimens that Wallace collected were pivotal in inspiring him to understand how species become adapted to their natural environments by process of natural selection. The theory was first published in a joint paper together with Charles Darwin in July 1858.

Dr van Wyhe said “Wallace is an outstanding example of someone who had no privilege, no wealth, no connections - and who went out to make his own way in the world. He learned to study and think independently. He discovered many amazing things about living things, not just evolution and he did so with modesty and good humour. That’s why he remains such an inspiring figure for so many people.”

Taking 3 years to complete the website, Wallace Online was launched on 27 September 2012 at Tembusu College, University Town.

The big Wallace year

Made possible by an anonymous grant from an American donor, the free site offers 26,000 images. It contains everything from Wallace’s first tentative scientific contribution to a journal to his full range of scientific books. Most of them have been out of print for decades.
e-beam Allows for Precise Manipulation of Nanoparticles

For the first time, scientists demonstrate the possibility of manipulating nanoparticles and pave the way for useful applications.

Dr Mirsaidov discovered the ability of electron beams to precisely move nanoparticles.

Unveiling new possibilities

Dr Mirsaidov commented, “Interaction between nanoparticles can be complex and diverse inside the beam. The chaotic movement of these particles is an area that the team is hoping to look into.”

The discovery of using light to exert pressure for the movement of small particles was first developed by Arthur Ashkin of Bell Laboratories in the 1970s. Since then, optical tweezers were slowly being developed to achieve the trapping of both large and small particles. However, optical trapping of nanoparticles poses a great challenge. The forces understandably decrease rapidly when the object becomes smaller and this does not make it ideal for manipulation of particles of nanoscale.

Dr Mirsaidov discovered the ability of electronic beams to precisely move nanoparticles.

Noting the difficulties, the research team’s findings were a result of passing an electron beam through an environmental cell containing gold particles (sandwiched between two silicon nitride membranes) measuring ten nanometer in diameter. As the beam was passed, the gold nanoparticles were trapped and bounced to and fro within the beam without being able to escape its confines. The team went on to alter the movements of the beam (faster and slower) together with angular and multiple gold nanoparticles.

When asked about the applications of this new finding, Professor Paul Matsudaira, Director of MBI and the Centre for Bioimaging Sciences (CBIS) shared that “This (discovery) will allow the creation of new materials architectures and toxicant particle removal.”

Future directions

The trapping and manipulation of nanoparticles spell great potential for them to be collected and fixed together. This in turn can lead to the synthesis of new materials that are useful in fabrication of new data storage devices, superfast computers, high-sensitivity chemical sensors and other useful devices.

Future directions in this area of research include the quest to understand how an electron beam traps these nanoparticles. The knowledge will enable the team to position nanoparticles precisely and rapidly in a programmed fashion. This involves overcoming the random motion of nanoparticles and working with a confined space between membranes. The above mentioned paper was reported in Nanowerk.com. Click here to see how trapped gold nanoparticles are displaced within an electron beam.

© Dean’s Office | Text: Karen Low

Website:
http://www.science.nus.edu.sg/alumni/omniscience
A prestigious win

For having a breakthrough win in the understanding of cell movement, Professor Michael Sheetz wins the Lasker Award 2012.

Recognised for his breakthrough research of cell movement, Director of the Mechanobiology Institute of Singapore (MBI) and Distinguished Professor at the Department of Biological Sciences, Prof Michael Sheetz, is one of the two NUS scientists who won the prestigious Lasker Awards 2012.

About the Lasker Awards

The Lasker Awards are among the most respected science prizes in the world that honour the contributions of scientists, physicians and public servants towards the advancement of understanding of human diseases.

Since 1945 when the Lasker Awards were first given out, 83 Lasker laureates went on to receive the Nobel Prize, with 31 of them occurring in the last two decades. The Lasker Awards are hence often viewed as portends to the Nobel Prize.

The Lasker Awards 2012 were presented at a ceremony on 21 September 2012 at New York City.

© Dean’s Office | Text: Sarah Loke

http://www.science.nus.edu.sg/alumni/omniscience
Pharmacy shines

Since its establishment in 2005, the AAPS-NUS Student Chapter has brought valuable experiences to students of the NUS Pharmacy Department. Their hard work has recently paid off.

For the first time, the American Association of Pharmaceutical Scientists (AAPS) - NUS Student Chapter wins the AAPS Outstanding Student Chapter of the Year top prize.

The AAPS is a professional, scientific society that advocates the sharing of knowledge among scientists with the aim of enhancing international contributions to public health. Every year, the society recognizes the top three AAPS student chapters around the world that have provided exceptional service and outreach to its members and the organisation with the AAPS Outstanding Student Chapter of the Year prizes.

Winning strategies

In his speech at the ceremony, Dr David Mitchell, 2012 President of the AAPS, commented on the 7th PharmSci@Asia Symposium which the AAPS-NUS Student Chapter had organised in June 2012. “The mix of faculties, sponsors and student speakers kept the symposium interesting and energised. I like the fact that you brought together students from a variety of countries (and universities) in the Asia Pacific region, which may have made your symposium the only AAPS ‘international’ student meeting in 2012.”

Mr Liu Yuanjie, Chairperson of the AAPS-NUS Student Chapter, shared that the symposium was probably not the only factor that has driven the Chapter to higher standing. Remaining strongly rooted to the core values of the AAPS-NUS Student Chapter has kept the group focused on providing opportunities for students. “Focusing on what students really care about,” the Pharmacy PhD candidate highlighted. He felt that student chapters truly reflect students’ interests and all events driven by the Chapter are students-oriented and catered to their development.

Effort from predecessors

Much credit has also been given to past committee members over the years since the Chapter was established in 2005. Considerable and continuous effort from its members has always been put into improving the quality of seminars, symposiums and industry tie-ups.

“This really is an accumulative effort from all of the previous Executive Committee members,” Yuanjie reiterated after receiving the honour at the AAPS Annual Meeting and Exposition in Chicago on 15 October 2012, in the presence of some 8,500 conference participants.

The award comprised of a certificate and USD$500, which will be used to fund a group activity.

Mr Liu Yuanjie delivering a short presentation after representing AAPS-NUS to receive the AAPS Outstanding Student Chapter of the Year award.
An outstanding young scientist

Recognised for his works on interface engineering for molecular, organic and graphene electronics, Assistant Professor Chen Wei was awarded Young Scientist Award for 2012.

"I hope I can revolutionise the research on data storage devices in the future.

This was what Asst Prof Chen Wei, recipient of the Young Scientist Award (YSA) 2012, had to say when asked about his long term research goals.

On his research
Asst Prof Chen was awarded for his research on interface engineering for molecular, organic and graphene electronics. Focusing his research on surface and interface science, Asst Prof Chen carried out atomic-scale investigation of the interface problems for molecular, organic and graphene electronics.

On his award
Asst Prof Chen received his award from Mr S Iswaran, Minister, Prime Minister’s Office and Second Minister for Home Affairs and Trade & Industry. The YSA, administered by the Singapore National Academy of Science (SNAS) and supported by A*STAR, are presented to young researchers, aged 35 and below, who are actively engaged in research & development in Singapore, and who have shown great potential to be world-class researchers in their fields of expertise.

On his award
On his winning the YSA 2012, Asst Prof Chen, who belongs to both Department of Chemistry and Department of Physics said, "Winning this YSA award is recognition of my effort in doing research and pursuing research excellence." Adding special thanks to his former PhD supervisors, Head of Department of Chemistry, Professor Loh Kian Ping and Dean of Faculty of Science, Professor Andrew Wee, he said, "They are always ready to help me with useful suggestions for my research, which is greatly beneficial to my research career in NUS.”

The aim for my research is to use a single molecule to build the smallest molecular electronic devices," Asst Prof Chen shared.

Adding on, he said, "We demonstrated the feasibility of using dipole molecule to store information. If we can realise such information storage devices, we can actually achieve ultra high density data storage of capacity up to 100 times higher than current storage devices.”

The current maximum storage capacity stands around 1 Tbit/inch², while the highest possible maximum storage capacity from Asst Prof Chen’s molecule based storage device can go as high as 100 Tbit/inch².

The YSA 2012 was given out at the 2012 President’s Science and Technology Awards (PSTA) ceremony on 30 October 2012 at the Resorts World Convention Centre.

© Dean’s Office | Text: Sarah Loke | Photos: A*Star
Faculty Champions

From a humble beginning, the Faculty of Science is where it is today as a result of an undoubtedly capable and talented pool of faculty and support staff. The annual Faculty Level Awards pay tribute to them.

Tribute to excellent service

The Faculty Level Awards have traditionally recognised academic and administrative staff at the Faculty of Science (FoS) for continuous excellence in teaching, research and service as part of the Faculty’s mission of providing quality education, fostering the spirit of enterprise and conducting leading edge research.

Amongst the over 220 staff who received an award for 2012, the largest group of recipients came from the Long Service Award category. These recipients were honoured for having crossed a significant milestone in their respective careers of over 10 to 45 years in FoS.

In particular, Mr Muthusamy s/o Annanvy, Operations Associate with the Department of Physics, who has toiled in FoS for 45 years, received rousing applause while on stage receiving his Long Service Award.

Recipient Dr Wang Qinghai (right) Department of Physics, receiving the award from Executive Vice President (Academic Affairs), Yale-NUS College, Professor Lai Choy Heng.

Tribute to excellent research

Another set of awards went to academic staff who have delivered outstanding contributions to research. A small but truly distinguished group, these scientists-researchers have been independently achieving consistently strong research track records in their area of expertise over the past five years. The Outstanding Scientist Award signifies recognition by the science community for their significant breakthroughs and exceptional accomplishments in their field.

For a complete list of award winners, please click here.

© Copyright 2013 Faculty of Science, National University of Singapore. All Rights Reserved.
Science on Saturday 2013!
Not sure what to do on Saturdays? Join us in exploring Science!

Science on Saturday is back again this year with more fun and excitement!

Explore Science
Gain some science knowledge by attending the Science talks we have specially lined up for you. Be fascinated by our experiments and demonstrations. Get to experience intriguing Science principles and even go on a factory visit!

Keen to join?
Science on Saturday 2013 will be held at the NUS Faculty of Science on
1 June 2013
8 June 2013
15 June 2013

Check back on our website in May www.science.nus.edu.sg for more details!

Website:
http://www.science.nus.edu.sg/alumni/omniscience
**What's Up?**

Check out the events held from April 2013 to September 2013!

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>May 18</td>
<td>Faculty of Science Open House</td>
</tr>
<tr>
<td>Jun 1</td>
<td>Science on Saturday</td>
</tr>
<tr>
<td>Jun 3</td>
<td>Statistics Enrichment Camp</td>
</tr>
<tr>
<td>Jun 1</td>
<td>NUS Chemistry Week 2013</td>
</tr>
<tr>
<td>Jun 3</td>
<td>Nonlinear Expectations, Stochastic Calculus under Knightian Uncertainty, and Related Topics</td>
</tr>
<tr>
<td>Jun 8</td>
<td>Science on Saturday</td>
</tr>
<tr>
<td>Jun 12</td>
<td>The 2013 IMS-FPS Workshop</td>
</tr>
<tr>
<td>Jul 6</td>
<td>Alumni Day @ Bukit Timah Campus</td>
</tr>
<tr>
<td>Jul 14</td>
<td>Faculty of Science Commencement Ceremonies</td>
</tr>
<tr>
<td>Aug 2</td>
<td>Singapore Statistics Poster Competition Award Ceremony</td>
</tr>
<tr>
<td>Aug 17</td>
<td>NUS Homecoming</td>
</tr>
<tr>
<td>Aug 24</td>
<td>Mathematics Enrichment Camp</td>
</tr>
<tr>
<td>Sep 14</td>
<td>Alumni Leaders Forum</td>
</tr>
<tr>
<td>Sep 26</td>
<td>NUS-UTokyo Workshop on Quantitative Finance</td>
</tr>
</tbody>
</table>

Website: [http://www.science.nus.edu.sg/alumni/omniscience](http://www.science.nus.edu.sg/alumni/omniscience)

© Copyright 2012 Faculty of Science, National University of Singapore. All Rights Reserved.