BOOK OF ABSTRACTS

ERI-19

CONFERENCE PROCEEDINGS

FEAST INTERNATIONAL CONFERENCE ON ENGINEERING, RENEWABLE ENERGY, INFORMATION TECHNOLOGY AND APPLIED SCIENCES

February 09-10, 2019

Mercure London Hyde Park Hotel, UK

ERI - 2019

FEAST
Forum for Engineering, Applied Sciences & Technology

CONTENT

Review board

- Prof. Dr. Clive: University of Exeter
- Dr. Misha Isupov: University of Exeter
- Dr. Nick Le Brun: University of East Anglia
- Dr. Andrew Hemmings: University of East Anglia
- Dr. Tom Clarke: University of East Anglia
- Dr. Richard Strange: University of Liverpool
- Mr. Mohd Azhar Bin Abdul Rahman: Urban Development Authority of Malaysia (UDA)
- Dr. Myles Cheesman: University of East Anglia
- Dr. David Leys: University of Manchester
- Prof. David Garner: University of Nottingham
- Prof. Chris Schofield: University of Oxford
- Prof. Hagan Bayley: University of Oxford
- Dr. Michael Hough: University of Liverpool
- Mr. Bright Lumor MENSAH: Jilin University, School of International and Public Affairs (SIPA), China
- Dr. Nicholas Harmer: University of Exeter
- Prof. Andrew Thomson: University of East Anglia
- Prof. David Richardson: University of East Anglia
- Dr. Nick Watmough: University of East Anglia
- Dr. Fraser Macmillan: University of East Anglia
- Dr. Gunter Grossmann: University of Liverpool
- Prof. Dr. Surendra Kansara: Symbiosis Institute of Operations Management, India
- Prof. Nigel Scrutton: University of Manchester
- Prof. Andrew Munro: University of Manchester
- Dr. Jon McMaster: University of Nottingham
- Prof. Ben Davis: University of Oxford
- Prof. Vilmos Fulop: University of Warwick
- Dr. Svetlana Antonyuk: University of Liverpool
- Prof. Doc Sharifah Hayaati Syed Ismail: University of Malaya, Kuala Lumpur Malaysia

Conference Program Overview

09:00 am 09:10 am
Welcome Reception & Registration
09:10 am 09:20 am
Introduction of Participants
09:20 am 09:30 am
Welcome Notes - Conference Coordinator
09:30 - 10:00 am
Grand Networking Session & Tea Break

Presentation Detail

DAY 01 Saturday (February 09, 2019)
Presentation Session (10:00 am 12:00 pm)
Session Chair: Dr. Charlotte H.

Track: Social Sciences & Business Management

Dr. Muhammad Awais	Game Theory, Loss-aversion, Stress, and Stocks Investment: A way of Investing	BESS-FEB-102
Dr. Tamer Koburtay	The Linkages Between People-Organization (P-O) Spirituality Fit and Workers Psychological Well-Being? Empirical Evidence from Jordan	BESS-FEB-105
Dr. Margareta M. Thomson	Fostering Academic Motivation and a Stem Growth Mindset in High Poverty Schools	BESS-FEB-121

Track: Engineering Technology & Applied Sciences

Reihaneh Aram	Investigating Sustainability of the Traditional Buildings in Kermanshah-Iran	ERI-FEB19-101

Attendees Details

Prof. Woo-Gwang Jung	School of Advanced Materials Eng., Kookmin University 77 Jeongneung-ro, Seongbuk-gu, Seoul, 02707, Republic of Korea
Mohamed Irshana Rasmy	Master of Philosophy, Faculty of social science humanities, University Kebangsaan Malaysia

2nd Day (February 10, 2019)
All respective guests are free to conduct their own sightseeing and tour. The second day of the event is reserved for this memorable purpose.

Investigating Sustainability of the Traditional Buildings in Kermanshah- Iran

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ABSTRACT

Sustainability is known to be a worldwide issue. In a situation where fossil energy consumption, pollution, and climate change have all become problems for human societies, the need for a comprehensive review and modification of the building rebirth seems to be essential. This is particularly true given the challenges on today's global agenda, as renewable energy consumption requires that attention be paid to ideas and construction methods alike. Consequently, analyzing and investigating traditional architecture is one possible solution. Traditional Iranian architecture is a valuable template for the creation of more environmentally friendly buildings. In fact, it can be useful to investigate past experiences for underlying and worthy patterns if there is any hope of creating a better future. Kermanshah is one of the capital cities of Iran and has a rich heritage, valuable historical buildings, ancient civilization, and an architectural identity heavily influenced by the past. This research aims to explore the elements of sustainable architecture outlined by environmental and economic approaches of traditional Iranian buildings in Kermanshah. The cases that are analyzed include the traditional bazaar, holy building and mosque. This research found that Kermanshah has an architectural identity that conforms to the regional climate and environment. It also noted the use of renewable sources as passive strategies in these traditional buildings for energy efficiency, economic efficiency and environmental solution. For example, using domed roofs, introverted building form, dark color, and Ivan, among others, can be listed as some of the sustainable parameters found in Kermanshah traditional buildings.

KEYWORDS

Kermanshah, Sustainable, Traditional building.

Laser-Induced Surface Modification of Contact Lenses for Measuring Intraocular Pressure for Glaucoma Patients

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ABSTRACT

The project highlights the final findings on the laser-induced modification of surface properties of contact lenses. Selective areas of the surface of commercial silicon-hydrogel contact lenses were patterned in array formats using different powers of the CO2 laser. 1D arrays of different groove densities, channels, and 2D intersecting architecture were fabricated. Contact angle measurements were carried out to measure the surface hydrophilicity, and extent of hydration was linked with the surface profile properties and the space gap between the fabricated patterns, which were controlled by the beam exposure time, beam power, and scan speed. Laser treatment of contact lenses resulted in improved hydration proportional to the density of laser ablated segments on the surface. The hydration time of water droplets on different lens surfaces was also recorded all 2D patterned lenses showed faster hydration as water quickly diffused into the bulk of the lens due to the extended interfacial area between the contact lens and the water droplet as a consequence of larger areal modification in 2D as compared with 1D patterns. The best wettability properties were obtained with 0.3 mm space gap, 9 W power, and 200 mm s-1 scan speed. Optical microscopy was used to image the 3D surface profiles of the modified lenses and the depth of the patterns and was correlated with the experimental observations. The maximum depth of 40 m was observed with 0.3 mm space gap, 9 W, and 200 mm s-1 scan speed. Optical transmittance of broadband white light was measured to assess the surface treatment effects on the contact lenses. A large exposure and dense patterning of contact lens resulted in decreased (down to a minimum of 45%) in the light transmittance, which dictates the practical usability of such patterning. Surface treatment of contact lenses can be utilized to deposit stable conducting connection for on-lens-LEDs, displays, and communication antennas as well as for stabilizing biosensing materials and drug dispensing applications.

KEYWORDS

Laser-induced modification, Contact Lenses, Silicon-hydrogel, Wettability.

Game Theory, Loss-aversion, Stress, and Stocks Investment: A way of Investing

Dr. Muhammad Awais[1*], Ahmad Sher[2], Rida Fatima[3]

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ABSTRACT

The aim of this study is to provide an understanding regarding the investors situation of loss-aversion and stress during investment decisions in stock market, and the use of various mathematical models (game theories) to eliminate those situations. The objectives of this study are to know about the irrationalities in investors behavior in stock market, due to stress and loss-averse behavior of investors, and also find-out the ways to deal with these behaviors. Qualitative research style was used to gather data from the participants of the study. Semi-structured interviews were designed to know about the experience and thoughts of each and every individual in detail. A sample of 12 experienced stock marketers from Pakistan and USA were selected for this study. The study found the specific kind of tensed and biased investors behaviors in the market, and also found their solutions. This study obviously highpoints the ways to deal with stress and loss-averse behavior through mathematical analysis and some other suggestions.

KEYWORDS

Game Theory, Loss-aversion, Stress, Stocks Investment
Jel classifications: C7, G02, H54

The Linkages Between People-Organization (P-O) Spirituality Fit and Workers Psychological Well-Being? Empirical Evidence from Jordan

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A lack of consolidated guidance is available on the linkages between spirituality and psychology in workplaces. The present study seeks to emphasize the theoretical importance that workplace spirituality may contribute to the psychology literature and scholarship. In specific, it aims to examine how People-Organization (P-O) spirituality fit may enhance employees eudaimonic psychological well-being. Based on a quantitative-inductive reasoning, and following a hypo-testing framework, this study applies different statistical analysis (e.g., paired sample t-test and multiple regression) to test the hypotheses formulated. Drawing on a questionnaire-based survey distributed to workers in various industries, the results report a match between workers and their workplaces spirituality. The results also show that this match improves workers psychological well-being. The novelty of this study invokes from extending understanding on the linkages between spirituality and psychology by testing, beyond the already existing dimensions of P-O fit, a new theoretical framework.

Key Words: Psychology P-O fit Spirituality.

Fostering Academic Motivation and a Stem Growth Mindset in High Poverty Schools

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ABSTRACT

The current research study examines the impact of an innovative K-12 Science, Technology, Engineering and Mathematics (STEM) program implemented in public schools with high-poverty levels. The study is funded by the United States Core Fulbright Award for a duration of one academic year, respectively the 2018-2019. The project brings together an interdisciplinary team from the Unites States and Romania with a wide range of expertise, such as Education, Psychology, Teacher Training and Science Education, along with mentor scientists trained in biological science.. The research project aims at developing K-12 students STEM literacy, motivation and domain identification, particularly for struggling and economically disadvantages students from public schools. Oftentimes, economically disadvantaged students identify themselves as individuals from minority groups, which are most likely to be underrepresented in the STEM careers. A whole-school innovative mentorship program for middle grades students (N=300), aged 12-14 and enrolled in grades 6th and 7th is implemented in three public schools in Romania. In the mentorship program, teachers and students are paired up with mentor scientists in order to help students learn from scientists, not just science, but valuable scientific research knowledge. The intervention is based on psychological principles from the Growth-Mindset Model (Dweck, 2006), in which academic effort and persistence are valued. Developing and implementing this transformative program will benefit not just the students and the school, but the wider community as well, since volunteer mentor scientists from the academic local community are involved. Contributions from the current study are numerous for both the research and practice, leading to more research avenues that will investigate the impact of such programs in countries with high poverty levels. The program and various components of the program can be replicated in various informal and formal learning settings around the world.

KEYWORDS

STEM, Motivation, Identity, Mindset, Science, Teaching.