



# iCE-CInno<sup>2016</sup>

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*Proceeding of*

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INTERNATIONAL COMPETITION  
AND EXHIBITION ON  
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(iCE-CInno 2016)**

Faculty of Computer Systems & Software Engineering  
UNIVERSITI MALAYSIA PAHANG

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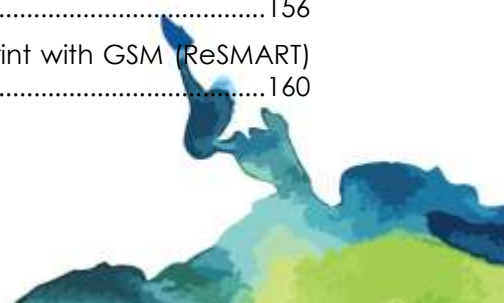


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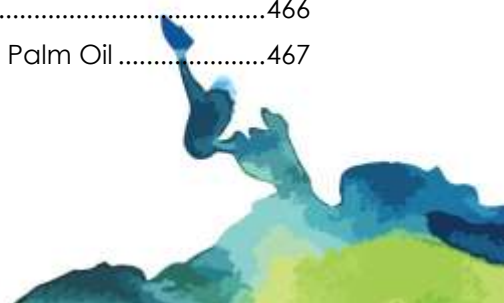
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**Foreword from the Dean of Faculty of  
Computer Systems & Software  
Engineering  
Universiti Malaysia Pahang**



Assalamualaikum wbt.

On behalf of Universiti Malaysia Pahang, it is my honour to welcome all participants to the International Competition and Exhibition on Computing Innovation (iCE-Cinno 2016). Indeed, this is a very special event for us as it is the first international competition held by the Faculty of Computer Systems and Software Engineering, Universiti Malaysia Pahang.

With the theme "Communitising Innovative Computing", this competition aims to promote the spirit of inventiveness among Malaysians and ASEAN participants. The competition will serve as a platform for the talented pool of researchers, academics, computer scientists and young inventors to introduce and exhibit their creations that optimistically will drive technologies in future.

The main message is that we need to think of innovation not as a sudden flash of inspiration, but as a long process of searching, experimenting and learning. For this to become a reality, it requires a platform that allow for continuous interaction so that researchers can learn from each other. I hope this competition may help stimulate innovation efforts through increased understanding of the long-term effects and sustainable growth.

I am really fortunate to be part of such great event and I am very grateful to the program committee who worked very hard in making iCE-Cinno 2016 a success.

**Professor Dr. Kamal Zuhairi Bin Zamli**  
**Dean**  
**Faculty of Computer Systems & Software Engineering**  
**Universiti Malaysia Pahang**



**Foreword from Chairperson of  
International Competition and  
Exhibition on Computing Innovation  
2016 (iCE-CInno 2016)**



Assalamualaikum wbt and warm greetings.

I would like to welcome all our delegates and participants to the International Competition and Exhibition on Computing Innovation 2016 (iCE-CInno 2016). iCE-CInno 2016 acts as a platform to identify talents of students from primary to higher education and to recognizes the innovation of students, educators and industry to a higher level (international) in the field prestigious. iCE-CInno permits academicians and students to showcase their products such as multimedia tools, computer applications, mobile application and systems.

The iCE-CInno technical committee had received more than 150 abstracts for the iCE-CInno 2016 competition. Out of these entries, the committee had shortlisted approximately 130 entries to be exhibited at the iCE-CInno 2016. The selected abstracts can be found in this proceeding and we hope that this volume will provide valuable study for its readers, who have a direct interest in online and flexible learning. We also hope that the carnival will continue to strive to be the catalyst for knowledge sharing amongst participants.

I would like to record our sincere appreciation to Faculty of Computer Systems & Software Engineering (FSKKP) for supporting this International Carnival. I am really fortunate to be part of such a great event and I am very grateful to the program committee who worked very hard in making iCE-CInno 2016 a success.

**Associate Professor Dr. Mazlina Binti Abdul Majid  
Deputy Dean (Research and Postgraduates)  
Faculty of Computer Systems & Software Engineering  
Universiti Malaysia Pahang**

