

Designing Bridges to Spur Interest in the Built Environment

Fifteen teams of future engineers pitted their skills against each other in a battle of technical ability, creativity, and craftsmanship at the 5th NTU Bridge Design Competition. Organised by the Nanyang Technological University (NTU)'s Civil and Environmental Engineering Club and supported by the Building and Construction Authority, the event was held on 10 and 11 March 2018 at NTU. A total of 26 polytechnic and 25 university student teams went head to head to vie for the top five places. The students came from disciplines such as Construction Engineering, Quantity Surveying, and Digital Engineering.

Participants, in teams of two, were tasked to analyse, design and fabricate 3-D physical prototypes of bridges. Teams were assessed on their model bridges' structural efficiency, sustainability, aesthetic appeal, and how well they presented and defended their solutions.

Here are some snippets from the two-day competition:

Day 1 – Design and Build: Teams were given a total of five and a half hours to design, analyse, and fabricate 3D physical prototypes using the provided material resources such as balsa wood, bass wood and cyanoacrylate adhesive. Each model bridge had to weigh below 30g.

Day 2 – Judging: Teams presented their designs and tested how much weight their bridges were able to withstand. The judging criteria are listed below, with the load testing assessment criteria making up half the weightage:

- Presentation (20%)
- Aesthetic Assessment (15%)
- Economical and Sustainability Assessment (15%)
- Load Testing Assessment (50%)

Two BCA Academy teams bagged two of the top five spots in the Polytechnic Category.

1st Prize: Vuong Duy Anh and Tran Huu Duc

Team Name: P06 Duc

Prize: Certificate + \$600

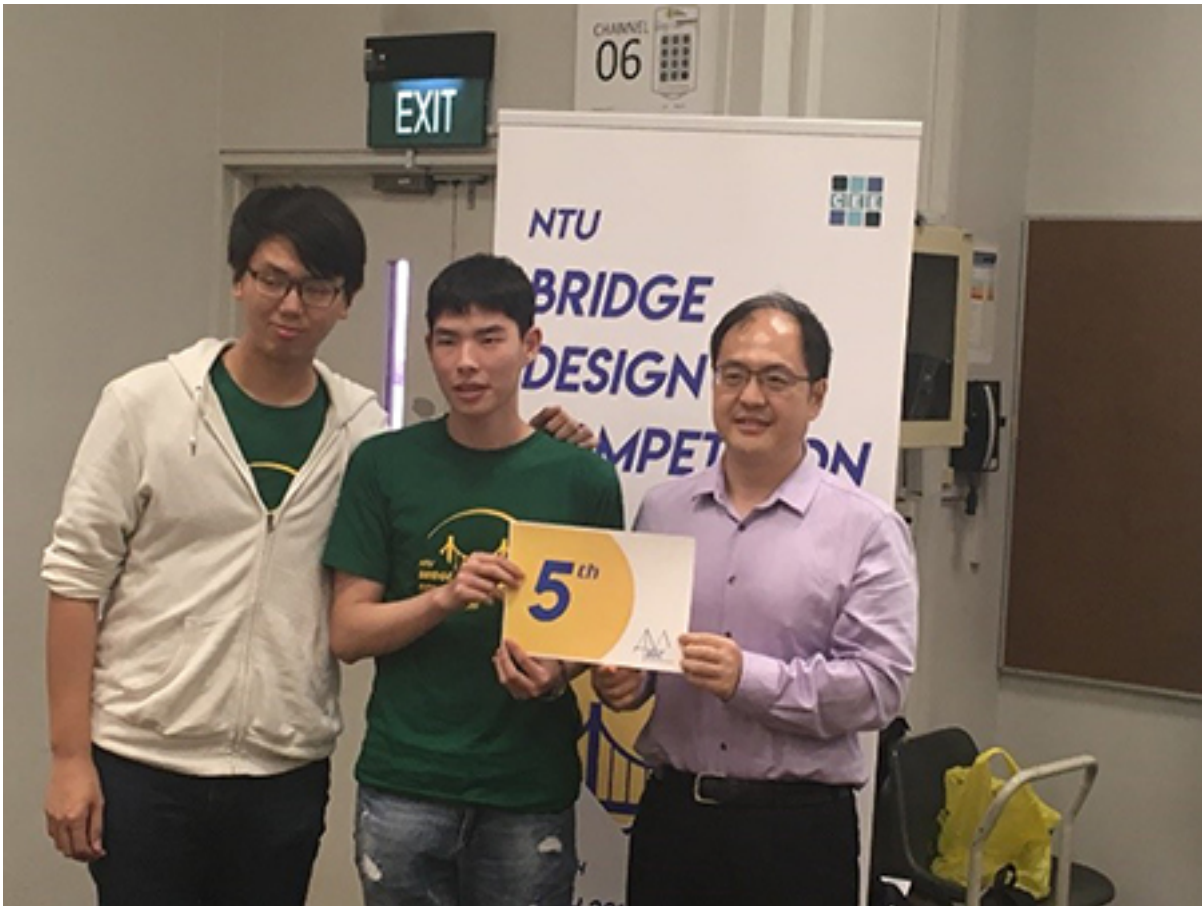


Weighing 21.1g, this duo's model bridge sustained an impressive load of 26kg.

5th Prize: Wu Wen Xuan & Hao Pengfei

Team Name: P25 Well-Played

Prize: Certificate + \$100

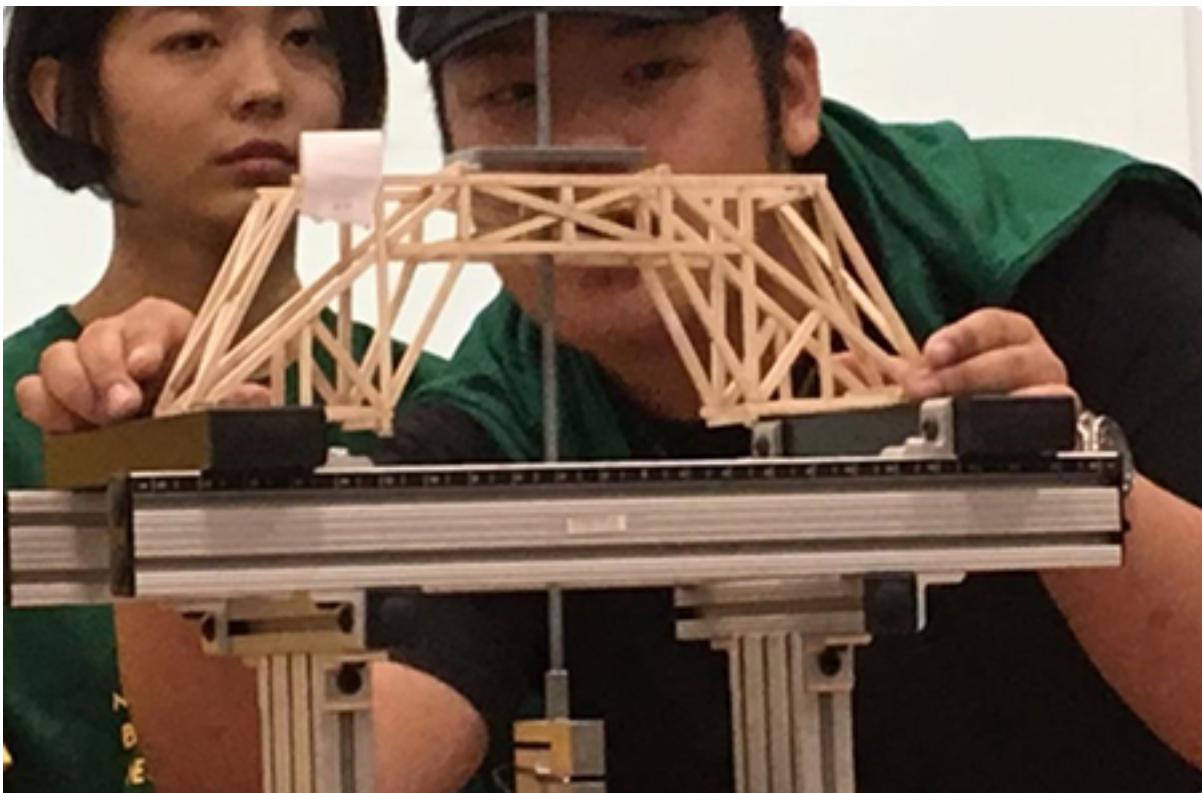


This team's 24g model bridge took on a load of 19kg.

Most Favourite Design Award: Long Yilin and Irfan Enkisra



Team Champion Duck! garnered 4.8k likes on Facebook. The team received a certificate and a \$50 cash prize.



A BCA Academy team setting up a bridge model in the test rig for load testing.