



Prizes and Awards

The HKIE Innovation Awards for Young Members 2010

The Institution was pleased to launch the HKIE Innovation Awards for Young Members which was in its third consecutive year with the generous support of the family of the late Ir Kenneth Au-yeung. The Awards aim at encouraging our young members to develop their creativity through innovative application of engineering knowledge, as well as inspiring upon them to develop their intellectual and career interests in engineering. There were two main categories, namely Category I - An Invention and Category II – An Innovative Application of Engineering Theories. The entries could focus on any areas of engineering disciplines within the context of the HKIE. The innovativeness of the design was assessed based on its originality and creativity. This year, Dr Kelvin T W Ng (Category I) and Ir Leung Kwok-kin (Category II) won the Grand Prizes.

Waste-derived Alternative Daily Cover by Dr Kelvin T W Ng

Dr Ng's award-winning entry demonstrates an original and innovative reuse of waste in civil engineering projects. Regulatory agencies around the world require the use of daily covers for waste deposited at landfills. For a typical landfill, the total space lost due to the placement of daily covers alone can be as high as 25%. Full utilisation of landfill space is only possible with the use of waste-derived daily covers. Moreover, reusing waste materials also goes well with the aim of sustainable solid waste management.

A synthetic paste of waste tire chips and paper sludge was developed as an alternative daily cover with the goal of extending the life of the remaining landfills. Laboratory results suggested that the use of the proposed paste effectively reduced the risk of fines migration and clogging of the leachate collection pipes, enhanced the stability and degree of homogeneity of the buried waste and improved leachate quality by retaining some of the metal and organic pollutants.

Dr Ng is currently Assistant Professor of Environmental Systems Engineering at the University of Regina, Canada. He received his doctoral degree from the Hong Kong University of Science and Technology in 2008 and his major field of interest is environmental geotechnics, particularly in solid waste disposal facility design.

Submarine Treasure by Ir Leung Kwok Kin

The award-winning project, "Submarine Treasure", is used for repairing submarine cables damaged by seawater ingress. By integrating five key features into a traditional submarine cable joint, Ir Leung succeeded in developing an innovative device, the "Submarine Treasure", which provides a practical solution to problems that have long plagued the submarine cable industry, including the issue of seawater ingress in damaged submarine cables. "Submarine Treasure" has brought both tangible and intangible benefits to the industry, the community and the environment. It helps to save cost and improve supply reliability, thereby enhancing the operator's corporate

image as well as safety and quality performance.

Ir Leung graduated from the Hong Kong Polytechnic University with a First Class Honours degree in Electrical Engineering and an MSc in Building Services Engineering. Subsequently he also attained an MBA (Distinction) from City University of Hong Kong. Ir Leung joined CLP Power Hong Kong Limited upon his graduation in 1996 and led the cable team of the Asset Management Department with responsibility for managing technical evaluation, power cable design and the development of new technologies for the company. He is now Project Manager – Knowledge Management – of the same department. Since 2003, his team has received over 14 internal and external champion awards in Hong Kong and other cities. One patent has been granted for his innovative work.

This year, Certificates of Merit of Category II were presented to "Building Customised High-rise Apartment by Innovative Application of Customisation Techniques Currently Employed in Manufacturing Industry" by Ir Anita Siu who is the Skills and Research Manager of Ove Arup & Partners Hong Kong Limited; and "A Computational Model of the Human Cardiovascular System with Cardiopulmonary Resuscitation Induced Vessel-collapse" by Mr Yang Heng, Miss Gao Yi and Mr Evan Aditya Susanto who are final year engineering students studying at the Hong Kong Polytechnic University.



Dr Kelvin Ng (R) receiving the HKIE Innovation Awards for Young Members – Category I from President Dr Andrew K C Chan



The President presenting the HKIE Innovation Awards for Young Members – Category II to Ir Leung Kwok-kin (R)



The President presenting Certificates of Merit – Category II to Ir Anita Siu (top) and Mr Yang Heng, Miss Gao Yi and Mr Evan Aditya Susanto (bottom)

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