



## **L'Oréal Singapore honours two distinguished women scientists**

- *2011 For Women in Science National Fellowships recognise scientists for  
achievements in life and material sciences -*

**Singapore, August 25, 2011** -- Two outstanding Singapore women scientists were lauded today for their accomplishments in the field of life and material sciences, through the 2011 L'Oréal For Women in Science National Fellowships.

Dr Juliana Maria Chan Shu Ping, Post-Doctoral Researcher at A\*STAR's Molecular Engineering Lab, Science and Engineering Institutes, and Dr Liu Bin, Senior Scientist I at A\*STAR's Institute of Materials Research and Engineering, and Associate Professor, Department of Chemical and Biomolecular Engineering, National University of Singapore, each received \$30,000 for their work in life sciences and material sciences, respectively.

Organised annually with the support of the Singapore National Commission for UNESCO and the Agency for Science, Technology and Research (A\*STAR), the Fellowships aim to recognise the contribution of talented women to progress in science, encourage young women to pursue careers in science and promote their effective participation in the scientific development of Singapore. The Singapore programme is a subsidiary of the L'Oréal-UNESCO FWIS programme, inaugurated 13 years ago. Its objectives are to recognise outstanding women scientists, doctorate or post-doctorate, in some 103 countries worldwide, to provide visibility and encouragement for their excellent work, contribution to scientific advancement and impact on society.

National Archives of Singapore

At the award ceremony today, guest-of-honour, Mr Andrew Toh, Non-resident Ambassador and Permanent Delegate of the Republic of Singapore to UNESCO, Singapore, said, "Singapore is a proud supporter of the L'Oréal Singapore For Women in Science National Fellowships programme. Science and technology are crucial for Singapore's continued development and success. As such, this is a meaningful programme which encourages young women in Singapore to pursue education and careers in science, for the betterment of scientific research and innovation in Singapore. I would like to commend the two award recipients for their contributions and achievements to date, and I look forward to hearing about their future discoveries."

Mr Christopher Neo, Managing Director, L'Oréal Singapore added, "The L'Oréal Singapore For Women in Science National Fellowships aims to throw the spotlight on exceptional women scientists who are ceaselessly pushing the frontiers of knowledge, transforming and improving our lives by providing solutions to the enormous challenges faced by our world today. The two women scientists

recognised this year are a source of pride and showcase of excellence. They will serve as an inspiration to many in the years to come.”

### **Delivering drugs to the right places in the body**

Dr Juliana Chan’s doctorate research resulted in her designing a new type of nanoparticle, which is a hybrid of liposomes and polymeric nanoparticles, and has the beneficial properties of both classes. Named “nanoburrs”, these extremely tiny nanoparticles can carry pharmaceutical drugs within them. Their surfaces are covered with short proteins that selectively adhere to blood vessel walls. This invention is extremely useful for drugs that need to be targeted at blood vessel walls. Theoretically, the same targeted nanoparticle principle can be used to deliver any drug to any part of the body that requires it most.

### **Growing 3D webs of blood vessels for tissue engineering and cancer research**

In her post-doctoral research, Dr Chan succeeded in growing three-dimensional webs of blood vessels, in vitro, for tissue engineering and cancer research. Besides being a blood supply source, the three-dimensional web of blood vessels enable the study of how cancer cells migrate. Most research into cancer cell movement is two-dimensional. Dr Chan’s creation of the three-dimensional web of blood vessels, in vitro, has great implications on future cancer research to study cancer cell migration and for cancer drug testing.

### **Making solar energy accessible to everyone**

Over at the Institute of Materials Research and Engineering, A\*STAR, Dr Liu Bin is focussed on making solar energy accessible to all. The American National Academy of Engineering recently announced that making solar energy economical is the top engineering challenge for the 21<sup>st</sup> century. Dye sensitized solar cells or organic solar cells, are the fourth generation of solar cells which are expected to gain market share in the coming years. So far, the device stability and cost are the two main factors hampering the commercialization of the organic solar cells.

Dr Liu Bin and her research team are focusing on the synthesis of new energy materials and the design of different device architectures which will result in low cost, high efficiency solar cells. They have specially designed conjugated polymer hole transporting materials (HTM) and organic/inorganic interpenetrating network structures to improve the device efficiency to over seven percent, a champion efficiency for solid state HTM based, dye sensitized solar cells.

In the future, these solar cells could become energy sources for buildings, serve as portable chargers for electronics, as well as décor for homes (for example as self-powered window coatings). The development of solar cells is of practical importance to sunny Singapore. With the availability of low cost and highly efficient solar cells, many people will be able to benefit from the use of sustainable solar energy.

Mr Lim Chuan Poh, Chairman, A\*STAR remarked, "It is indeed heartening to note that the outstanding research of Juliana and Liu Bin from A\*STAR have been recognised through the 2011 L'Oréal For Women in Science National Fellowships. This recognition not only serves to encourage them to strive harder in making a difference to Singapore and our society through their outstanding research work, it also provides a platform for them to share their research journeys that will hopefully inspire others to follow in their wake."

The 2011 L'Oréal For Women in Science National Fellowships jury panel comprises six eminent scientists with Professor Leo Tan, Chairman of the Science Sub-Commission, Singapore National Commission for UNESCO, as president. Working with him on the panel are:

**Dr Christina Chai,**

Principal Scientist, Institute of Chemical and Engineering Sciences, A\*STAR and Associate Professor, Department of Pharmacy, National University of Singapore;

**Professor Miranda Yap,**

Executive Director, Bioprocessing Technology Institute, A\*STAR;

**Associate Professor Christina Lim,**

Department of Mechanical Engineering, National University of Singapore;

**Associate Professor Hng Huey Hoon,**

Associate Chair (Academic), School of Materials Science and Engineering, Nanyang Technological University;

**Kyle Loh,**

Stanford University School of Medicine, Department of Developmental Biology and Hertz Foundation Fellow

According to Professor Tan, "The Jury had a challenging time selecting from the many worthy and high calibre candidates but every finalist demonstrated clarity of research vision and deep passion for her work that went beyond the project submitted to benefit both science and society. The L'Oréal For Women In Science National Fellowships should serve as an adrenalin boost for more women to seriously consider science and engineering careers. It signals to Singaporean women that they can excel in scientific research and have the opportunities to do so."

By receiving the national fellowships, Dr Juliana Chan and Dr Liu Bin are now eligible to apply for the UNESCO-L'Oréal International Fellowships. Out of all the recipients of the International Fellowships, five Laureates, one per continent, will be chosen for the prestigious, global L'Oréal-UNESCO FWIS Awards.

The L'Oréal Singapore For Women In Science National Fellowships programme was established in 2009. To date, eight exceptional women scientists have received the fellowship for their contributions to Life and Material Sciences.

## **More Than 10 Years of Supporting Women in Science**

Created in 1998, the L'Oréal-UNESCO For Women in Science Awards were established by L'Oréal Corporate Foundation as the first international awards dedicated to women scientists around the world. In 13 years, 67 Laureates and 1019 fellowships have been awarded to female doctoral and post-doctoral scientists world-wide, fostering a global community of scientific talent that continues to grow each year. The programme is a benchmark of international scientific excellence and an invaluable source of motivation, support and inspiration for women in the scientific field. It recognises work that addresses major challenges in modern science, and the Laureates serve as role models for future generations, encouraging young women around the world to follow in their footsteps.

### **L'Oréal Singapore**

L'ORÉAL is the worldwide leader in cosmetics with consolidated sales exceeding €19.5 billion in 2010. With over 23 brands worldwide in five key expertise areas (haircare, haircolor, skincare, make-up and fragrance), the company is fully committed to putting energy and know-how into the business of beauty. It has successfully done this for nearly a century and has a long list of patents including 610 patents filed in 2010 alone. L'ORÉAL believes that it is the right of the individual to express their personalities to the full and works towards the well-being of men and women, in all their diversity, around the world.

### **L'Oréal Corporate Foundation**

The L'Oréal Corporate Foundation, created in 2007, pursues the goal of making the world a better place each day. Drawing on the Group's values and professional expertise, the L'Oréal Foundation aims to reinforce and perpetuate the Group's commitment to responsible citizenship. As the second largest corporate foundation in France with a multi-annual budget of €40 million, the L'Oréal Foundation is active in three main areas: supporting scientific research and the role of women in science, helping vulnerable people regain self-esteem and social reintegration, and fostering access to education.

More information can be found at [www.loreal.com.sg](http://www.loreal.com.sg).

### **Singapore National Commission for UNESCO**

The Singapore National Commission for UNESCO, which was launched on 28 May 2008, was set up to plan and coordinate Singapore's activities and programmes in UNESCO. Dr Ng Eng Hen, Minister for Defence, is the Chairman of the Singapore National Commission. There are 3 sub-commissions focusing on Education, Science and Culture & Information.

More information can be found at [www.unesco.sg](http://www.unesco.sg).

### **Agency for Science, Technology and Research (A\*STAR)**

The Agency for Science, Technology and Research (A\*STAR) is the lead agency for fostering world-class scientific research and talent for a vibrant knowledge-based Singapore. A\*STAR actively nurtures public sector research and development in Biomedical Sciences, Physical Sciences and Engineering, and supports Singapore's key economic clusters by providing intellectual, human and industrial capital to its partners in industry and the healthcare sector. It oversees 23 research institutes, consortia and centres located in Biopolis and Fusionopolis, and the area in their vicinity, and supports extramural research in the universities, hospitals, research centres, and with other local and international partners.

More information can be found at [www.a-star.edu.sg](http://www.a-star.edu.sg).

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### **Released on behalf of L'Oréal Singapore by Huntington Communications.**

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