

## PREFACE

This volume contains some selected papers from the 4<sup>th</sup> International Malaysia-Ireland Joint Symposium on Engineering, Science and Business (IMiEJS 2014) which is held in Penang, Malaysia during June 25-26, 2014, and is jointly organized by Universiti Malaysia Perlis (UniMAP) and Athlone Institute of Technology (AIT). The symposium aims to provide a high level international forum for researchers, engineers and scientists to present their new advances and research results in the field of engineering, science, business and technological innovations.

This volume covered all the aspects of engineering and technology, particularly of applied science, mechanics, materials, design engineering and any other related topics. All of the papers have been reviewed by more than two expert referees in their relevant topic disciplines. The paper selected for this volume depended on their quality and relevancy to the conference.

The editors hope that this volume will provide the reader a broad overview of the latest advances in the field of applied mechanic and material, and that will be as valuable reference source for further research.

The editors would like to express their sincere appreciations and thanks to all the committee members of the IMiEJS 2014 for their tremendous efforts. Without their dedication, it was impossible to have a successful IMiEJS 2014 and a high quality volume of the conference proceedings. Thanks also to Trans Tech Publications for producing this volume. Finally, the editors would like to thank all the authors for their contribution to this valuable volume.

**Mohd Mustafa Al Bakri Abdullah**

**Liyana Jamaludin**

**Muhammad Faheem Mohd Tahir**

**Mohd Najmuddin Mohd Hassan**

Universiti Malaysia Perlis, MALAYSIA

Athlone Institute of Technology, IRELAND

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