ISBN: 978-969-9938-42-2

SISA- 2019

International Conference on System Engineering, Information Technology, Applied Sciences, Space Environment & Aviation Technology (SISA)

June 04-05, 2019 / Singapore

Proceedings of International Conference on System Engineering Information Technology, Applied Sciences, Space Environment & Aviation Technology (SISA)

Conference organized by:

This conference is dedicated to educators all over the world and to the members of the Research Forum for Applied Sciences Engineering and Technology (RFAET) whose passion for teaching, learning, research, and service are helping to transform the academy in many positive ways.

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Research Forum
for Applied Sciences,
Engineering & Technology

Research Forum for Applied Sciences Engineering and Technology

Table of content

Research Forum
for Applied Sciences,
Engineering & Technology

Welcome Message

The Research Forum for Applied Sciences Engineering and Technology (RFAET) welcomes you to the International Conference on System Engineering, Information Technology, Applied Sciences, Space Environment & Aviation Technology (SISA).
We are happy you decided to join your colleagues from around the world to explore innovative technologies, pioneering pedagogical strategies, and a sampling of international collaborations that are being used to engage and retain students, researchers and Scholars in the new millennium.

Scientific Committee

Acknowledgements

The organizing committee would like to thank all those people who were involved in making the conference a success. A great amount of planning and organizing is required to hold a successful conference, so we are indebted to those who volunteered their time and energy.

We want to thank all the members of the Research Forum for Applied Sciences Engineering and Technology (RFAET) who volunteered their time to help organize the conference.

Research Forum
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Conference Description

Research Forum for Applied Sciences Engineering and Technology (RFAET) provides an excellent venue for generating ideas. Conference participants will explore the latest trends, practices, and research in engineering technology and Applied Sciences tracks. The program will emphasize experimentation and pushing the boundaries of higher education.

ENGINEERING TECHNOLOGY

Acoustical Engineering Aerospace Engineering, Agricultural Engineering Biological Engineering and Sciences, Biological Systems Engineering Biomedical Engineering, Bioprocess Engineering Biotechnology, Building Services Engineering Chemical Engineering, Industrial Engineering Information Engineering, Informational Technology Manufacturing Engineering and Technology, Materials Engineering Mechanical Engineering, Mechatronics Nanotechnology and Nanoengineering, Naval Engineering Nuclear Engineering, Technology for Cloud Computing Technology for Community, Technology for Digital Age Technology for Human Use, Technology for Learning Civil Engineering, Computer Engineering Current issues and challenges in Engineering, Electrical Engineering Electronic Engineering, Energy Engineering Environmental Engineering, Food Engineering Genetic Engineering, Geotechnical Engineering Ocean Engineering and Technology, Optical Engineering Petroleum Engineering, Power Engineering Process Engineering, Resource Engineering Sensing Technology, Structural Engineering Systems and Software Engineering, Technology for Big Data Textile Engineering, Thermal Engineering Transport Engineering, Web Engineering Vehicle Engineering

APPLIED SCIENCES

Artificial Intelligence, Architecture, Astronomy, Biological Sciences, Botany, Chemistry, Design, Earth Science, Ecology, Marine Science, Physics, Space Sciences, Life sciences, Computer Sciences, Logic, Mathematics, Statistics, Systems Science, Electrical Engineering, Information, Technology, Industrial Engineering, Mechanical Engineering, Applied Physics, Health Sciences and Medicine, Ceramic Engineering, Computing Technology, Electronics, Energy, Environmental Engineering Sciences, Engineering physics, Environmental Technology, Fisheries Science, Forestry Science, Materials Engineering Micro technology, Nanotechnology, Nuclear, Technology, Optics, Zoology Transportation

Conference Awards

Best Paper Awards
The Organizing Committee will select the best paper considering the recommendations of the Scientific Review Committee based on the relevance to the theme, academic contribution, accuracy of the methodology, clarity of contents.

Best Presentation Awards Sessions
The best presenter in each session will be selected considering the scientific quality, contents, time management, presentation style and level of interaction with the audience. The best presenter in each session will get a certificate.

Best Presentation Awards Students
These awards will be awarded the best presenters selected from the PhD or Master level students' presenters. The selection criteria will be scientific quality, contents, time management and presentation style.

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Engineering & Technology

Conference Schedule

International Conference on System Engineering, Information Technology,Applied Sciences, Space Environment & Aviation Technology (SISA)

Hotel Grand Pacific Singapore
June 04-05, 2019

08: 30 am 08: 40 am	Registration and Reception
08: 40 am 08: 50 am	Opening ceremony
08: 50 am 09: 00 am	Welcome Remarks

International Conference on System Engineering, Information Technology, Applied Sciences, Space Environment & Aviation Technology (SISA)

Day 01: Tuesday
June 04, 2019

Session 01: (09:00 am 10: 30 am)

Track A: Business, Economics, Social Sciences & Humanities

Presenter Name: Pimnara Kumpetch
Reference ID: EPGS19-June-103
Paper Title: Fascinating Khlong-Toey: The Study of Slum Tourism Development

Presenter Name: Dr Ehsan Latif
Reference ID: EPGS19-June-104
Paper Title: Alcohol Drinking Behaviour before, during and after the Great Recession in Canada

Presenter Name: Adwoa Oforiwa Antwi
Reference ID: EPGS19-June-105
Paper Title: The Role of Weights and Measures in Improving the Livelihood of Women Farmers in Ghana

Presenter Name: Ondiba Hesborn Andole
Reference ID: EPGS19-June-106
Paper Title: The Role of Women Enterprises for the Conservation of Kakamega Forest, Kenya

Presenter Name: Ka Eun Kim & Woo Jin Kim
Reference ID: PLBEH-JUNE-005 & 005C
Paper Title: Auditory Stimuli Reduce Physical Stress: Attentional or Motivational Effect? A Study on the Psychological Mechanisms Underlying the Effects of Music on Physical Stress

Tea & Coffee Break: 10: 30 am 11: 00 am

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Engineering & Technology

International Conference on System Engineering, Information Technology, Applied Sciences, Space Environment & Aviation Technology (SISA)

Day 01: Tuesday
June 04, 2019

Session 02: 11:00 am 11:40 am

Track B: Engineering, Technology, Computer & Applied Sciences

Presenter Name: Fatima Barrarat
Reference ID: SISA-JUNE-001
Paper Title: Characterization of Cracks Using Finite Element Simulation and Machine Learning

Presenter Name: Ming-Chi Chen
Reference ID: SISA-JUNE-003
Paper Title: Building Drain Element Types and Drainage Discharge

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Engineering & Technology

International Conference on System Engineering, Information Technology, Applied Sciences, Space Environment & Aviation Technology (SISA)

Day 01: Tuesday
June 04, 2019

Session 03: 11:40 am 12:-00 pm

Track C: Medical, Medicine & Health Sciences

Reference ID: Zakiah Samori
Reference ID: OSA-269-105M
Paper Title: Establishment of the Shariah Framework for the Application of Somatic Gene Therapy in Human

Tea & Coffee Break: 12:00 pm 01:00 pm

Conference Attendees

The following scholars/practitioners/educationist who don't have any paper presentation, however they will attend the conference as delegates & observers.

Participant Name: Dr Jacques GAST

Reference ID: SIN-169-101MA

Country: Clinique des Grangettes, 7 Chemin des Grangettes, Switzerland

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Participant Name: Soon Gim Lay

Reference ID: SISA-JUNE-004

Country: Singapore

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Engineering & Technology

International Conference on System Engineering, Information Technology, Applied Sciences, Space Environment & Aviation Technology (SISA)

Day 02: Wednesday
June 05, 2019

Conference second day is reserved for participants own tourism activities.

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Track A: Business, Economics, Social Sciences and Humanities

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Fascinating Khlong-Toey: The Study of Slum Tourism Development

Pimnara Kumpetch [1*], Jaruwan Kumpetch [2]
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The study of feasible tourism development in Khlong-Toey slum is a part of city equality study. The objective is to find ways to develop tourism of Thailand's first slum in Khlong-Toei area. The methodologies used are In-depth Interview and Participant Observation. The study indicates that urban development affects the number of labor force in the agriculture sector. Labor has moved to the city and work in the development and construction of infrastructure. Following from the building of Port Authority of Thailand in 1938, there were people from other provinces coming into labor and settle their lives in port area. Later on, it has become up to 43 communities, 14,500 households, and over 65,000 people in the area. Even though, the area is currently under development and aiming to become an economic potential source, it still has to go through many processes until reaching successful position. Khlong-Toey is a congested community which shows social backgrounds and cultures as its identity. Furthermore, developing and promoting tourism is the fastest and most effective way of creating income for country. Tourism can be distinguished into different categories. For instance, Health Tourism, Agriculture Tourism, and Tourism of Designated Areas. These three categories have been practically operated in many countries, such as the Rainbow Village (Kampung Pelangi, east of Jakarta, Indonesia), the city of Rio de Janeiro (Brazil), etc. In Rio Top Tour: Rio De Janeiro in the Different Perspective which leads and encourage tourists to visit Favales or Mumbai City of India. For Klong-Toey slum, the area has been developed by Local Alike agency who later then, initially introduced the Slum Tour. Local Alike has found the possibilities of developing slum into urban development area by renovating the abandoned building which was unsuccessfully constructed and introducing food, handicraft products, and local beliefs which come with identity of each community. Therefore, the study is aiming to develop tourism of slum and giving new experiences to tourists.

Index Terms: Khlongtoey, Slum, Bangkok

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Alcohol Drinking Behaviour before, During and After the Great Recession in Canada

Dr Ehsan Latif [1*]
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This study used panel data from the National Population Health Survey (2006-2011) to examine the impact of 2008-2009 Great Recession and its aftermath on drinking behavior among the Canadian population. To measure drinking behavior, this study used the following variables: binge drinking behavior, type of drinker, daily alcohol consumption and weekly alcohol consumption. After controlling for unobserved individual differences, this study found that the 2008-2009 Great Recession had no significant impact on drinking behavior. The study further found that drinking behavior did not see any significant change in the aftermath of recession, compared to the drinking behavior in the year before the Great Recession. The study did not find any significant gender difference in the impact of the Great Recession and its aftermath on drinking behaviors.

Index Terms: Drinking Behavior, Great Recession, Canada

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The Role of Weights and Measures in Improving the Livelihood of Women Farmers in Ghana

Adwoa Oforiwa Antwi [1*],Kenichi Matsui and [2]
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The Government of Ghana has provided financial resources and programs to improve food security, but it has not paid much attention to price and market reforms. Women are predominant customers at local markets whereas those farmers who come to sell crops are predominantly males. Any meaningful attempt to invigorate farming and market activities requires various forms of incentives, in which farmers can get more profits from selling their crops at market so that they feel like producing more. This paper argues that the introduction of standard weights and measures to local markets can be one of the most important incentives for improving food security. Using a questionnaire survey, we interviewed about 147 farmers at Techiman Market, one of major local markets, to understand their perceptions about weights and measures for pricing. We found that about 99% of our respondents perceived standard weights and measures as a tool to improve their earnings. They thought that standardization would somehow increase their purchasing power. Among the female respondents, about 19% had a small farm size (1acre). Nevertheless, these women gained profits more than men with an equal farm size. This result suggests that when women were empowered with more land and financial support, they would improve rural livelihoods. At the end of this paper, we make some policy recommendation to improve agronometrology and food security in Ghana and possibly western Africa at large.

Index Terms: Food Security, Ghana, Women, Weights and Measures

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The Role of Women Enterprises for the Conservation of Kakamega Forest, Kenya

Ondiba Hesborn Andole [1*],Kenichi Matsui and [2],Adwoa Oforiwa Antwi [3]
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Past studies showed that Kakamega Forest in western Kenya faced rapid deforestation. Local people are often blamed for this problem. However, this paper argues that local people also have traditionally played important roles in sustaining the forest environment. This paper seeks to demonstrate how local womens community-based entrepreneurial activities have enhanced the management and conservation of Kakamega Forest. A questionnaire survey was administered to 149 women who belonged to various entrepreneurial/conservation groups called chamas near this forest. We found that many of these women found opportunities to earn more income from forest conservation activities. For example, about 58% of the respondents were involved in the cultivation and domestication of indigenous/medicinal plants that they harvested from the forest. These activities led to the conservation of indigenous species and, at the same time, eased ecological pressure on the limited forest resources. Also, about 19% of the respondents were involved in making eco-friendly jikos or cooking stoves for business purposes. This effort reduced fuel wood harvesting from the forest.

Index Terms: Kakamega forest, Conservation, Sustainability, Entrepreneurship

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Engineering & Technology

Auditory Stimuli Reduce Physical Stress: Attentional or Motivational Effect? A Study on the Psychological Mechanisms Underlying the Effects of Music on Physical Stress

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A low-intensity treadmill-running experiment exposed 11 high school students (aged 16-18 years) to various forms of auditory stimuli. The experiment was designed to test if the reduction of physical stress by music is due to a distracting effect that is common in all auditory stimuli, or due to a motivational and auditory-motor synchronization effect specific to music. Each subject was instructed to run as long as possible for 4 trials. Each trial was conducted under one of the four treatments: no auditory stimuli (control), music, audiobook, and background music while dual-tasking between running and counting footsteps. Treatments of audiobook and music both resulted in longer average running times than control, though the effects of audiobook treatment were minimal compared to those of music. Interestingly, all subjects that ran longer under music treatment compared to control also ran longer than control when instructed to count their footsteps while listening to background music. These results suggest the following: reduced physical stress by music is caused partly by distracting effects; the bulk of reduced physical stress must be due to music-specific factors such as rhythm, melody, and harmony; the combination of a focus on physical stress and musical stimuli facilitates auditory-motor synchronization in certain cases. Limitations including small sample size and the need for improved measurement techniques for physical stress are given.

Index Terms: Music Perception, Physical Stress, Music Therapy, Auditory-Motor Synchronization

Track B: Engineering Technology & Applied Sciences

Research Forum
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Engineering & Technology

Characterization of Cracks Using Finite Element Simulation and Machine Learning

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The exploitation of nondestructive testing by eddy currents in fast times becomes a capital necessity, that is why it becomes essential to have a fast tool for the eddy current signals inversion. Generally, this inversion is done through an experimental investigation by plotting standard curves, an efficient but costly investigation [1], or by an optimization algorithm leading to a computation time that can become prohibitive [2]. Our objective is the crack characterization in the conductive materials from signals obtained during the eddy currents testing. In this paper, we propose the inversion of eddy current signals from machine learning methods, namely artificial neural networks, deep learning and hybrid learning method. In this context, a database consisting of the impedance of the sensor-cracked part system (constituting the crack signature as network input vector) is constructed from a 3D finite element simulation and validated by an experimental companion. This database will be used to train the machine learning algorithms in order to estimate the geometric parameters of the crack located in a conductive part. The developed approaches make it possible to estimate with promising results the desired parameters of the crack.

Index Terms: Artificial Neuron Network, Crack Characterization, Eddy Currents Testing, Inverse Problem, Machine Learning

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Building Drain Element Types and Drainage Discharge

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Drains in a building typically consist of a drainage structure and drain elements. A drainage structure is usually composed of a base, a cover, and drain elements. The base has through holes and is placed in the drain. The cover is attached to the top of the base and has multiple holes. Drain elements are placed between the base and the cover, including a hollow barrel installed in the through holes of the base and a spiral structure formed on the inner wall of this hollow barrel. The spiral structure contains multiple spiral waterways, which speeds up the generation of vortices when water passes through these spirals. The vortex, in turn, increases the drainage speed and impedes the accumulation of lightweight impurities during the passage of water. With vortices operating in this structure, water can quickly be drained. Experiments conducted in this study revealed that adding diversion elements to the drain can speed up the formation of vortices. A vortex can disturb foreign materials that remain around the drain; a vortex can break up the blockage and cause water to drain rapidly.

Index Terms: Falling Head, Drain Cover, Drainage Structure, Drain Element, Spiral Structure, Free Vortex

Track C: Medical, Medicine & Health Sciences

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Establishment of the Shariah Framework for the Application of Somatic Gene Therapy in Human

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Human gene therapy is best known as a transfer of nucleic acids to either the somatic cells or germ cells of an individual. It introduces genetic materials which have therapeutic purpose ranging from inherited genetic disorders to certain malignancies and infectious diseases. This medical scientific breakthrough has received lucrative demand worldwide as it offers potential treatment to cure genetic diseases in human at the molecular level. Since then, thousands of people have already participated in the trials thus it is likely to be part of medical practice in the future. This model of Shariah Framework would serve as the ethical basis for the application of somatic gene therapy in Malaysia and beyond (particularly Muslim countries) especially for Muslim doctors, scientists and Muslims at large. Consideration of the position of Somatic Gene Therapy from the Shariah perspective is undeniably crucial in any attempt to regulate Somatic Gene Therapy in any Muslim countries in the future.

Index Terms: Somatic Gene Therapy, Shariah Framework, Islamic Principles

Upcoming Events

http://aet-forum.com/eeee-august-2019/

http://aet-forum.com/tiac-august-2019/

http://aet-forum.com/cean-september-2019/