

Engineering Innovation and Design Contest Brochure



Institution of
**MECHANICAL
ENGINEERS**

9:00 A.M. to 5:30 P.M.

22nd March 2012 Auditorium, KDU University College.

Improving the world through engineering

Guidelines and Instructions for Participants

1. Please be present at KDU University College's Auditorium @ 8 am sharp to set up your prototypes. You may call your respective student chapter Chairman on the day of the event if you are lost.

2. Please be dressed formally –

Men: White long sleeved shirt + tie with trousers/slacks + dress shoes.

Women: White long sleeved blouse/shirt + long skirt/trousers + dress shoes.

Jackets are optional and no jeans, short sleeved shirts, slippers or sport shoes are allowed.

3. The contest will begin at 9:00 AM. At this point in time all teams are to be stationed at their designated areas in the auditorium
4. Judges will be moving from one station to the other.

While the judges are at your station, your team leader will introduce your entire team, where you are from (which university), the discipline of each team members (i.e. Mechanical, Electrical etc.), year of study (i.e. 1st year, 2nd year etc.) and your project title.

Your team would then be given 15 minutes to present your prototype and project, during the presentation, the judges will interrupt you to ask their questions. *Thus, presentation and Q&A will occur simultaneously.* Be prepared for rough and tough questions – the judges will spare no expense.

All team members are to be involved in the presentation, meaning the team leader is not the only one who speaks!

The objective of this session is for your team to pitch your idea to the judges (imagine they are venture capitalists – investors who may be interested to invest in your product and eventually lead to mass production and making you millions!)

Judging Criteria

Your prototype would be assessed/scored on the following attributes.

Innovation

Clear manifestation of student's creativity, innovative design, and techniques

Green Technology

Project shows some form of green technology aspect - energy efficiency, energy audit, and cost-saving techniques.

Market Potential

Marketability - features, costs, applications, usefulness.

Multi-disciplinary

Project shows integration of different concepts - mechanical, electrical, electronics, communications, computer, etc.

Overall Design

Demonstrates good technical concepts, design, and layout.

Presentation

Good knowledge of project, able to answer technical questions, structured, comprehensive and orderly presentation of work.

Programme of Events

- 0900 Welcome by Dr Tan Chou Yong – IMechE Malaysia YMS Chair.
- 0905 Welcome by Prof Teoh Kok Soo – IMechE Malaysia Chair.
- 0915 Introduction of Judges.
- 0930 Talk by Robest Yong on **Thinking Outside the Box** – Innovation Ambassador, Agensi Inovasi Malaysia
- 1030 Start of Contest.
- 1300 Lunch.
- 1400 Contest Resumes
- 1630 Talk by Wan Djawad on **Kite Wind Energy** – National Speak Out for Engineering Champion, Engineering undergraduate from Universiti Tenaga Nasional (UNITEN)
- 1700 Prize Giving and Awards
- 1730 End of Contest

Synopsis and Biodata of Robest Yong



"The necessity in being creative is of highest importance. Children and adults or students aspiring to make a difference must dare to dream but they should be realistic. It is important to plan big, but plan rationally. To make a living in innovations and entrepreneurship, one must understand the concept of 'money making ideas'. Otherwise it would just be an idea that sits shelved. When they tell you to think outside of the box, I say, what box?"

Mr. Robest Yong, an Innovation Ambassador for Agensi Inovasi Malaysia (Prime Ministers Office) is an established innovator, who has won numerous awards in the field of innovations as his brilliant mind knows no limitations.

Synopsis and Biodata of Wan Djawad



"The world as we know is threatened with the energy crisis. One source of energy that has yet to be focused on as much as we should have is the wind energy. Numerous European companies have come up with different but similar form of mechanism to harness this energy. One that I would like to focus on is the kite wind generator."

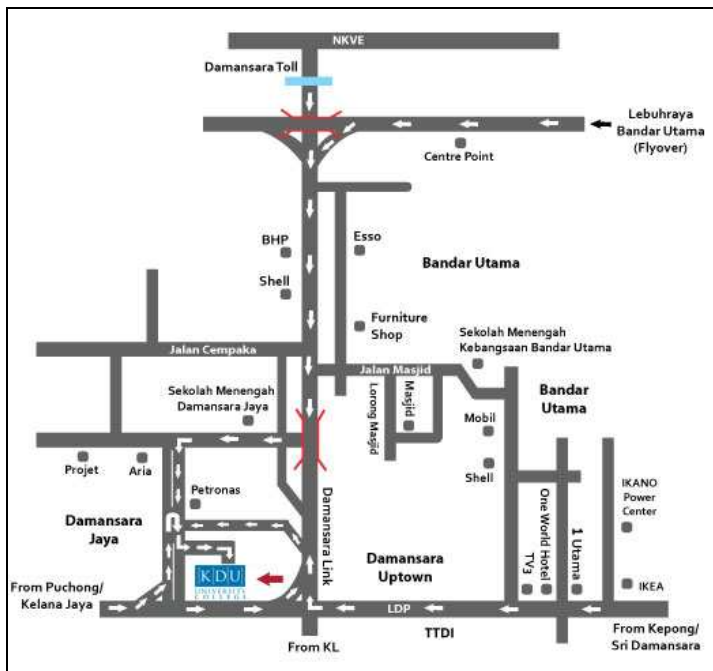
Mr. Wan Djawad is the champion of the prestigious Speak Out for Engineering (SOfe) Competition 2011 organized by the Young Members Section (YMS) of IMechE Malaysia. His proudest achievement was being awarded the Kennedy-Lugar Youth Exchange and Study (YES) Program Scholarship by the U.S. Department of State, allowing him to experience the U.S. culture and traditions for one year.

Design Contest

List of Projects on Show

University Name	Team Code No.	Project Title
Monash University, Sunway Campus	T - 1	Indoor Plant Nursery
Monash University, Sunway Campus	T - 2	Solar roof panels utilizing the flat-plate collector technology
UNITEN	T - 3	Green Nanotechnology: Rapid Prototyping of Graphene /Epoxy Composites using CNC Milling
UNITEN	T - 4	Fuel Cell Hovercraft
UNITEN	T - 5	Solar Powered Washing Machine
UNITEN	T - 6	Bio-composites using oil palm fibres for automotive components
UiTM	T - 8	Reusing Air that is wasted from air-conditioning
UiTM	T - 9	Water Desalination
UiTM	T - 10	Window Farming
UiTM	T - 11	Perpetual Energy
UiTM	T - 12	Lightweight Fuel Cell Vehicle for sustainability
Taylor's University	T - 13	Utilization of natural fibres to produce acoustic absorption panels
KDU College, Penang	T - 14	Wind Energy System
KDU UC	T - 15	Smart Bins

Map to KDU University College



**KDU University College - Damansara Jaya Campus, Jalan SS22/41,
Damansara Jaya, 47400, Petaling Jaya, Selangor, Malaysia**

Biodata of Our Judges



Ir. Devan Rajam is a Mechanical Engineer with 27 years of professional working experience, covering the electronics, automotive, civil engineering, software, management consulting and electrochemistry industries. He has spent the last 15 years in Senior Management positions. He is also a Member with Engineers Australia. He also possesses an MBA and his areas of expertise include quality and regulatory, lean manufacturing, project management and human talent management as well as the establishment, building, acquiring of all regulatory and OSHA approvals to ensure fluent start-up and operations.



Mr. Robest Yong is an established innovator. Some of his many awards that celebrate his success in innovation are the 1994 National Invention of the Year, 1997 National Youth Award, 2000 Outstanding Young Malaysia Award and even international awards in many countries, including a gold medal at the International Invention Fair in Geneva, Switzerland and multiple other countries from Russia to Papua New Guinea. One of his innovations that gathered worldwide recognition was the POLYCLONE Machine, internationally patented, which uses the photopolymerization technology that enables rubber stamps of the highest quality to be produced in less than 5 minutes.



Ir. John Yap Hong En is a Senior Technical Support Manager of SPX Cooling Technologies (Malaysia) Sdn. Bhd., a regional business unit of a US Fortune 500 company that manufactures and supplies cooling towers for the power plants, petrochemical, food and beverages, steel mills, electronics/semiconductors, heavy industries and HVAC market. John Yap has more than 10 years of experience in international project management and mechanical & process engineering design capacity. John Yap is a Chartered Professional Engineer of Australia and Malaysia. He is also an International Professional Engineer and APEC Engineer. He graduated with a Bachelors degree in Mechanical Engineering from University Putra Malaysia.



