



Advances in Innovative Engineering and Technologies
PROCEEDINGS OF THE INTERNATIONAL CONFERENCE
ON INNOVATIVE ENGINEERING AND TECHNOLOGIES
(CAASR-ICIET '15)
PROCEEDINGS OF THE INTERNATIONAL CONFERENCE
ON ADVANCED THEORETICAL COMPUTER
APPLICATIONS
(CAASR-ICATCA '15)

Bangkok, Thailand
November 27-28, 2015

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Applications (CAASR-ICATCA `15)

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Preface

With all the unprecedented advances in Innovation, Engineering, and Technology of the last years, these fields become more and more interdisciplinary-interacted. Hence, 2015 International Conference on Innovative Engineering and Technologies and Advanced Theoretical Computer Applications covers a wide range of fields in innovation, engineering, computer applications and technology. The purpose of this conference aims to build an international platform that allows interested experts to share and discuss their latest researches, ideas, technology, and survey reports in the theoretical and practical areas regarding all aspects of ICIET & ICATCA 2015.

The role of this publication is to find, based on scientific knowledge, the best solutions for developing new technologies, to provide know-how for developing new materials and construction of specific equipment. The whole information concentrates a significant part of available scientific and technical capability from the academic and industrial areas and its capitalization is achieved by research in collaboration with design, as long as these two different professions have a shared responsibility. A representative quality of this book is the originality that awakens interest primarily to those who want to promote the new and fight for competition. It can be considered that the publication comes as an addition to what Leonardo da Vinci claimed that "It's not what you know, but what you do that remains".

We trust that this publication will provide valuable input and serve as a catalyst for new initiatives in science, technology, engineering, and innovation.

The Editors

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Plenary Lecture
**Best Practices in Teaching and Learning at Engineering and
Built Environment**



Dr. Roszilah Hamid

*Head-Center for Engineering Research Education
University of Kebangsaan, Malaysia*

Abstract

The development of innovation in teaching and learning (T&L) at Faculty of Engineering and Built Environment (FEBE), Universiti Kebangsaan Malaysia (UKM) is presented. The development in T&L is divided into four subtopics: curriculum and students development; best practices in teaching and learning (teaching and learning approaches); assessment and evaluation and continuous quality improvement (CQI). Among the teaching and learning approaches implemented in the faculty, the earliest adopted and adapted, and most practiced is the problem-based learning (PBL). The next most consistently used approach is the cooperative learning through jigsaw technique, followed by the integrated project. Some other best practices are on-line interactive learning, inductive method, CDIO (Conceive Design Implement Operate), open ended lab work, and living studio and critique session. The students' views were taken into account in the evaluation phase and together with the assessment, the cycle is completed through CQI.

Short Profile of our Plenary Speaker

Dr Roszilah Hamid is a lecturer at the Department of Civil and Structural Engineering, Faculty of Engineering and Built Environment, Universiti Kebangsaan Malaysia and is currently the Head of Centre for Engineering Education Research. Her research interests include non-destructive testing of concrete structures, sustainable materials for high performance concrete and engineering education. She received her Diploma in Engineering Education from Universiti Teknologi Malaysia, BSc in Civil Engineering from Marquette University, Milwaukee, Wisconsin, USA, MSc and PhD in Civil and Structural Engineering from Universiti Kebangsaan Malaysia. Dr Roszilah is in the editorial board of International Journal of Civil Engineering and Built Environment, Chairperson for International Technical Conference 2014, Guest editor of several special issues on UKM Teaching and Learning Congress and organizing committee of International Forum of Engineering Education 2012. She had published more than one hundred journal and conference proceeding papers in both civil engineering and engineering education fields.

Plenary Lecture
Applications and Trends in Data Mining: Sustaining Ecosystem from Species Extinction



Dr. K. Latha
Faculty of Computer Science and Engineering
Anna University of Technology, Tiruchirappalli, India

Abstract

Various field adapted data mining technologies because of fast access of data and valuable information from a large amount of data. Data mining application area includes marketing, telecommunication, fraud detection, finance, and education sector, medical and so on. This research provides a general idea of data mining, techniques in new field of Sustaining Ecosystem from Species Extinction. Nature conservation can be considered as a social movement that proposes to develop or reaffirm in the society some values concerning the relationship between man and nature. To conserve biodiversity, it is necessary to understand how species are distributed and which aspects of the environment determine distributions. In this modern world, every living organism is interconnected. The biosphere is fully dependent of species. The biosphere and human living is endangered, because of environmental changes and species extinction. It remains a challenge to identify the geographical patterns and underlying environmental associations of species with unique ecological niches and distinct behaviors. This in turn hinders our understanding of the ecology as well as effective conservation management of threatened species. In taxon-wide assessments of threat status of many species remain not included owing to lack of data. This research focuses on predicting the risk status of data deficient species and classification of not evaluated species into International Union for Conservation of Nature (IUCN) category and also to provide conservation solution for species high in risk. The newly developed model completely delivers the knowledge about data deficient species extinction risk and not evaluated species category more accurately compared with any other model with set of conservation solution.

Short Profile of our Plenary Speaker

Dr. K. Latha is a Faculty of Computer Science and Engineering Department, Anna University, Tiruchirappalli, Tamilnadu, India. She is a graduate of B.E (ECE) from Bharathidasan University, and M.E (CSE) from Madurai Kamaraj University. She earned her Doctorate from Anna University Chennai. Her areas of interest include Information Retrieval, Data mining, Text mining, Web mining, Cloud computing and Network security.

She has 16 years of teaching experience and produced several doctorates in Anna University, Chennai. She has published around 60 papers in International journals and conferences and received best paper award for 5 papers conducted by IEEE. She delivered special lectures, keynotes, Presidential Address and acted as a resource and chairperson in many International conferences. She received leader's charity award in academic excellence in Madurai Kamaraj University for Master of engineering in CSE. She is closely associated with IIT Kanpur. She has received grant from AICTE, TEQIP – II and organized several workshops, seminar, and conferences. She has been appointed as a Research Advisory Council member by the Anna University, Chennai. She has acted as an Expert in the Constitution of Oral Examination board for the conduct of Viva-Voce in respect of the Research Scholars for Ph.D Programme, Anna University .She has been appointed as a Member of Inspection Committee for Inspection-CAI –Anna University, Chennai-Affiliation-Consideration of granting of provisional /permanent affiliation for Engineering Colleges. She has been Invited to Peer Review the articles of Journals like Springer, Oxford University Press, ELSEVIER, ICTACT and Neural Computing etc.