



COASTAL AND OFFSHORE ENGINEERING INSTITUTE (COEI)

The Coastal and Offshore Engineering Institute (COEI) was officially established by Universiti Teknologi Malaysia (UTM) in 1990 with the approval of the Ministry of Education. COEI became the first R & D institution specialising in the discipline of coastal and offshore engineering in Malaysia. Prior to the official set-up, pioneer COEI members have worked together on research and consultancy projects relating to river hydraulics and coastal engineering.

COEI provides specialised training to students and the professional community. Through their links with international

experts and organisations, they were able to broaden and enhance the knowledge of local practitioners in this field. The research and consultancy services provided by COEI include the development of coastal protection and computer modelling systems, and the applications of computer simulation and physical modelling for feasibility studies, hydraulic and coastal designs and impact assessment studies. Past and present clients include various government agencies and local authorities, private developers and consulting firms, port and highway authorities, local universities and multi-national companies.

COEI also provides technical advisory services to the government pertaining to the evaluation of Environmental Impacts Assessment reports, giving expert inputs to issues of national importance, training technical staff from other agencies and playing a major role in drafting various national guidelines and policies pertaining to good coastal and hydraulic engineering practices in Malaysia. COEI has extensive experience in hydraulic and coastal site investigation and data collection, development and applications of physical and mathematical models and conducting comprehensive hydraulic and coastal studies.



In 2010, two research projects under the e-Science grant (on coral growth enhancements using bio-electric method) and two under the Fundamental Research Grant Scheme (FRGS) (on tsunami run-up on vegetated coasts and mangroves root drag coefficients) were completed. On going research projects are the laboratory and field testing, and product improvements to the Hydro~Cheese™ porous breakwater and reef system. Two COEI products, namely the Hydro~Cheese™ and ArMS™ system were screened for commercialization by the ICC of UTM. Three Industrial Design Patents were filed for the Hydro~Cheese™.

respectively. Participation was by the various stakeholders, include JPS, Jabatan Meteorologi Malaysia, the Royal Malaysia Navy and JUPEM.

The Small Fishing Hub Master Plan study was officially awarded to COEI in January 2010 by the Ministry of Agriculture and Agro-Based Industries Malaysia even though work has started earlier. This is a pioneer national study that compiles all pertaining data on fish landing points in Peninsular Malaysia, Sarawak and Sabah. A ranking criteria and index that include engineering, socio-economic, environment and tourism for selection of suitable sites for the development of small fishing hub was developed. A total of 127 sites were surveyed and investigated and the final list of five sites of highest ranking was presented to the Federal and State government. The Draft Final Report including the design concept and cost estimates was submitted in December.

The River Mouth Sedimentation Study for Jabatan Laut Semenanjung Malaysia reached its final leg of completion where the findings and report for three out of five sites were delivered and presented to the client and stakeholders.



The tsunami modelling and inundation consultancy project was wrapped up in September 2010. This RM2mil project led by COEI is a multi disciplinary task that involved researchers and consultants from UTM, USM, UKM and a private consulting firm. A workshop and model training session were organised in July 2010 in Langkawi and Kuala Lumpur



Three short courses were conducted by COEI in October on Sea Defence Design, Coastal Modelling and the Eurotop Manual. These courses were conducted in Langkawi and Johor Bahru.

Prof William Allsop from HR Wallingford UK was invited as Visiting Professor for two weeks at COEI. During his visit, several activities involving research proposal discussions and evaluation of post-graduate projects were organised. In November, COEI was involved with a Corporate Social Responsibility project (CSR) where 10 units of Hydro~Cheese™ were deployed off Pulau Sibul. This activity was sponsored by Sibul Island Resort, MOSTI, Dorken Reef Resources and COEI.



