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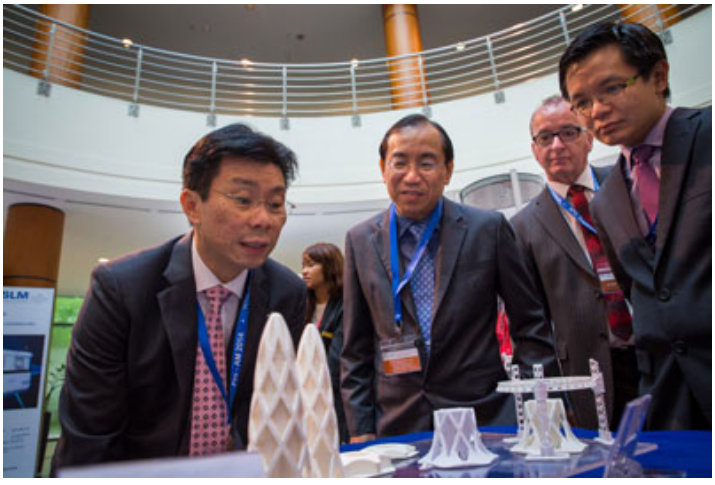
NTU launches $30 million 3D printing research centre

(*Nanowerk News*) The Nanyang Technological University (NTU) Additive Manufacturing Centre (NAMC) was officially launched by Mr Lee Yi Shyan, Senior Minister of State for Trade and Industry and National Development, this morning.

At the launch, NTU also signed a $5 million joint laboratory agreement with SLM Solutions, one of the world's leading manufacturers of 3D printers.

Named SLM Solutions@NAMC, the lab aims to develop next-generation 3D printers which can print much larger parts than today's printers and new types of materials. It will also develop platforms that can print multiple materials in one single build.

NTU President Professor Bertil Andersson said additive manufacturing is a revolutionary technology that is changing the face of innovation and that NTU is well placed to excel in the fast growing field.



Senior Minister of State Lee Yi Shyan looking at a winning entry of NTU's international 3D printing competition 2014.

"Although we are a young university, NTU is already leading with two decades of research and

development in this field," Prof Andersson said.

"Our new additive manufacturing centre not only aims to collaborate with industry to develop innovative, practical solutions but also brings together the best talents in the field. The new centre is outfitted with the latest 3D printing machines, such as laser-aided machines for printing metal parts for industry and bio-printers which are able to print real human tissue," he said.

NTU's new additive manufacturing centre aims to keep Singapore at the forefront of 3D printing technologies and is supported by the Singapore Economic Development Board.

Today's launch event for the new centre also marks the finale of the second International 3D printing competitions 2014 for jewellery and architecture. Organised by NAMC, there were a total of 86 entries submitted (71 jewellery and 15 architecture) from seven countries.

Professor Chua Chee Kai, the Centre Director and Chair of NTU's School of Mechanical and Aerospace Engineering, said the two themes of jewellery and architecture were chosen because of their potential for complex and intricate designs, and that they are the upcoming industries which 3D printing is now making inroads into.

"Through the two competitions, we want to show the true potential of 3D printing, how it can be used in real life for rapid prototyping and actual products, and not just for toys and plastic crockery as commonly perceived," said Prof Chua, the world's most citied scientist for 3D printing.

"As more low-cost printers come onto the market, 3D printing is now more accessible to the public and this enables people to see their ideas and design become reality, something they can see with their eyes and hold with their hands. This is what true engineering is about – creative and practical innovations that will benefit society."

The Open category for Architecture is won by Mr Lim Kae Woei from XYZ Workshop in Australia, who designed and printed a series of floating platforms titled Venice of the South East. Each platform is modular, housing various functions needed for a community to function and which are interconnected like an eco-system.

The Tertiary Students' category winner for Architecture is an NTU student team from NTU's School of Mechanical and Aerospace Engineering and the School of Civil and Environmental Engineering who designed Morphling, an expendable platform.

In the School Students' category for Architecture, it was won by a student from Hwa Chong Institution, Lu Zhen, who created a Castle in the Air, a connecting block between high rise buildings.

For Jewellery, the Open category is awarded to a Taiwanese team from the National Cheng Kung University and the Industrial Technology Research Institute, for their "Orchid-Spirit" hairpin. The orchid floral hairpin features elegant gold 3D printed petals and a delicate pin with silver tincture. The pin can be transformed into a bracelet while the flower buds contain oil that releases fragrance over time.

In the Tertiary Students' category for Jewellery, a team from Republic Polytechnic led by Nor 'Atikah Binte Zainal won with their design, the Inflorescence of Orchids, a four-piece set of Orchid-adorned jewellery comprising of a necklace, two earrings and a ring.

Two River Valley High School students, Jia Deqian and Xi Xiaodong won the School Students' category for Jewellery with their Frosom design, which comprises three hairpins with integrated orchid designs.

The winner in the Open category received a cash prize of $10,000; while the winners in the School

Student category (primary, secondary, junior college) and the Tertiary Student category, received $5,000 each.

These competitions are sponsored by SPRING Singapore, the Singapore Workforce Development Agency, JTC Corporation and DSO National Laboratories.

In conjunction with NAMC's official launch, NTU also opened Singapore's 1st International Conference on Progress in Additive Manufacturing, which will see more than a hundred scientific papers from over 20 countries being shared and presented among academics and industry players.

Source: *Nanyang Technological University*

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