

Mathematical Modeling for Sustainable Environmental Management



This talk will provide an overview of the past and recent modelling studies that we have conducted to address the impact of natural and anthropogenic activities on the environment and to propose mitigation or adaptation measures.

The case studies that will be showcased include (i) air and water pollution modeling study for USM, (ii) tsunami modeling study for Malaysia, (iii) drill cuttings disposal for oil and gas industry and (iv) global sea level rise impact on coastal resources.



Speaker Associate Professor
Dr. Su Yean Teh
Universiti Sains Malaysia

Co-Organizer



Date : 26.6.21 (Sat)
Time : 10am-12pm

Location:
Zoom Platform

Space is limited
to reserve your seat,
please RSVP to
<https://forms.gle/HihAUJ6xETMnmJXU9>

Admission
FREE of charge

Synopsis



Mathematical modeling is an essential tool for gaining valuable insights into real-world problems and for finding possible solutions. A combination of mechanistic and empirical approaches is often used to project the behavior of the modeled system based upon known dynamics (mechanistic) and extensive data records (empirical). In our research studies, mechanistic models in combination with empirical models are often used to address various needs of the university, country or industry. This talk will provide an overview of the past and recent modelling studies that we have conducted to address the impact of natural and anthropogenic activities on the environment and to propose mitigation or adaptation measures. The case studies that will be showcased include (i) air and water pollution modeling study for USM, (ii) tsunami modeling study for Malaysia, (iii) drill cuttings disposal for oil and gas industry and (iv) global sea level rise impact on coastal resources. Using these case studies, we will demonstrate the application of STEM in support of sustainable management of the environment. It is hoped that my shared journey and experience as a mathematical modeler will inspire the younger generations to pursue a STEM career.

Associate Professor Dr. Su Yean Teh

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Speaker's Profile



Su Yean Teh received her Bachelor of Mathematics, Master of Science and Doctor of Philosophy in Mathematical Modelling in 2004, 2005 and 2008 respectively, all from Universiti Sains Malaysia. In 2006, she was awarded the UNESCO/Keizo Obuchi Research Fellowship to undertake research on “Management Modelling of Everglades Wetlands Hydrology and Ecosystems” at University of Miami, Florida, USA. Her research interests revolve around mathematical modelling with particular focus on computational simulation of real-life problems to provide insights and to suggest possible solutions. She works on various topics in ecosystem and environmental modelling, many of which were initiated and driven by the needs of the country or industry. She was invited on various occasions to visit University of Miami and Nanjing Forestry University under U.S. Geological Survey grants. She was also sponsored by ICTP to attend four workshops at Abdus Salam International Centre for Theoretical Physics (ICTP) at Trieste, Italy and by Brown International Advanced Research Institutes (BIARI) at Brown University to participate in Climate Change and Its Impacts: Connecting Local Variability and Knowledge in a Global System. She was awarded the prestigious L’Oréal-UNESCO for Women in Science Malaysia Fellowship 2017 for her research on unifying STEM towards sustainable management of our coastal resources. Recently, she was featured in a documentary of distinguished Malaysian scientists, broadcasted by Astro’s AEC channel. She is currently an Associate Editor of Springer’s Hydrogeology Journal. She has published numerous articles, most notably in Journal of Asian Earth Sciences, Ecosystems, Ecological Modelling, Landscape Ecology, Agricultural and Forest Meteorology, Hydrogeology Journal, Environmental Science and Pollution Research, Theoretical and Applied Mechanics Letters and Journal of Marine Science and Engineering.

<https://math.usm.my/index.php/academic-profile/186-teh-su-yeen>

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