

From clothes to food, 3-D printing is set to break the mould

By HOE PEI SHAN

PRINTING your own food might seem like science fiction but that is exactly what researchers at the Nanyang Technological University are looking to do as they push the boundaries of 3-D printing.

This month, the school bought a \$7,500 chocolate printer which allows the printing of intricate 2-D and 3-D designs using molten chocolate.

"We want to eventually be able to use cells as a base material to 'print' food that people can eat," said Professor Chua Chee Kai, chair of NTU's School of Mechanical and Aerospace Engineering.

"Think of the bird flu - printing your own chicken meat would be very useful as the threat of food security grows."

In September, the school announced the establishment of a \$30 million 3-D printing research centre, which aims to help place Singapore at the forefront of the

burgeoning technology, in which customisable objects are "printed" layer by layer based on digital models.

Another NTU project deals with creating shape-changing metal structures by printing them using materials which can be programmed to morph over time.

An NTU research team was awarded a \$200,000 grant last month from the Ministry of Education to look into printing metal alloys that have shape-memory properties, said Prof Chua, who was speaking to The Straits Times on the sidelines of Singapore's first 3-D printing festival.

The festival, held yesterday on NTU's campus, marked the conclusion of the first Singapore International 3-D Printing Competition, in which participants were given six months to design and create apparel as well as items inspired by the abacus - the ancient Chinese "calculator".

Mostly using plastic as their



Husband-and-wife team from Australia's XYZ Workshop, architects Lim Kae Woei and Elena Low, flanking a model wearing their "cheongsam-inspired" women's blouse - the winning entry in the wearable fashion category of the first Singapore International 3-D Printing Competition yesterday. ST PHOTO: ONG WEE JIN

WATCH THE VIDEO

www.straitstimes.com

3-D-printed fashion pieces on the runway



Download a QR code reader app on your smartphone and scan this code for more information.

base material, the participants created butterfly-inspired clothes and fashion accessories, which were paraded in front of some 450 people at yesterday's event.

Thirty entries from seven continents were received, and the top two from both categories walked away with a collective \$26,000 in prize money. A trio from China topped the abacus category.

The fashion winners were a husband-and-wife team from Australia's XYZ Workshop, architects Lim Kae Woei and Elena Low.

They spent about 170 hours with a desktop 3-D printer to come up with a "cheongsam-inspired" women's blouse.

Said Ms Low, whose team won \$10,000: "We want to use the prize money to set up an educational programme in Melbourne teaching kids how to use 3-D printing technology."

✉ hpeishan@sph.com.sg