

## Preface



It is with great pleasure that I welcome all participants to the 3rd International Conference and Exhibition on Sustainable Energy and Advanced Material, ICE-SEAM 2013. It is your active participation that has made this conference an excellent and fruitful endeavor. I would also like to express my heartfelt appreciation to all members of the ICE-SEAM Committee in making this event a success.

UTeM strongly encourages all researchers to be proactive and innovative and to fully embrace the new challenges posed by the needs of sustainable technology development. In Malaysia, we need to address the challenges and competitions from other countries and in doing so, we must take into account the importance of green technology as a major requirement for sustainable development.

I sincerely hope that the output of this conference will have much positive and desired impact to all parties involved and may it be an impetus for industries and practitioners to produce more creative and innovative products that will benefit all.

Thank you.

Prof. Datuk Dr. Ahmad Yusoff Hassan



The central theme for the 3rd International Conference and Exhibition on Sustainable Energy and Advanced Material (ICE-SEAM) is on Energy Efficient and Advanced Material for Sustainable Development. The past conference addressed the issue of the field in Mechanical Engineering with variety areas ranging from energy, material, mechatronics, manufacturing and design. It is agreed by researches and scientist that sustainable development cannot be achieved with a single solution yet, it can be achieved with a variety of solutions, technologies and choices. Therefore, the coverage of the conference was converged into sustainable technologies which is supported by advanced material technologies including conversion, design, modeling, engineering, design, social, economic and so forth. There are four research areas encompass the whole energy and material discipline, namely; (1) renewable energy, (2) advanced material, (3) energy management and (4) socio-economy impact that cover numerous topic to discuss about.

This 3rd ICE-SEAM, which is being held jointly by UTeM's Faculty of Mechanical Engineering, Universitas Sebelas Maret (UNS), Indonesia and Malaysian Technical University Network (MTUN) to be an excellent platform for experts in the field of energy and material to exchange and generate ideas towards global sustainability. We are indeed very fortunate to be able to bring together such experts to discuss and disseminate information, technology, engineering, performance and the latest scientific discoveries in the field of engineering. Additionally, participants are exposed to the industry and other institutions on the progress and opportunities for collaboration in research and consultancy and hence strengthen networking between academicians, scientists, engineers and technologists at regional and international levels.

Thank you.

Engr. Dr. Noreffendy Tamaldin

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