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UNIVERSITI SELANGOR

# PROCEEDINGS OF UNISEL BESTARI RESEARCH PROJECTS

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Editors:  
**Setyawan Widyarto**  
**Mokhtar Abdullah**  
**Ann Sofee Razali**

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# Proceedings of UNISEL Bestari Research Projects 2016

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## Preface

As an academic institution, it is imperative for Universiti Selangor (UNISEL) to undertake research activities. This is essential for training of young academic staff in research practice, knowledge creation, helps academic faculties to remain current in their subjects, build up the capabilities of the departments, improves the overall academic quality of the training imparted and the status of the researchers and the institution.

The Centre for Business, Research, Industrial Linkages & Consultancy (BRIC) of Universiti Selangor (UNISEL) acts as an entity that is responsible for making efforts to make research and innovation excellence an important agenda that “meets the needs of our stakeholders and the future generations’. It is long overdue that the linkages between Business, Research, and Industries are to be established. These linkages are also in line with the noble realm of the Selangor State Executive Councillor (EXCO) for Education, Human Capital Development, Science, Technology and Innovation.

The compilation of Unisel Bestari Research Projects (UBRP) 2016 was initiated by BRIC and it is part of the “Transformation Agenda” led by Prof. Dato' Dr Mohammad Redzuan Othman, the President & Vice Chancellor of Universiti Selangor. The proceedings, being divided into seven (7) sections, provide an opportunity for the audience to engage with academic papers that were yielded from UNISEL Bestari Grant in 2016.

The publication of the proceedings aims to stimulate academic research and to jointly advance the research and innovation agenda of the Selangor State through excelling research and innovation activities in Universiti Selangor. This is a fruitful beginning and it may constitute a foundation for future scholarly works in this institution.

Last but not least, the audience will discover that the articles published in the proceedings present both the challenges and creative solutions emerged from academic endeavours of the faculty members in UNISEL. It is also a manifestation of collaborative works amongst academics from various academic disciplines in UNISEL.

The editors wish to thank all the paper contributors, the administrative staff of BRIC and the top management of UNISEL for their excellent supports given in the publication of the proceedings.

Setyawan Widyarto, *Chief Editor*

Mokhtar Abdullah

Ann Sofee Razali

December 2016



