

DTU Wins a Consolation Prize at the 2019 IDEERS Contest

Outperforming many strong teams, the C-39 DTU 2019 IDEERS team, the only Vietnamese participants, won a Consolation prize (Top 5) at the 19th "Introducing and Demonstrating Earthquake Engineering Research in Schools (IDEERS), held at the Taiwan National Center for Research on Earthquake Engineering (NCREE) from September 17th to 22nd.

The IDEERS, an earthquake-resistant house model design contest, aims to promote earthquake engineering and seismic protection education and encourage students to participate in a creative scientific competition.

This year's competition saw the participation of 107 teams of high-school (42), undergraduate (49) and post-graduate students (16) from nine countries in Asia-Pacific, including Australia, South Korea, Hong Kong, Macau, Malaysia, Indonesia, the Philippines, Singapore and Vietnam. Many teams came from reputable universities in the region like Nanyang Technological University of Singapore, Seoul National University, the National Taiwan University and other.



DTU representative (third from left) receives a Consolation prize

Rank	No.	School Name	Max Gal	CP
1	26	Universiti Sains Malaysia	700	5.7707
2	34	Nanyang Technological University	700	5.0823
3	16	中國科技大學	700	4.6446
4	18	高苑科技大學	700	4.5999
5	39	Duy Tan University	700	4.2825
6	42	University of the Philippines Diliman	700	4.1366
7	5	中原大學	700	4.1271
8	17	國立臺灣科技大學	700	3.9819

The 2019 IDEERS Scoreboard

The C-39 DTU 2019 IDEERS team was comprised of students Ha Tuan Anh and Hoang Tuan Anh, and Tran Van Duc, a lecturer from the International School, who spent five-and-a-half hours competing in an earthquake-resistance model building contest. Teams were required to build models with decentralized loading which could withstand earthquakes of at least 800 Gals.

The C-39 team had studied Structural Analysis, Material Strength, Brick/Stone/Wood Structures, Steel Structures, Construction Techniques, using software like AutoCAD, Etab and SAP2000 and the CDIO model, to accurately compute internal forces and logically select suitable materials to minimize structural vibration damage.

The team had prepared themselves by experimentally researching building structures and observing earthquake-resistant design techniques in Taiwan and Singapore. They developed a very innovative and creative model, which they sketched on paper. They then used AutoCAD software to create a 3D rendering to examine structural and architectural feasibility and the SAP2000 finite elements method to analyze the structure and accurately compute the necessary beam cross-sections needed to support the load. These were then clearly displayed on a 1:1 scale-drawing, used to finally build an outstanding model.



The C-39 DTU 2019 IDEERS team with their model

“Designing earthquake-resistant buildings is very important today, to come up with optimal construction alternatives and limit the damage caused by vibrations to protect lives,” explained Hoang Tuan Anh from DTU International School. “We have been successful today because DTU has provided us with advanced training programs shared with well-known international universities, such as California State University Fullerton and Cal Poly San Luis Obispo, two of the leading American universities in Civil Engineering and Architecture.”

Ha Tuan Anh from DTU Faculty of Civil Engineering said: *“We were worried and nervous when we entered the contest. There were many other teams with strong experience in earthquake-resistant design from universities around the world. When the models were put onto the shaking table and the strength of the quake was increased, several collapsed, piece by piece. Although we did not win, our model was highly regarded for its solidity and resistance to high vibrations but we then discovered that we had come in fifth place amongst the 49 teams in the university level contest and were really happy that our skills and close teamwork was recognized.”*

DTU came third in 2013 and took top honours at the 2014 IDEERS.

For further information about the Construction and Architecture education at DTU, see: [**The International School**](#), [**The Faculty of Civil Engineering**](#), [**The Faculty of Architecture**](#) .

(Media Center)