CONFERENCE
PROGRAM

IEEE TALE 2019

International Conference on Teaching, Assessment and Learning for Engineering

Royal Ambarrukmo Hotel
8-11 April 2019, Yogyakarta - Indonesia

Sponsor:

IEEE
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Doctor of Computer Science

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www.tale2019.org

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Welcome Message from the General Chairs

Dr Ford Lumban Gaol
Bina Nusantara University, Indonesia

Dr. Ayu Purwarianti
Bandung Institute of Technology, Indoneaia

Greetings!

It is our great pleasure and honor to welcome you to IEEE TALE 2019 and also to our beautiful Yogyakarta, which is capital of Java Kingdom, home to the Borobudur Temple--one of the Seven Wonders of the World.

In this event we will have the opportunities to exchange knowledge and information on latest researches and strengthening relationships amongs us, while enjoying the relaxing yet entertaining environment of Yogyakarta.

TALE is the IEEE Education Society's flagship Asia-Pacific (IEEE Region 10) conference, catering to researchers and practitioners with an interest in science, technology, engineering and mathematics (STEM) education – with a particular emphasis on electrical and electronic engineering, telecommunications, computer engineering, computer science and allied disciplines – as well as those interested in the innovative use of digital technologies for learning, teaching and assessment in any discipline.

The TALE series was first established in 2012 to complement the IEEE Education Society's other, very popular Frontiers in Education and EDUCON conferences, which serve North America (IEEE Regions 1-7) and Europe, the Middle East and Africa (IEEE Region 8), respectively. Following highly successful conferences in Hong Kong (2012 and 2017); Bali, Indonesia (2013); Wellington, New Zealand (2014); Zhuhai, China (2015); Bangkok, Thailand (2016), and Wollongong, Australia (2018).

In this 2019 IEEE TALE, the event is organized by IEEE Education Society, IEEE Indonesia Section, and Doctor of Computer Science Program and School of Information System Bina Nusantara University as Co-Organizer.

In IEEE TALE 2019, we are honoured to have three keynote speakers. Thanks to Prof. Dr. Seiichi Kawata, Prof Dr. Minjuan Wang and Prof Dr Ferry Heriadi to deliver their keynote speech in IEEE TALE 2019.

Thank you very much to Distinguished Panel Members for the Special Track on XR & Immersive Learning Environments: Minjuan Wang, Ekaterina Prasolova-Førland, and Jonathon Richter. Our appreciation also to the Special Track on Big Data, Analytics & Machine Learning in Education: Vitomir Kovanovic, Chi-Un Lei, and Hiroaki Ogata.

We would like to thanks to all of Workshop facilitators : Dr. Taku Jiromaru (President Director of OME Inc. & Conference Service Inc. and Faculty Member of Kurume University), Prof. Dr Ekaterina Prasolova-Førland (Norwegian University of Science and Technology (NTNU)), Dr. Lisa B. Bosman (Purdue University (West Lafayette, IN, USA), Ms. Crystal Jing LUO, (The University of Hong Kong (HKU)) and Mr. Donn Emmanuel GONDA (The Hong Kong University of Science and Technology), Chathura K. Sooriya-Arachchi (Department of Computer Science and Engineering, Institute of Information Technology, Colombo, Sri Lanka), Fariz Alemuda (PT Telekomunikasi Indonesia), Natalia Filimonova (Professor of Economics and the Head of Management and Marketing Department at Vladimir State University (Russia)), Prof. Tokuro Matsuo, Ph.D (Graduate School of Industrial Technology, Advanced Institute of Industrial Technology)

Although several of you might have visited Yogyakarta before and have left some impressions, Yogyakarta will still become an unexhaustible place of attraction, the peaceful romantic environment, the religious ceremonies kept for ages, the fascinating dances, and the friendly people.
We hope all participants will have valuable and also enjoyable experience during this event. Looking forward to see you all in Yogyakarta.

Yours sincerely,

General Chairs,

Dr Ford Lumban Gaol
Bina Nusantara University, Indonesia

Dr. Ayu Purwarianti
Bandung Institute of Technology, Indoneaia

Welcome Message from the Technical Program Chairs

Spits Warnars Harco Leslie Hendric
Binus University, Indonesia

Hiroyuki Mitsuhara
Tokushima University, Japan

Yoshiko Goda
Kumamoto University, Japan

Fonny Dameaty Hutagalung
University of Malaya, Malaysia

Dear all researchers around the world,

Thanks to join with the IEEE International Conference on Teaching, Assessment, and Learning for Engineering (TALE) 2019, which is run in Yogyakarta, Indonesia from 10-13 December 2019. This years tracks include core tracks such as:

1. Engineering Education
2. Computing & IT Education
3. Science, Technology, Engineering and Mathematics (STEM) Education (K-12)
4. Online and Technology-Enhanced Learning
5. Workplace, Community & Informal Learning
6. Entrepreneurship and Startup in Education and Training.

Including Special Tracks such as :

1. XR & Immersive Learning Environments. Organized in conjunction with the Immersive Learning Research Network (iLRN),
2. Big Data, Analytics & Machine Learning in Education,
3. Organized in conjunction with the Society for Learning Analytics Research (SoLAR)
4. The Advancement of Learning Technologies
5. Games and Creativity in Education and Training.

We had 501 submitted papers and 187 papers were accepted with acceptance rate 37% and the papers came from 31 different countries from 5 continents such as: Singapore, Indonesia, Philippines, Hongkong, Malaysia, China, Taiwan, Thailand, Japan, Bangladesh, India, Pakistan,

Qatar, United Arab Emirates, USA, Portugal, Mexico, Fiji, Peru, United Kingdom, Ireland, Finland, Iceland, Germany, France, Italy, Greece, New Zealand, Australia, South Africa, and Namibia.

The paper was organized with EDAS system and had been checked with similarity tool iThenticate and have similarity score under 20%. Moreover, in quality paper checking we applied non subjected to the level 3 IEEE checking plagiarism where the paragraph in the paper did not copy and paste from other paragraphs including self plagiarism. Last but not least, we thank all to who attend in this conference, and we do apologize for any inconvenience either before or after this conference, particularly for authors when they submitted and waiting for the result review's papers and we are waiting for the correction of your accepted papers. Having a happy conference day !

Welcome Message from the IEEE Education Society President

Russ Meier
IEEE Education Society President

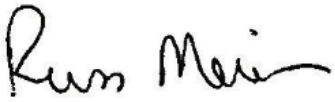
Welcome to Yogyakarta and the 2020 IEEE Teaching, Assessment, and Learning in Engineering Conference. Sponsored by the IEEE Education Society and the IEEE Indonesia Section, and hosted by BINUS University, the conference provides four days of keynotes speakers, industrial speakers, paper sessions, networking events, and an optional final day of sightseeing in Indonesia. Participants from all over the world will interact with each other through this technical program and the planned social events.

This year, I will not be able to join you in Asia for TALE. However, I have been a participant in TALE many times, and I have also been to many universities in the Asia-Pacific region. I have met dedicated engineering educators engaged in ensuring their students achieve the highest potential. These educators study learning science, learning engineering, distance and hybrid learning, mobile learning technologies, innovation in the classroom, and collaborative research. I know that this year's TALE participants continue that dedication to improving the way we educate the next generation of engineers and computer scientists. I extend my warmest regards to all of you and I truly hope you have an outstanding event. The technical program chairs have worked with authors and the conference theme to create an engaging technical program. I thank them and the rest of the conference committee for working to ensure all participants gain insight and new ideas from this important continuing education event.

The support of the conference academic and corporate sponsors helps provide high-quality keynote speakers, meals, and social events. Academic corporate sponsors this year are the Intitut Teknologi Bandung, RISTEKDIKTI, NUNI, Telkom Indonesia, IBM, and Microsoft. I thank them for their support of TALE and helping to provide a dynamic learning environment for the conference participants.

Our academic and industrial keynote speakers this year are truly outstanding. You will not want to miss any of these presentations. I extend my thanks to all of them for contributing their time and talent to the technical program.

Finally, thank you to all the participants of TALE. You are professionals working every day to improve the quality of education around the world. Your work is inspiring to me, and I am happy you have joined the TALE community in Yogyakarta. Enjoy the conference.



Russ Meier, IEEE Education Society President 2019, 2020

Welcome Message from the Chair of IEEE Indonesia Section

Dr. Eng. Wisnu Jatmiko
Chair of IEEE Indonesia Section

Dear Distinguished Guests, Colleagues, Researchers, Professionals, ladies, and gentlemen, Good morning. I would like to deliver a prosperous, warm, and spirited greeting.

On behalf of the IEEE Indonesia Section, we would like to extend our warmest welcome to all keynote speakers, presenters, and participants to IEEE TALE 2019. It is an honor of the IEEE TALE 2019 held in Indonesia. TALE is the IEEE Education Society's flagship conference in interests of Science, Technology, Engineering, and Mathematics (STEM) Education.

In a broader view, the core purpose of IEEE is to foster technological innovation and excellence for the benefit of humanity, likewise in digital technology education. We believe that this conference will bring researchers, academicians, scientists, students, engineers, and practitioners together to participate and present their latest research findings, developments and applications related to the various aspects of the current state of digital technology education.

This conference has been a precious moment to meet representatives convening from all over the world to start building the future of IEEE with a great passion. Through this opportunity, we would like to express our appreciation to the IEEE Education Society, which acts as the Organizing Committee of this conference. They have committed their time and energy to manage and ensure this event run smoothly.

Finally, we do hope all of you will have an enjoyable and valuable experience during this event. You may share your best knowledge in your area of research and professional activities. And also, we believe that together, we can encourage research to advance sustainable technologies for a better human life.
Thank you.

Yogyakarta, 10 December 2019
Chair of IEEE Indonesia Section

Wisnu Jatmiko

Keynote Speakers

1. Dr. Seiichi Kawata

(President, Advanced Institute of Industrial Technology, Japan)

Title:
Professional graduate school system in Japan and some experiences in AIIT

Abstract:
Professional graduate school system was established in 2003 by enacting the Japanese School Education Law, Article 99 paragraph 2. The description of this law is that a professional graduate school "is a graduate school that offers both courses and research on the theories and applied studies of a given discipline and that seeks to train students to acquire profound knowledge and excellent expertise, which they are required to have when pursuing work that demands a high degree of expertise".

After enacting this law, 119 Japanese universities run 169 programs in the fields of teacher education, law school, business school, management of technology, accountancy, public policy, public health, psychology, nuclear professional, information technology, innovation for design and engineering, etc.

In this talk, we would like to explain why so many professional graduate schools have started in Japan and what kinds of engineering professional school are run in Japan and how they teach to educate high level professional in such kinds of graduate schools.

Then we would like to show some experiences in Advanced Institute of Technology (AIIT) in Japan. There from 22 years old student up to 75 years old student and from the new company employee or just after the graduate students and also manager class industry person or president of their own company come together and learn new technology. It is very unique challenge of professional engineering education and we could show that our curriculum includes not only engineering disciplines but also design school disciplines, management, finance and ethics.

Biography:
Prof. Seiichi Kawata is a President of Advanced Institute of Industrial Technology, Tokyo Metropolitan University Public University Corporation. He is also a Vice Chairperson of the Board of Trustees of Tokyo Metropolitan University Public University Corporation. He was a Research Associate at Osaka University during 1982-1986. He was a Research Associate at Tokyo Metropolitan University during 1986-1990. He was an Associate Professor at Tokyo Metropolitan University during 1990-2000. He was a Professor at Tokyo Metropolitan University during 2000-2006. He was a Dean and Professor at Advanced Institute of Industrial Technology during 2006-2016.

Prof. Seiichi Kawata is SICE (The Society of Instrument and Control Engineers, Japan) Fellow, He is a Chairperson of APEN (Asia Professional Education Network). He is a member of IEEE, JSME (The Japan Society of Mechanical Engineers), SICE (The Society of Instrument and Control Engineers, Japan) and JSAI (The Japanese Society for Artificial Intelligence).

Prof. Seiichi Kawata published many papers in the field of Control engineering application for the industrial problem, Soft computing application for the manufacturing systems optimization, Development of the integrated simulator of discrete event systems and continuous systems and Service engineering. His research interest includes Industrial control systems design, Optimization of manufacturing systems, Machine Learning, Discrete/ continuous hybrid systems modeling and simulation, and Service Engineering.

2. Dr. Minjuan Wang

(Professor of Learning Design and Technology, San Diego State University (USA); Executive Board Member, the Immersive Learning Research Network)

Title:
Trends and Challenges in Higher Education: Entrepreneurship and the Evolution of Learning

Abstract:

Dr. Wang will discuss the roots of American Higher Education and then proceed to address some of the fundamental challenges Higher Education currently faces. Some of these challenges have the very real possibility of being transformative in nature and forebode major changes in the current Higher Education system. Whereas many around the world believe that Higher Education in America continues to enjoy preeminent world status, maintaining that status is challenged internally by changing demographics, and socio-cultural and economic changes taking place in the United States.

In addition, Dr. Wang will review the evolution of learning, from classroom to E-learning, from online to mobile learning, and to the recently emerged XR (Cross-Reality) and immersive learning. Her presentation will focus on trends and issues related to XR and immersive learning, including the needs for global collaboration and design frameworks that can guide XR's implementation in various settings of education.

Biography:

Dr. Minjuan Wang is Professor of Learning Design and Technology at San Diego State University (SDSU), and was a distinguished visiting professor of Shanghai International Studies University. She also worked as a project manager for the Chancellor's Office of California State University, where she assisted in forming two IEEE-sponsored editorial boards for the MERLOT project.

In her 19 years at SDSU, she teaches Methods of Inquiry, Designing and Developing Learning for the Global Audience, Mobile Learning and AR Design, and Technologies for Course Delivery. Her research specialties are multidisciplinary, focusing on the X-Reality and Immersive Learning, sociocultural aspects of online learning, mobile learning, Augmented Reality, and intelligent environments. She served as the Chief Editor for the EAI Transactions on E-Learning, and was a guest editor to two premiere journals, Virtual Reality and Interactive Learning Environments. In addition, she serves on editorial boards for four other education technology journals.

As a winner of several research awards and international grants, Minjuan is recognized as one of the high impact authors in blended and mobile learning. She has more than 100 peer-reviewed articles published in indexed journals and conference proceedings, including Educational Technology Research and Development, IEEE Transactions on Education, and British Journal of Educational Technology. She was a keynote and invited speaker to nearly 30 international conferences and also participated in the organization of numerous conferences.

3. Henry Feriadi, Ph.D

(Rector of Duta Wacana Christian University)

Title:
Contextualizing Service Learning Program for Experiential Education in Indonesian Universities

Abstract:
Hundreds universities as part of higher education institutions in Indonesia, are challenged and expected to provide excellent quality education and research based on the current advancement of science and technology. The effort of Indonesian universities in achieving this noble purpose is even harder, complex and very challenging because the universities are also expected to prepare their students to master or acquire professional skills to meet the demand of present and future work place and to contibute in solving socio-economic problems in Indonesia. The adoption of the Whole Person Education (WPE) approach is considered more relevant and suitable for higher education in Indonesia. The concept of WPE believe that holistic education should integrate intellectual, physical and spiritual dimension to make sure that the learning process in science and technology are used to transform learner to be a better person and the wholeness of the creation. Service Learning program is introduced and specifically discussed as an alternative way to bring student into experiental education in Indonesian universities. Service Learning can be defined as "An educational approach that combines learning objectives with community service in order to provide a pragmatic, progressive learning experience while meeting societal needs ". Some experiences and lesson learned from the implementation of the service learning programs at Universitas Kristen Duta Wacana are presented. The further ideas and issues of the integration of experiental learning and digital learning platform in the future are discussed.

Biography:

EDUCATIONAL BACKGROUND:

1987 – 1992	School of Architecture – Faculty of Engineering - Ir (BArch) Parahyangan Catholic University, Bandung

1998 – 2000	Master of Science (MSc) in Building Science School of Design and Environment National University of Singapore
2000 – 2003	Doctor of Philosophy (PhD) in Building Science School of Design and Environment National University of Singapore

PROFESSIONAL BACKGROUND:

ACADEMIC POSITION:

1992 – present	Senior Lecturer and Researcher, Department of Architecture, Faculty of Architecture and Design Universitas Kristen Duta Wacana (UKDW), Yogyakarta
2003 – 2004	Vice Dean, for Academic Affairs, Faculty of Engineering
2004 – 2010	Dean, Faculty of Engineering
2010 – 2014	Vice Rector, for Partnership and Institutional Development
2014 – present	Rector
1992 – present	Professional Registered Architect for the residential housing, schools, campuses, churches and commercial projects

SOCIAL WORKS:

2004 – present	Director, PT. Suara Pelita Nusantara (Petra radio FM 105,7)
2004 – present	Member, National Board of Trustee, Habitat for Humanity Indonesia
2004 – 2008	Chairman, Habitat for Humanity Indonesia – Jogjakarta

SCHOLARSHIPS / AWARDS:

1993	IATSS (International Association of Traffic and Safety Sciences) Forum – Suzuka Japan, sponsored by HONDA foundation
1998 – 2000	ASEAN Postgraduate Scholarship for MSc program in NUS
2000 – 2003	Research Scholarship – President Graduate Fellowship for PhD program in NUS

Invited Speakers

1. Dr.Taku Jiromaru

(President Director of OME Inc. & Conference Service Inc. and Faculty Member of Kurume University)

Title:
University as a Supply Chain in Japan.

Abstract:
We can take much information if we consider university as the last part of the supply chain in education. This talk will cover my communication experience of the following person; high school students, university students, parents of the students, staff of universities, professors and the person in charge of employment in company. I hope it will be an opportunity to think how your affiliation functions as a supply chain.

Biography:
Dr. Taku Jiromaru is the president of two companies and a part-time lecturer of Kurume University. He graduated from Kyushu Institute of Technology in 2001 and worked for a general company for three years. In 2006, he established OME Inc., whose main business is a private teacher, and assumed the position of president. In 2011, he entered the doctoral program at Yamagata University, Graduate School of Science and Engineering and he established Conference Service Inc., whose main business is the support and management of academic conferences. In 2014, he took the degree of doctorate. Main research area is educational technology. He has started teaching basic mathematics and career education at Kurume University on same year.

OME Inc. is the company that dispatch of private teacher to students who want some special supports. Recently, the customer going abroad to study is increasing. The private teachers teach the customer while they return to Japan. A part of result is as follows; University of Washington, University of California, Irvine, Boston University, Kyushu University, Meiji University, Hyogo College of Medicine, and more.

Conference Service Inc. is a Professional Congress Organizer Company founded in 2011. It can support all Meeting, Incentive tour, Conference and Exhibition; especially it is working on medium/small scale Conferences. A part of past result is as follows; 4th CCPS Global Summit on Process Safety, The Seventh International Conference on Post-Quantum Cryptography, Japanese Society for Social Psychiatry 35th Annual Conference, and more.

Dr. Taku Jiromaru is a member of The Japan Association for Research on Testing, The Japan Association for Developmental Education and Japan Association for Research into IB Education. Also he is a board member of International ICT Application Research Society.

2. Prof. Dr Ekaterina Prasolova-Førland

(Norwegian University of Science and Technology (NTNU))

Title:
Immersive Technologies for learning and training: a cross-disciplinary approach.

Abstract:
Immersive technologies, as an umbrella term for virtual, augmented reality and mixed reality (VR/AR/MR), have recently had an explosive development, opening broad opportunities in the context of education and training. As learning environments, these technologies afford immersive, adaptive and explorative learning spaces, well suited for developing high-impact pedagogies. A successful adoption of these technologies for educational purposes requires not only affordable and high-quality hardware, but also solid pedagogical methodology and cross-disciplinary collaboration between different stakeholders, subject matter experts, educators, learners and developers. This talk provides an overview of past and on-going projects at the Innovative Immersive Technologies for Learning group (IMTEL) and lab at the Norwegian University of Science and Technology, focusing on development of educational immersive applications in cross-disciplinary teams in the fields of STEM, engineering, aquaculture, geography, medicine, history, operational culture and career guidance.

Biography:
Ekaterina Prasolova-Førland is full Professor at the Department of Education and Lifelong

Learning at the Norwegian University of Science and Technology (NTNU). Ekaterina has been working with educational virtual worlds and immersive technologies since 2002, with over 100 publications in the field. She has been involved in developing educational virtual reality simulations for a wide range of stakeholders, from aquaculture industry to the Norwegian Armed Forces. Ekaterina has founded and is leading Innovative Immersive Technologies for Learning (IMTEL) research group and VR lab at NTNU. She is Ambassador for Women in Immersive Tech, board member of XR Norway and member of several international expert panels.

Prof. Prasolova-Førland frequently gives public speeches and interviews on immersive technologies for learning and training. She is currently leading the development of innovative VR/AR solutions for the Norwegian Labour and Welfare Administration to assist and empower young job seekers (being among the finalists of 2018 Breakthrough Auggie Awards and the winner of EuroVR Best Demo Award 2018). She is also working on a number of projects on educational applications of immersive technologies in STEM education, climate change awareness, professional training, medicine and therapy, career guidance, collaborative work, emergency management and other areas.

3. Dr. Lisa B. Bosman

(Purdue University (West Lafayette, IN, USA)

Title:
How to Teach and get Published within the Entrepreneurial Engineering Ethos

Abstract:
This tutorial will (1) define and describe the Entrepreneurial Engineering Ethos, (2) explain the benefits of developing an Entrepreneurial Engineering Ethos, and (3) provide specific opportunities for how educators can integrate the Entrepreneurial Engineering Ethos into engineering curriculum. In addition, participants will receive an overview of how to convert teaching and learning changes into education research for publication and dissemination.

Biography:
Dr. Lisa Bosman, Assistant Professor at Purdue University, is an educator, researcher, innovator,

author and explorer. Her engineering education research interests include the entrepreneurial mindset, energy education, interdisciplinary education, and faculty professional development. For her, a PhD in Engineering and a few MS degrees (management and engineering) produced a stellar combination of analytical "let's make innovative things happen" problem-solving skills and professional "let's get things done" soft skills. Dr. Bosman's desire to increase STEM (science, technology, engineering, mathematics) education accessibility and attainment has resulted in her founding of the Purdue University iAGREE Labs (www.iagree.org).

Dr. Bosman has authored over 50 publications in international and national journals and conferences. In addition, she has recently authored the text, Teaching the entrepreneurial mindset to engineers (Springer-Verlag GmbH, 2018). She has obtained over $1M USD in education research funding from agencies including the National Foundation (NSF), Environmental Protection Agency (EPA), and the National Aeronautics and Space Administration (NASA). She has been an invited speaker and workshop facilitator for over 20 engagements. She is actively engaged in the American Society for Engineering Education (ASEE) and currently serves as a division officer.

4.
Ms. Crystal Jing LUO, and Mr. Donn Emmanuel GONDA

(The University of Hong Kong (HKU))

(The Hong Kong University of Science and Technology)

Title:
Code Free Bot: An easy way to jumpstart your chatbot!

Abstract:
Advancement in technology and innovation in teaching such as chatbot and extended reality can be daunting for teachers, but as an educator, we need to leverage on these advancements to respond to the changes and challenges in the teaching and learning landscape. There are a number of tools available for teachers to use to overcome the challenges, and one of them is the application of artificial intelligence (AI) and chatbot. However, creating a chatbot requires complex computer programming skills, and it is usually built from scratch to fit the intended educational purpose, which makes it difficult for teachers.

In this workshop, we will be sharing our experiences gained from developing various chatbots for higher education in our work, and will guide the participants to adopt widely used chatbot engines to develop code-free chatbots. This workshop is suitable for teachers, instructional designers, and other educational practitioners who don't have a technical or coding background, but wants to develop and adopt chatbot in the teaching and learning process and/or for the course management purposes.

Biography:

Ms. Crystal Jing LUO (The University of Hong Kong)
Crystal is an Instructional Design Assistant from Technology-enriched Learning Initiative (TELI), the University of Hong Kong (HKU). She has rich experience in chatbot design and development, as well as to implement chatbot into flipped classroom for undergraduate students at HKU. Simultaneously, she carries out research mainly focusing on the adoption of flipped classroom, blended learning and Artificial Intelligence (AI) in Higher Education. Her research output has been recognized and awarded by academic conferences and journals.

Mr. Donn Emmanuel GONDA (The Hong Kong University of Science and Technology)
Donn is a part-time lecturer at the University of Hong Kong and a teaching associate at the Hong Kong University of Science and Technology. His research interest is integrating technology in classroom use, teacher's perception of the use of technology, and application of learning analytics to improve course delivery. His specialties cover both instructional design and educational technology and have led several e-learning projects including MOOC, SPOC, blended learning, and flipped classroom.

5. Chathura K. Sooriya-Arachchi

(Department of Computer Science and Engineering, Institute of Information Technology, Colombo, Sri Lanka)

1st title:
Creatively Contagious - unleash Creativity in Teaching and Learning

Abstract:

We live in a world that demands creative problem solvers, creative thinkers who can come up with innovative ideas and solutions to situations. However many believe that creativity is a trait one needs to be born with, whereas creativity is a muscle that needs training. There is great potential to incorporate creativity in teaching and learning. This interactive workshop aims in sharing a number of Creativity and Design Thinking methods, tools and techniques that can facilitate teaching and learning, along with inspirational examples/case-studies from the real-world.

2nd title:

DESIGN THINKING APPROACH TO HIGHER EDUCATION TEACHING & LEARNING

Abstract:

In a world that demands creative problem solvers, people are measured by the power of their thinking and decisions they make. There is potential to develop the skills and mindsets of the learners in preparing them to be able to face these challenges. Design Thinking is a human-centered, creative and holistic approach to problem solving. Design Thinking framework can be applied for higher education in facilitating a transformative learning experience to the learners, with the use of systematic tools and techniques for designing the learning experience to be student-centered, iterative and incremental in nature, while increasing student engagement. This tutorial suggests the need to employ Design Thinking framework for curriculum design, teaching, learning and training, while introducing to a range of Design Thinking tools and techniques that can be practiced as interventions throughout the teaching and learning cycle.

Biography:

Chathura is a Senior Lecturer at Informatics Institute of Technology - Sri Lanka, having close to a decade of work experience from both IT industry and academia. Being a Masters degree holder from University of Colombo School of Computing, she is also a Certified City & Guilds Corporate Trainer, Accredited Practitioner Coach (IAPC & M) and a Certified Scrum Master for Agile Scrum Training. She has clocked in 300+ sessions, 600+ hours and 10,000+ people reach through her training, coaching and value addition sessions, where she incorporates Design Thinking and creative methods to enhance Teaching & Learning experience.

6. Fariz Alemuda

(PT Telekomunikasi Indonesia)

Title:
Workshop Hands-on IoT using LoRaWAN

Abstract:
Hi All IoT Enthusiasts,
We are delighted to inform you that we will conduct a one-day hands-on workshop using LoRa. LoRa is a new connectivity technology that leverages the low power and wide area network. LoRa really fits with IoT devices that need long battery life, small bandwidth, limited computing resources. ANTARES is Telkom Indonesia IoT Platform has been integrated with the LoRa technology, so you as the users will feel seamless experience while using LoRa and Antares. We provide an easy way to enabling your IoT applications.

The main goal is to be able to create a simple IoT application based on LoRa. Moreover, here is the outline of our workshop, first we are able to send IoT data from the real sensor using LoRa connectivity; second we are able to send data to the IoT device which is a downlink; last but not least, we will create a simple application to control the IoT device through an android application.

Looking forward to see you guys!

Biography:
Fariz Alemuda is currently as a Senior IoT Engineer in Telkom Indonesia. He has been involving in the Internet of Things area since 2014. He got his Master Degree in Computer Science from National Chiao Tung University, Taiwan and Undergraduate Degree in Electronics Engineering from Universitas Gadjah Mada. All his researches are in IoT-related areas. He invented Antares.id, a oneM2M-certified IoT platform and LoRa.id as a public LoRaWAN network server. He is also actively conducting IoT workshops for universities, communities and conferences. It is delighted to collaborating with the academic societies to gain the global awareness in education.

7. Natalia Filimonova

(Professor of Economics and the Head of Management and Marketing Department at Vladimir State University (Russia))

Title:
Challenges to introducing gamification into the educational process at Russian universities

Abstract:
Currently, researchers and practitioners pay great attention to the issues of gamification in education. Studies show a direct correlation between the game and students' increased motivation during classes. On the one hand, gamification makes any lesson more interesting and fun, reduces restrictions on the number of game participants and their location, increases students' motivation by involving them in learning. On the other hand, there are several difficulties in the application of gaming educational technologies, which include ambiguity in attitudes and perceptions of the game by participants, unhealthy competition, and a short-term effect of training and learning. According to Statista Research Department, the education gamification market will grow 13,4 times in 2020 compared to 2015. Gamification has not yet become widespread in Russian university practice. The analysis showed that the main challenges are the poor technological equipment of universities, the incompetence of the teaching staff in the information and communication sphere, the English language barrier because of the vast majority of Internet platforms are in English, and methodological lags in using the principles of gamification. Also, teaching in the format of a game or quest is not taken seriously in the modern educational system. In part, these problems can be solved by exchanging experience and using a standardized set of allowed games in various disciplines.

Biography:
Natalia Filimonova is a professor of Economics and the head of Management and Marketing Department at Vladimir State University (Russia). She is an Advisory Board member of the Accounts Chamber of Vladimir Region and a Dissertation Council member of the Financial University under the Government of the Russian Federation (Moscow). She is also a Federal expert of the scientific and technical sphere at the Scientific Research Institute of the Federal Research Centre for Projects Evaluation and Consulting Services (Moscow, Russia), where she

is involved as a federal grant reviewer for the Russian Scientific Foundation and the Ministry of Education and Science of Russian Federation.

She received her Ph.D. from the Saint-Petersburg State University (Russia). Her current research projects focus on small and medium business development and their influence on regional economy.

Prof. Filimonova serves on editorial boards of several journals (Izvestiya Vysshikh Uchebnykh Zavedenii, Seriya Teknologiya Tekstil'noi Promyshlennosti which is indexed by Scopus and Newsletter of the Vladimir region Audit Chamber), acts as a reviewer for many scientific journals and presents her work at international conferences and other venues.

She awards grants from Russian Humanitarian Scientific Found for her researches (2010 - 2011, 2011 - 2012, 2015 - 2016). She has been a Fulbright scholar at City University of New York (2017 – 2018).

8. Prof. Tokuro Matsuo, Ph.D

(Graduate School of Industrial Technology, Advanced Institute of Industrial Technology, Japan)

Title:
The Accreditation of Education on Engineering

Affiliation:
Professor, Advanced Institute of Industrial Technology, Japan

Abstract:
Most of universities take accreditation to prove the quality of education and are mostly required to take it. However, taking accreditation is required by regulation and law of the country. And also, some universities may recognize that importance of accreditation is to pass the evaluation rather than assessment of education. Essentially, accreditation should be utilized to improve the education analyzing weakness and strength of the organization. Accreditation sometimes provides a branding for university to be recognized its educational

result and achievement. In this talk, I will introduce an international accreditation provided by international accreditation association for higher education (AHE). The AHE accreditation employs international standards, evaluation of individual strength, feedback system of evaluation and assessment, clarity of evaluation. AHE also has a unique model to support university on branding, improvement of education, enhancement of research level, enhancement school in itself with diversity.

Biography:

Dr. Tokuro Matsuo is a full professor at Advanced Institute of Industrial Technology since 2012. He received the doctor degree of engineering from Dept. of Computer Science at Nagoya Institute of Technology in 2006. He is an invited professor at University of Nevada, Jas Vegas, USA since 2016; a guest professor at Bina Nusantara University, Indonesia since 2015; a research project professor of Collective Intelligence Research Center at Nagoya Institute of Technology, Japan since 2015; a research fellow of SEITI in Central Michigan University, USA since 2010; and an executive director of International Institute of Applied Informatics since 2011. He was a visiting researcher at University of California at Irvine in 2010-2011; was a research fellow at Shanghai University between 2010 to 2013; and was a research project professor of Green Computing Research Center at Nagoya Institute of Technology between 2011 to 2014. His current research interests include electronic commerce and business, service science and marketing, business management, artificial intelligence, material informatics, tourism informatics, convention administration research, and incentive design on e-services. Some of his researches are presented in the top international conferences on AAAI, IEEE CEC, AAMAS, and WWW. He chaired a lot of international conferences including IEEE/ACIS SNPD 2009, 2012 and 2014, IEEE/ACIS ICIS 2010 and 2013, IEEE IWEA 2007-2012, ACAN 2005-2012, and AAI 2012-2016. He gave over 70 keynotes and invited talk at international conferences, symposia, and seminars. He also received over 40 awards and research grants from research foundations, company and Government. He is also commissioned as Japan Conference Ambassador, Kumamoto City MICE Ambassador, and Adviser of Information Promotion of Japan.

Program Schedule

Monday, 09 December 2019

Keraton Ballroom

13:00 - 17:30	Registration
13:00 - 15:00	Industrial Speaker : Fariz Alemuda - PT Telekomunikasi Indonesia "Workshop Hands-on IoT using LoRaWAN" (Moderator : Dr Ayu Purwarianti)
15:00 - 15:45	Industrial Speaker : Prof. Dr Ekaterina Prasolova-Førland (Norwegian University of Science and Technology (NTNU)) " Immersive Technologies for learning and training: a cross-disciplinary approach." (Moderator : Dr Ayu Purwarianti)
15:45 - 16:30	Industrial Speaker : Dr. Lisa B. Bosman (Purdue University (West Lafayette, IN, USA) "How to Teach and get Published within the Entrepreneurial Engineering Ethos" (Moderator : Dr Ayu Purwarianti)
16:30 - 17:15	Industrial Speaker : Dr. Taku Jiromaru (President Director of OME Inc. & Conference Service Inc. and Faculty Member of Kurume University) (Moderator : Dr Ayu Purwarianti)
19:00 - 21:00	Welcome Reception - Location: Restaurant Garden on the 1st Floor

Tuesday, 10 December 2019

Keraton Ballroom

07:00 - 17:00	Registration
08:00 - 09:00	Opening Sessions
09:00 - 10:00	Keynote Speech by Prof. Seiichi Kawata, President of Graduate School of Industrial Technology, Advanced Institute of Industrial Technology - Japan (Moderator : Agung Trisetyarso, Ph.D)
10:00 - 10:30	Coffee Break
10:30 - 11:30	Keynote Speech by Dr Henry Feriadi (Rector of Christian Duta Wacana University - Indonesia. Moderator : Spits Warnars, Ph.D)
11:30 - 12:00	Photo Session (Indoor and Outdoor)
12:00 - 13:00	Lunch

13:00 - 13:30	Industrial Talk : Chathura K. Sooriya-Arachchi (Department of Computer Science and Engineering, Institute of Information Technology, Colombo, Sri Lanka) "Creatively Contagious - unleash Creativity in Teaching and Learning" (Moderator : Agung Trisetyarso, Ph.D)	
13:30 - 14:00	Invited Speaker : Prof . Tokuro Matsuo (Graduate School of Industrial Technology Advanceds Institute of Industrial Technology - Japan) " The Accreditation of Higher Education for Engineering Program" (Moderator : Dr Harisno)	
Keraton Ballroom		
SESSION A1		
14:00 - 14:15	1570568052	Enhancing Active Learning in Web Development Classes Using Pairwise Pre-and-Post Lecture Quizzes
14:15 - 14:30	1570550303	A Literature Review of Trend in Engineering Education`s Online Laboratory-based Tool, the past, Now and Its Future Since Evolution of Standards
14:30 - 14:45	1570563123	Blended Design-based Learning (bDBL): An Innovative Approach to Cornerstone Engineering Design
14:45 - 15:00	1570563222	Understanding Loops: a Visual Methodology
15:00 - 15:30	Coffee Break	
Pemandengan 1		
SESSION B1		
14:00 - 14:15	1570563260	Development of Mobile Learning Application as Scaffolds to Enhance Postgraduate-Level Statistical Literacy
14:15 - 14:30	1570565089	Who Takes the Cake: Rethinking the Using of Student Teams-Achievement Division in Electronics Course
14:30 - 14:45	1570565101	A Reflection on Teaching Design Thinking to First-Year Engineering Students
14:45 - 15:00	1570565862	Priorities Dictate Practice - The Operation of Power in the Teaching and Learning Environment
15:00 - 15:15	Coffee Break	
Pemandengan 2		
SESSION C1		
14:00 - 14:15	1570566921	Understanding Several Adaptive Filter Algorithms Based on the Weight-update Strategy
14:15 - 14:30	1570567148	Microwave Engineering Course for Engineering Education Accreditation: Exploration and Practice in SUSTech

14:30 - 14:45	1570567366	Wayang Kulit A Multidisciplinary Project for Engineering Education
14:45- 15:00	1570568038	Experiential Learning in Industrial Engineering Education for Digital Transformation
15:00 - 15:15	Coffee Break	
Pemandengan 3		
SESSION D1		
14:00 - 14:15	1570568408	Reform Scheme for Principles of Communications Under Background of the Engineering Education Accreditation
14:15 - 14:30	1570568507	AIGO: A Comprehensive Platform for Cultivating AI Talent Using Real-World Industrial Problems
14:30 - 14:45	1570568570	A Preliminary Study of Using State-Diagram-Based Embedded Programming in a Project-Based Engineering Design Course
14:45 - 15:00	1570568589	Development of Competences in Industrial Engineering Students Inmersed in SME´s Through Challenge Based Learning
15:00 - 15:30	Coffee Break	
Pemandengan 4		
SESSION E1		
14:00 - 14:15	1570576315	Illustrating Engineering Education: A Children's Book to Support STEM Outreach in Qatar
14:15 - 14:30	1570579139	A Holistic Active Learning Framework
14:30 - 14:45	1570579342	Evaluating Students' Academic Motivations in One-year CubeSat Project Using 3X 2 Achievement Goal Framework
14:45 - 15:00	1570579565	The Application of Experiential Teaching in Basic Courses of Higher Vocational Education in Guangzhou, China
15:00 - 15:30	Coffee Break	
Keraton Ballroom		
SESSION A2		
15:30 - 15:45	1570579571	Improvement of Education Method by Using Artificial Intelligence Technology
15:45 - 16:00	1570579580	Interdisciplinary Teaching of Basic Architectural Design Knowledge Under the Environmental Design Major: An Exploration

16:00 - 16:15	1570579654	Mind Map for Task-Oriented Teaching of "Digital System Design"
16:15 - 16:30	1570580480	Students' Fixation on Tables in PowerPoint Slides
16:30 - 16:45	1570580664	Applying Instructional Design in Engineering Education and Industrial Training: An Integrative Review
16:45 - 17:00	1570580788	Teaching Business to Engineers by project-based learning through industry-government-university cooperation
17:00 - 17:15	1570581028	Exploring the Teaching of Artistic Forming Using Pulp Materials
17:15 - 17:30	1570581261	Diagnosis of Misconception in Electronic Circuits Engineering Courses: A Case Study at UESTC, China
17:30 - 17:45	1570581293	Collaborative Group Learning in Programming Classes
17:45 - 18:00	1570581397	English vocabulary levels of university engineering students in a Sino-NZ collaboration
18:00 - 18:15	1570581496	An analysis of students' writing: the design of an online repository as a writing support
Pemandengan 1		
SESSION B2		
15:30 - 15:45	1570581605	Learning Networking by Reproducing Research Results in an NS-3 Simulation Networking Laboratory Course
15:45 - 16:00	1570582195	Effective Use of Facebook's Social Learning Group as a Course Management System for Undergraduate Engineering Courses
16:00 - 16:15	1570582742	A Low Cost Self-Driving Cars Project Based Course for Undergraduate Students in Developing Countries
16:15 - 16:30	1570582956	An Improvement of Mentoring Scheme for Young Teachers in Electronic and Communication Engineering
16:30 - 16:45	1570588866	Experiences of Blended Learning using i-LearnV3 Platform in Semiconductor Device Course
16:45 - 17:00	1570588927	Impact of Inverted Classroom in a Mathematics II Course for Engineering: A study using directed videos by students in Tecnologico de Monterrey
17:00 - 17:15	1570588928	Cooperation Between Europe and Asia in Active Learning in Engineering Education
17:15 - 17:30	1570591635	Using Selective Syntactic Online Compiler to Promote Programming Learning
17:30 - 17:45	1570591664	Industry-University Collaboration: An Educational Program with Automotive Industry

17:45 - 18:00	1570591844	Level of preparedness of STEM senior high school graduates in taking up engineering program: a Philippine setting
18:00 - 18:15	1570582330	Automatic Short Answer Grading using Siamese Bidirectional LSTM Based Regression
Pemandengan 2		
SESSION C2		
15:30 - 15:45	1570563645	Towards Activity-Centered Gamification Design
15:45 - 16:00	1570566857	Do Students Prefer Puzzles to Conventional Assessment Methods?
16:00 - 16:15	1570568237	Inheritance and Protection Strategies for Tibetan Folk Chess Under the Background of "Internet+"
16:15 - 16:30	1570568493	Let's Build a City: A Sustainable City Building Clicker Game
16:30 - 16:45	1570578797	Evaluation of a Six-Week Physical Fitness Training Program for Probationary Cadets
16:45 - 17:00	1570582228	Taxondroid: Design Interactive Application for Animal Taxonomy Learning Using Teen-Computer Interaction Approach
17:00 - 17:15	1570582399	Evaluation of Board Game Design for Python Programming Education
17:15 - 17:30	1570584702	Effectiveness of Cooperative Learning: Jigsaw and Cross Word Puzzles for Semiconductor Devices Course
17:30 - 17:45	1570586016	Design and Development of a Serious Game for the Teaching of Requirements Elicitation and Analysis
17:45 - 18:00	1570588786	A Review on Educational Games Design, Development and Effectiveness Measurement
Pemandengan 3		
SESSION D2 (XR & Immersive Learning Environments)		
15:30 - 15:45	1570566804	Tuklas: Design, Development and Testing of an Augmented Reality Experience for a Children's Museum
15:45 - 16:00	1570567361	Mining Virtual Reality Nuggets: A Pattern-Based Approach for Creating Virtual Reality Content Based on Microlearning Methodology
16:00 - 16:15	1570567798	A Case Study of Collaborative Mobile Learning in Large-size Classes
16:15 - 16:30	1570568375	A Study Protocol to Research and Improve Presence and Vection in VR with a non-Euclidean Approach

16:30 - 16:45	1570568428	Architecture and Design Patterns for Distributed, Scalable Augmented Reality and Wearable Technology Systems
16:45 - 17:00	1570571407	Using Augmented Reality Technology to Learn Cube Expansion Diagram in Spatial Geometry of Elementary Mathematics
17:00 - 17:15	1570578295	Application of Digital Technologies in Teaching Chinese Garden and Architecture
17:15 - 17:30	1570588917	Crystal VR: Creating an Immersive Scientific Tool for Learning and Research
17:30 - 17:45	1570589754	Creating a 4D Photoreal VR Environment to Teach Civil Engineering
17:45 - 18:00	1570594015	A Shallow BERT-CNN Model for Sentiment Analysis on MOOCs Comments
Pemandengan 4		
SESSION E2		
15:30 - 15:45	1570561637	Numerical Control Plotter for Direct to Blank Substrate Tracing of Conductive Ink for Electronic Education Purposes
15:45 - 16:00	1570568361	Levels of Critical Thinking Skills Among Pre-Service Teachers' in a Nigerian University - A Preliminary Study
16:00 - 16:15	1570572966	Internet Protocol Multimedia Subsystem Security Risk Mitigation in Fix Telephone Network
16:15 - 16:30	1570577067	Applying AI Analysis-based IoT System Control to the Individualized Learning Field
16:30 - 16:45	1570580208	On the Fusion of New Learning Technologies for Improving the Quality of Engineering Education
16:45 - 17:00	1570572404	Blend and Flip for Teaching Communication Skills to Final Year International Computer Science Students
17:00 - 17:15	1570577132	Using Flipped Classroom and Team-Based Learning in a First-Semester Programming Course: An Experience Report
17:15 - 17:30	1570577229	A Hybrid-based Architecture for Web Service Selection
17:30 - 17:45	1570588925	Blockchain-based Learning Credential Verification System with Recipient Privacy Control
17:45 - 18:00	1570595684	Indonesia Teacher Engagement Index (ITEI) Intervention: An Effective Video Framework
18:00 - 18:15	1570568110	Students' Access Patterns of a Moodle-based Course Management System: A Case Study of a Large Entry Level Programming Class

19:00 - 21:00	Networking Dinner - Garden - Restaurant - 1st floor - Royal Ambarrukmo Hotel

Wednesday 11 December 2019

Keraton Ballroom

SESSION A3

08:30 - 08:45	1570580214	On the Teaching Reform for the Course of Digital Circuits and Logical Programming
08:45 - 09:00	1570568511	Question-Led Learning in Educational Game of Graph Data Structure Traversal Algorithm
09:00 - 09:15	1570580693	Question Authoring for Learning Programming Skills based on the Programmed Visual Content Comparison Method
09:15 - 09:30	1570580859	The Effects of Seat Location-based Teaching Assistant Support System on the Awareness of Self-Regulated Learning and Learning Performance
09:30 - 10:00	Coffee Break	

Pemandengan 1

SESSION B3

08:30 - 08:45	1570581911	Capstone project implementation using Infrastructure as a Service: The Learning Experience
08:45 - 09:00	1570582145	A Survey Study on Higher Education Trends among Information Technology Professionals in Sri Lanka
09:00 - 09:15	1570582154	Thinking in imperative or objects? A study on how novice programmer thinks when it comes to designing an application
09:15 - 09:30	1570582202	Practical Exploration of Integrating Computational Thinking into University Computer Foundation Education
09:30 - 10:00	Coffee Break	

Pemandengan 2

SESSION C3

08:30 - 08:45	1570568505	A Conversational Assistant on Mobile Devices for Primitive Learners of Computer Programming
08:45 - 09:00	1570584655	Incorporating Industry into the Curriculum: Applied Learning in Computer Science
09:00 - 09:15	1570587813	Preparing Software Quality Assurance Professionals: Metamorphic Exploration for Machine Learning

09:15 - 09:30	1570587952	Designing Learning Activities for Experiential Learning in a Design Thinking Course
09:30 - 10:00	Coffee Break	
Pemandengan 3		
SESSION D3		
08:30 - 08:45	1570588485	OER: Six Perspectives on Global Misconceptions and Challenges
08:45 - 09:00	1570588565	Malware Detection using Hybrid Autoencoder Approach for Better Security in Educational Institutions
09:00 - 09:15	1570588625	Risk Assessment on Cloud Computing for The Learning System in The Education Environment
09:15 - 09:30	1570568431	Assessing Students' Behavior in Error Finding Programming Tests: An Eye-Tracking Based Approach
09:30 - 10:00	Coffee Break	
Pemandengan 4		
SESSION E3		
08:30 - 08:45	1570588941	Gender Disparity in Computer Science Education in Bangladesh: A Study of Women's Participation in Computer Science
08:45 - 09:00	1570588954	Enhancing Teaching Effectiveness in Mobile Application Development with Structured Practice
09:00 - 09:15	1570589197	Comparison of Data Mining Classification Algorithms for Student Performance
09:15 - 09:30	1570589239	Analysis of Learning Effect using a SQL Learning Support System in the Class
09:30 - 10:00	Coffee Break	
Keraton Ballroom		
10:00 - 11:00	Keynote Speech by Prof Minjuan Wang, Professor of Learning Design and Technology, San Diego State University (USA) (Moderator: Dr Yaya Heryadi)	
Keraton Ballroom		
SESSION A4		
11:00 - 11:15	1570591600	Implementation of Mobile game for Learning Religion
11:15 - 11:30	1570591746	A Pedagogy that Uses a Kaggle Competition for Teaching Machine Learning: an Experience Sharing

11:30 - 11:45	1570595298	EEG Signal Based Identification of Words on Exam Models with Yes-No Answers for Students with Visual Impairments
11:45- 12:00	1570596118	Architecture of High-Order Thinking Skills Game to Improve Ability
12:00 - 13:00	Lunch	
Pemandengan 1		
SESSION B4		
11:00 - 11:15	1570600979	Design Thinking For Computational Creativity - A Case Study of International Exchanges using Game and Animation (2014-recent)
11:15 - 11:30	1570548996	Design, Development and Delivery of a Complimentary STEM for Primary School Pupils
11:30 - 11:45	1570590832	Gamified Flipped Classroom Learning Approach: A Case Study of AJ University
11:45- 12:00	1570563496	A Comparative Study of Teaching Problem-Solving in Mathematics Secondary Schools in Malaysia and South Korea
12:00 - 13:00	Lunch	
Pemandengan 2		
SESSION C4		
11:00 - 11:15	1570565290	Mirror-mirror on the Wall, Which Teachers Use Educational Technology in Mathematics Classroom-Malaysians or South Koreans?
11:15 - 11:30	1570567202	Academic Success in 1St-Year Engineering Students: Key Factors
11:30 - 11:45	1570567288	Representational Fluency in Education: A Literature Review and the Proposal of a New Instrument
11:45- 12:00	1570588906	Proposed Plugin for Collaborative Game Based Learning
12:00 - 13:00	Lunch	
Pemandengan 3		
SESSION D4		
11:00 - 11:15	1570567531	Building Learning Communities Among English Learners in STEM Majors - Case Studies of Undergraduates in Chinese Universities

11:15 - 11:30	1570567755	Learning Effects in Programming Learning Using Python and Raspberry Pi: Case Study with Elementary School Students
11:30 - 11:45	1570567802	The Relationship Between Self-Determination, Emotional Intelligence Towards Achievement Motivation in Mathematics
11:45- 12:00	1570588898	Learning Styles and Innovative Classroom Activities and Tasks
12:00 - 13:00	Lunch	
Pemandengan 4		
SESSION E4		
11:00 - 11:15	1570568518	Audio Rendering of Mathematical Expressions for Blind Students: a Comparative Study Between MathML and Latex
11:15 - 11:30	1570568530	Effect of Inductive Teaching Method To Improve Science Process Skills In Electrochemistry
11:30 - 11:45	1570572396	Development of Mobile Application for the Concept of Pattern Recognition in Computational Thinking for Mathematics Subject
11:45- 12:00	1570566400	Similarity Detection Techniques for Academic Source Code Plagiarism and Collusion: A Review
12:00 - 13:00	Lunch	
Keraton Ballroom		
13:00 - 14:00	Poster Session	
Keraton Ballroom		
SESSION A5		
14:00 - 14:15	1570580217	On the Training Method for the Research Ability of Graduate Students in Engineering
14:15 - 14:30	1570564441	Improving Student Engagement and Performance in Computing Final Year Projects
14:30 - 14:45	1570564972	A Black Box Model of Academic Degree Knowledge System Based Computer Network Course Construction Scheme for Postgraduates Students
14:45 - 15:00	1570582852	A Parametric Diffraction Pattern based Game Module Design for the Experiment of Optical Analogy of Reflected Electron Diffraction from One-Dimensional Structures

15:00 - 15:30	Coffee Break	
Pemandengan 1		
SESSION B5		
14:00 - 14:15	1570582855	Improving High School Girls' 21st Century Skills: Design, Implementation, Assessment on megaGEMS Research Camp
14:15 - 14:30	1570584042	Lecture Notes on the relationship between the power spectrum estimated by MVDR and CBF
14:30 - 14:45	1570584416	Lecture Notes on the Application of Eigenvalue Decomposition in Signal Processing
14:45 - 15:00	1570588832	A Systematic Literature Review on the roles of Interest and Motivation in STEM Education
15:00 - 15:30	Coffee Break	
Pemandengan 2		
SESSION C5		
14:00 - 14:15	1570591765	Identifying Factors for Integrating Math and Music Education at Primary Schools in Namibia
14:15 - 14:30	1570567079	Figure Drawing Method Based on Human Motion Using Pictogramming
14:30 - 14:45	1570567549	Virtual Laboratory: Facilitating Teaching and Learning in Cybersecurity for Students with Diverse Disciplines
14:45 - 15:00	1570591856	Chatbot as a learning resource? Creating conversational bots as a supplement for teaching assistant training course
15:00 - 15:30	Coffee Break	
Pemandengan 3		
SESSION D5		
14:00 - 14:15	1570560055	Full Online Learning and Blended e-Learning: A Comparison of Students' Performance
14:15 - 14:30	1570566451	The Intelligent Classroom Client Software Design
14:30 - 14:45	1570567563	An Applied C Programming Exercise with Card Game Strategy and Analysis of Codes by a Grouping of Score and Code Metrics
14:45 - 15:00	1570568013	Analysis of Learning Modalities Towards Effective Undergraduate Cybersecurity Education Design

15:00 - 15:30	Coffee Break	
Pemandengan 4		
SESSION E5		
14:00 - 14:15	1570566475	Student's Perception on Usage of Online Social Network and Difficulties in Learning Social Science Research
14:15 - 14:30	1570567710	A Flipped Mode Approach to Teaching the Course of Communications Principles
14:30 - 14:45	1570567803	Development and Evaluation of a Farm Operation Recording Function for Promoting Reflection in Practical Training at an Agricultural High School
14:45 - 15:00	1570567970	Social Factors Analysis for Understanding MOOCs Usage Among University Students in China
15:00 - 15:30	Coffee Break	
Keraton Ballroom		
SESSION A6		
15:30 - 15:45	1570568063	Dysgu: A Tool to Keep Students Engaged Outside the Classroom
15:45 - 16:00	1570568220	Student Perception of a Learner Dashboard in MOOCs to Encourage Self-Regulated Learning
16:00 - 16:15	1570568394	Examining the usage of and access to online databases for academic purposes: A study at an engineering- and technology-based university in Malaysia
16:15 - 16:30	1570568426	Anonymous online peer assessment in an undergraduate course: An analysis of Students' perceptions and attitudes in the South Pacific
16:30 - 16:45	1570568517	Effectiveness of Mobile Assisted Language Learning Towards Students' Achievement and Motivation in Learning English Preposition
16:45 - 17:00	1570568520	Online Micro-Modules Library Production for Fundamental Programming Courses with Active Learning
17:00 - 17:15	1570578741	Design of Online Learning Mobile APP for the Elderly Based on Attention, Relevance, Confidence, and Satisfaction (ARCS) Motivation Model
17:15 - 17:30	1570580615	Automated Construction of Course Knowledge Graph Based on China MOOC Platform
17:30 - 17:45	1570581366	Educational Group Recommendations By Learning Group Expectations

17:45 - 18:00	1570581488	Engage Your Students Before Class: More Pre-Class Engagement for More Effective Flipped Classrooms
18:00 - 18:15	1570581671	Design and First Insights of a Case Study on Storified Programming MOOCs
Pemandengan 1		
SESSION B6		
15:30 - 15:45	1570582045	Developing a System to Support Formative Teacher Feedback in Foreign Language Writing
15:45 - 16:00	1570582233	Adaptive recommendation for question decomposition in Web-based investigative learning
16:00 - 16:15	1570582306	Teaching Generic Competences in Software Engineering via E Learning
16:15 - 16:30	1570582579	The use of Microframework for Portable and Distributed ePortfolio Development
16:30 - 16:45	1570582912	Design Features for Gender-specific Differences in Blended Learning within Higher Education in Indonesia
16:45 - 17:00	1570583256	A Quantitative Study on the Effects of Learning with Mobile Devices in MOOCs
17:00 - 17:15	1570585446	CHAT: a Cultural Heritage Adaptive Tutor
17:15 - 17:30	1570588851	Motivation as Basis for Building Infrastructure for Hardware MOOCs
17:30 - 17:45	1570588908	Code Free Bot: An easy way to jumpstart your chatbot!
17:45 - 18:00	1570568056	Design of A Web Development Attitudes Survey
18:00 - 18:15	1570568085	Pipelined MIPS Simulation A Plug-In to MARS for Supporting Pipelined Simulation and Branch Prediction
Pemandengan 2		
SESSION C6		
15:30 - 15:45	1570591527	Supporting Computer Science Student Reading through Multimodal Engagement Interfaces
15:45 - 16:00	1570591786	Reinforcing Blended Learning Approach by Using Blackboard Collaborate in Computer Lab Environment to Enhance Students' Learning Experience
16:00 - 16:15	1570591837	Success Model for Effective Use of LMS in Inculcating 21st Century Skills among University Graduates
16:15 - 16:30	1570591839	Impacts of Online Academic Help Seeking Behaviors on Undergraduate Student Self-Learning

16:30 - 16:45	1570591846	Automated Theme Allotment to Optimise Learning Outcomes in Robotic Competition
16:45 - 17:00	1570591886	Effective Usage of Various Answer Types of Mathematics e-Learning System
17:00 - 17:15	1570592300	The Challenges of Implementing Online Learning in Secondary Education
17:15 - 17:30	1570595921	Reconstruction of LariJava Learning Programming Website Using MVC Concept
17:30 - 17:45	1570567079	Figure Drawing Method Based on Human Motion Using Pictogramming
17:45 - 18:00	1570567549	Virtual Laboratory: Facilitating Teaching and Learning in Cybersecurity for Students with Diverse Disciplines
18:00 - 18:15	1570588942	What is this sound in dB? Pilot study on measuring the degrees of understanding of sound level in university students
Pemandengan 3		
SESSION D6		
15:30 - 15:45	1570568578	Development of a Curriculum to Teach Electronics to Workers of Garments Industry in Bangladesh: A Visual Literacy Approach
15:45 - 16:00	1570568611	Noise levels analysis based on sensorial perception as a strategy to boost critical thinking
16:00 - 16:15	1570580488	Smart Public Transportation: A Systematic Literature Review
16:15 - 16:30	1570587362	Exploration of Key Success Factors for Determining Technological Component in Learning at Culinary Community: A Systematic Literature Review
16:30 - 16:45	1570591741	Addressing the Literacy Skills of B40 Students towards 4IR Workplace: Development of Future-Proof Graduate Module (FPGM)
16:45 - 17:00	1570548998	Engineerpreneurship: Engineers Can Be Entrepreneurs
17:00 - 17:15	1570579898	The Development of Innovative Blended Learning System Using Manga to Improve the Cross Cultural Communication
17:15 - 17:30	1570581661	Project Planning from the Viewpoint of Project Management and Systems Engineering
17:30 - 17:45	1570588696	Entrepreneurial and Commercialization Pathway through Project-based Learning in Higher Education
17:45 - 18:00	1570594443	Smart Tuition Finder: An educational App and SDGs

18:00 - 18:15	1570568315	An Intelligent Tutoring System with Adaptive Exercises Based on a Students' Knowledge and Misconception
Pemandengan 4		
SESSION E6 (Big Data, Analytics & Machine Learning in Education)		
15:30 - 15:45	1570568340	Enhancing the Classification Performance of Students' Behavior on Serious Game using Discretization-based k-NN
15:45 - 16:00	1570580403	A Student's Performance Prediction Method Based on Neural Collaborative Filtering
16:00 - 16:15	1570568340	Factors investigation of learning behaviors affecting learning performance and self-regulated learning
16:30 - 16:45	1570582639	Sentiment analysis of preschool teachers' perceptions on ICT use for young children
16:45 - 17:00	1570584809	Automated English Digital Essay Grader Using Machine Learning
17:00 - 17:15	1570588907	Towards Automatic Engagement Recognition of Autistic Children in a Machine Learning Approach
17:15 - 17:30	1570590326	Web Recommended System Library Book Selection Using Item Based Collaborative Filtering Method
17:30 - 17:45	1570591472	Prediction Learning Achievement Indicators in Distance Learning Students
19:00 - 21:00	Gala Dinner - Pendopo - 1st floor Royal Ambarrukmo Hotel	

Thursday, 12 December 2019

Keraton Ballroom

08:30 - 09:15	Industrial Speaker : Natalia Filiminova - Vladimir State University-Russia "Sharing and Disruptive Technopreneruship" (Moderator : Agung Trisetyarso, Ph.D)
09:15 - 09:45	Coffee Break
09:45 - 11:45	Industrial Speaker : Ms. Crystal Jing LUO, (The University of Hong Kong (HKU)) and Mr. Donn Emmanuel GONDA (The Hong Kong University of Science and Technology) "Code Free Bot: An easy way to jumpstart your chatbot!" (Moderator : Spits Warnars, Ph.D)
11:45 - 12:30	Industrial Speaker :Chathura K. Sooriya-Arachchi (Department of Computer Science and Engineering, Institute of Information Technology, Colombo, Sri Lanka) , DESIGN THINKING APPROACH TO HIGHER EDUCATION TEACHING & LEARNING (Moderator : Dr Yaya Heryadi)
Keraton Ballroom	

12:30 - 13:30	Closing and Best paper Awards Notifications
13:30 - 15:00	Lunch
19:00 - 21:00	Dinner - Executive Lounge 8th Floor, Royal Ambarrukomo Hotel

Friday 13 December 2019

Sightseeing - Lobby of Royal Ambarrukmo

07:30 - 08:00	Registration for the Sighseeing
08:00 - 09:00	Travel to Borobudur Temple
09:00 - 11:00	Borobudur Sightseeing
11:00 - 12:00	Travelling to Sekar Kedaton Restaurant
12:00 - 14:00	Lunch @ Sekar Kedaton & Sighseeing on the Silver Handicraft
13:30 - 15:30	Travel to Malioboro Shopping District
15:30 - 18:00	Shopping @ Malioboro District
18:00 - 18:30	Travel back to Royal Ambarrukmo Hotel
18:30	End of Sightseeing

Venue & Location

Royal Ambarrukmo Yogyakarta

Contact

Royal Ambarrukmo Yogyakarta
Jl. Laksda Adisucipto No.81, Ambarukmo, Caturtunggal,
Kec. Depok, Kabupaten Sleman, Daerah Istimewa Yogyakarta 55281
Indonesia
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Fax: +62 274 488 789
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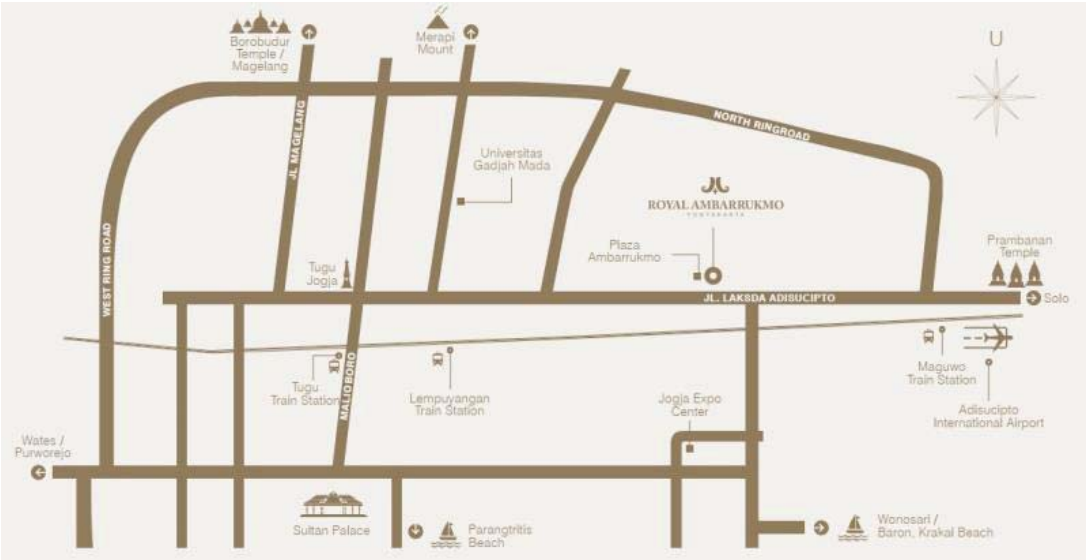
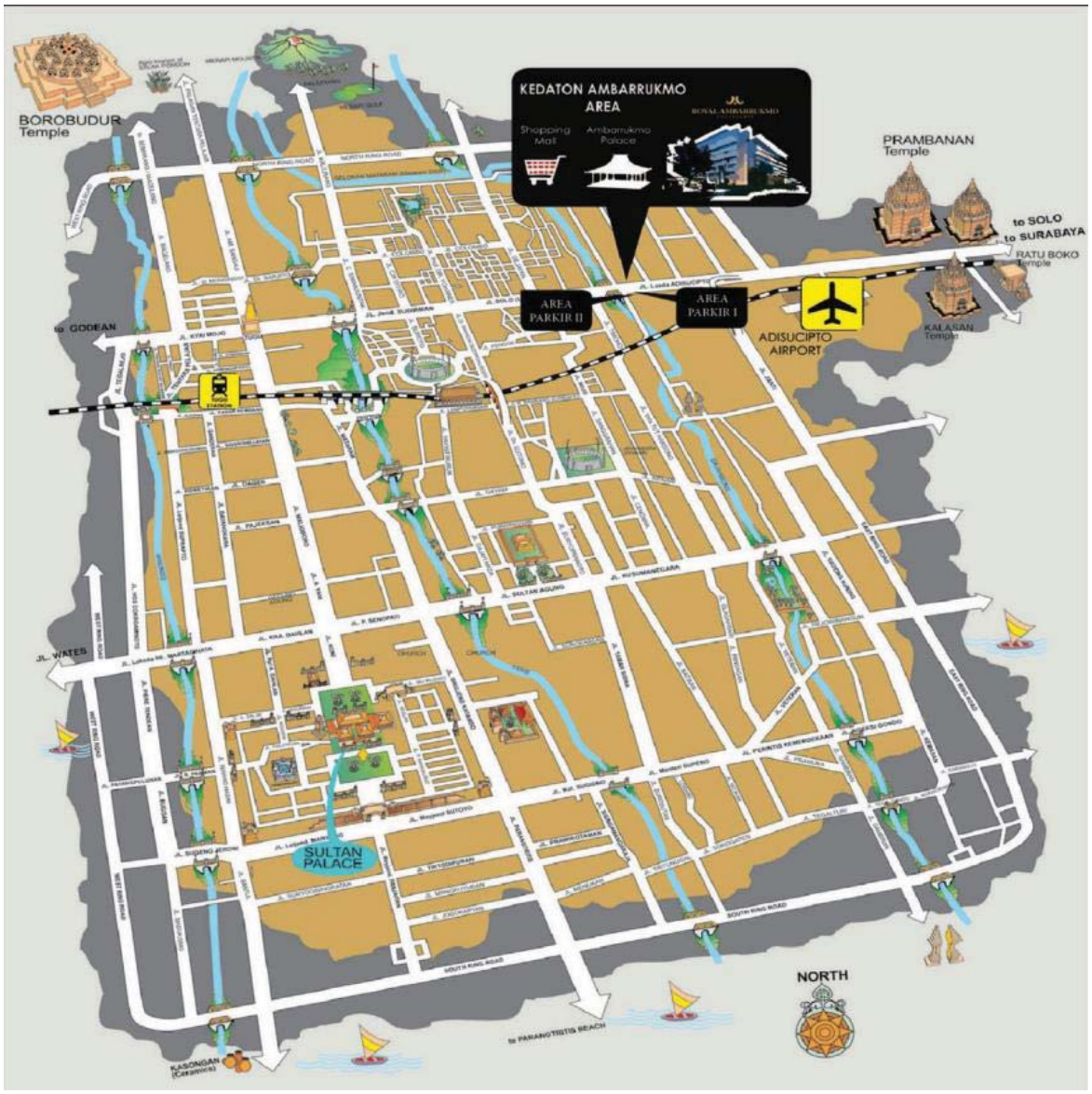
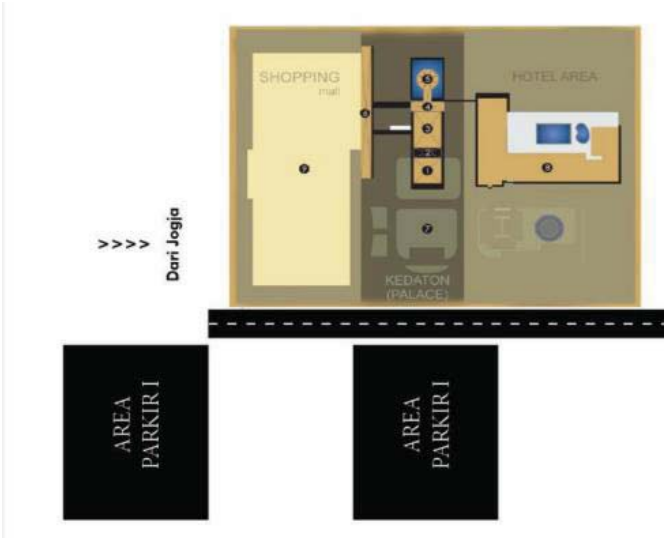
Website: http://www.royalambarrukmo.com/







1. Pendopo
2. Peringgitan
3. Ndalem Ageng
4. Gadri
5. Bale Kambang
6. Nurkadhatyan Spa
7. Alun-Alun Kedhaton Royal Ambarrukmo
8. Hotel Royal Ambarrukmo Yogyakarta
9. Ambarrukmo Plaza Shopping Mall