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Civil Engineering Professors Honored

Two [civil engineering](#) professors from the Hong Kong University of Science and Technology (HKUST) have been honored for their contributions to research into geotechnical and hydraulic engineering.

Associate Professor Kin-Man Lee and his research team were presented the Thomas A Middlebrooks Award for the paper "Effects of placement method on geotechnical behavior of hydraulic fill sands", published in the Journal of Geotechnical and Geoenvironmental Engineering in October 1999. The annual award was established by the prestigious [American Society of Civil Engineers \(ASCE\)](#) in 1955 to encourage advanced geotechnical research. Dr Lee's team is only one of two non-US research groups to have received the award in its 45-year history.

Assistant Professor Mohamed Ghidaoui and co-investigators received an Honorable Mention for their paper "Extended thermodynamics derivation of energy dissipation in unsteady pipe flow", published in the ASCE Journal of Hydraulic Engineering in April 2000. Their paper was selected by the journal as one of the top two runner-up articles published between July 1999 and June 2000 for the prestigious Hilgard Award for best paper.

"ASCE journals are regarded as leading academic publications in civil engineering, and a rigorous review process has to be followed for research papers to get accepted," said Prof Wilson Tang, Head of HKUST's Department of Civil Engineering. "The fact that our researchers' papers have not only been accepted, but also been selected for an award or honorable mention clearly indicates the superb caliber of their research quality."

Dr Lee has been investigating the geotechnical behavior of a hydraulic marine sand fill placed at the West Kowloon land reclamation site. He has found that placement technique is the single most important factor in controlling the geotechnical behavior of hydraulic fill sands. His findings have greatly contributed to the establishment of guidelines for the quality control of hydraulic landfill placement in Hong Kong, and constitute a valuable reference for reclamation practitioners and geotechnical engineers worldwide.

His research was funded and supported by the Geotechnical Engineering Office of the Government's Civil Engineering Department and by HKUST.

Dr Ghidaoui and his co-investigators used the science of extended irreversible thermodynamics to understand and quantify energy dissipation in unsteady flows in pipe systems. Accidental or planned changes in the setting of hydraulic control devices such as sudden pump failure or valve closure often produces high-pressure fluctuations in the pipeline, causing rupture, collapse, damage, explosion, sloughing off of bio-films, intrusion of contaminants through cracks and fire-related damage in natural-gas pipelines. His findings will help design safer pipelines and improve the reliability of leakage detection and water quality prediction. This research was funded and supported by the Research Grants Council of Hong Kong.

Established in 1852, ASCE is the leading professional organization representing more than 123,000 civil engineers around the world.