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03 – 04, February 2020
Tokyo, Japan

Editor-in-Chief
Dr. A Senthilkumar

Editors:
Daniel James
Published by

Association of Scientists, Developers and Faculties
Address: RMZ Millennia Business Park, Campus 4B, Phase II, 6th Floor, No. 143, Dr. MGR Salai, Kandanchavady, Perungudi, Chennai – 600 096, India.
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CoreConferences 2020

Batch A

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ISBN-10: 93-88122-10-0
PREFACE

The CoreConferences 2020 held on 3rd and 4th February 2020 at the ITO International Research Center, University of Tokyo, Tokyo, Japan attracts various Researchers, Scientists, Academicians, Industrialists from around the world. CoreConferences aims to provide a platform for discussing the issues, challenges, opportunities and findings in multiple areas. The ever-changing scope and rapid development which create new problems and questions, resulting in the real needs for sharing brilliant ideas and stimulating good awareness of this relevant research field.

The responses for the call-for-papers had been overwhelming. Unfortunately, many manuscripts from prestigious institutions could not be accepted due to the reviewing outcomes and our capacity constraints. We want to express our gratitude and appreciation for all of the reviewers who helped us maintain the high quality of manuscripts included in the proceedings published by ASDF-EDLIB. All the articles submitted for this conference were double peer-reviewed before the notification was issued. We would also like to extend our thanks to the members of the organizing team for their hard work.

The program consists of invited sessions and technical workshops and discussions with eminent speakers covering a wide range of topics. This vibrant program provides all attendees with opportunities to meet and interact with one another. We hope your experience with CoreConferences 2020 is a fruitful and long-lasting one. With your support and participation, the conference will continue its success for a long time.

A primary goal and feature of it are to bring academic scientists, engineers, industry researchers together to exchange and share their experiences and research results about most aspects of research, and discuss the practical challenges encountered and the solutions adopted.

Let us wish that all the participants of CoreConferences Batch A 2020 will have a pleasant and fruitful time at the conference and that our oversea guests will enjoy their time in Tokyo, Japan in this beautiful February.

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An Implementation of Customized Wake-Up-Word in Embedded System

Tsung-Han Tsai¹, Tran Dang Khoa²

¹²Department of Electronic Engineering, National Central University, Taiwan

Abstract: In this paper, a self-defined wake-up-word (WUW) recognition system and its embedded system implementation has been proposed. To execute whole system, it is divided into two phases: training phase and testing-comparison phase. In the training phase, a wake-up word of any language is recorded, and the voice segment is cut out by using the Voice Activity Detection (VAD). Then we use the Mel-Frequency Cepstral Coefficients (MFCC) as the pre-processing to extract features of the input speech signal for follow-up use. The Expectation-Maximization Algorithm is used to train the Gaussian Mixture Model, and the Baum-Welch is used to train the Hidden Markov Model. These two models are combined into a data model of a speaker’s speech dataset. In the testing-comparison phase, an unknown voice segment is input. The VAD and MFCC are still reused for the same purpose with training phase. Subsequently, the output feature will be calculated through the log likelihood of the Gaussian Mixture Model to find the corresponding speaker, and the Viterbi algorithm is used to calculate the state sequence of the unknown speech through Hidden Markov Model. Finally, we calculate Gaussian Mixture Model similarity method and use Levenshtein Distance algorithm to compare dataset state sequence with the unknown speech state sequence. This system can work well with a small amount of training data, and the system is implemented on the embedded board to test performance where it takes 1.4 seconds to recognize the wake sequence.

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In the Name of Cyberspace Security: The Internet Governance in Mainland China

Yu-Li Wang

Abstract: China had 854 million netizens, and its Internet penetration had reached 61.2% in June 2019. Also, the number of mobile Internet users had reached 847 million, and the proportion of Internet users accessing the Internet through mobile phones in China had amounted to 99.1%. Over 90% of netizens did not go to college or universities. China had a large number of netizens but also built up a Great Firewall in the name of cybersecurity. This study aims to explore some of the important phenomenon under Chinese Internet governance through secondary data analysis and participatory observation under Xi’s administration. Since the cut back of the freedom of speech realm, the Party implemented the real-name system and a series of regulations in the name of Cyberspace Security, but actually filtering the opponent opinions. The study also found that “Five Cents Army” had evolved into the “Little Pink” who spoke on behalf of nationalism on the social media. In the age of social media and “post-truth” period, misinformation and disinformation were deliberately disseminated on the Net. Some news was disguised with one dimensional fact which were favourable for the Party, such as the election result of district council in Hong Kong. This research also provided several insightful findings for future studies which were first, the information flow, perceptions and cognitions of young generations in China; secondly, the emerging spiral of silence in the public sphere discourses.

Risk Reduction and Terrorist Inmate Classification Scheme in Indonesian Prisons

Maya Trisdamayanti, Muhamad Syauqillah, Jerry Marcellinus Logahan

Abstract: The 21st century’s radicalism and terrorism phenomenon is critical issues for security of the state and the world’s security. World countries have been implementing various soft approach methods and techniques, which adjusted to domestic wisdom of the respective country, to tackle such issues. In Indonesia, the so-called de-radicalization program has been designated for its terrorist prisoners who serve their sentence in prisons. Numerous studies analyse its advantages and weaknesses, and some have identified its failure. Purpose of this study is to analyse the failure of the Indonesian de-radicalization program and identify its causes. This study uses qualitative method, which supported by data that collected through literature review, observations, and interview sessions. Among some of the causes, previous studies show that lack of post release (after-care) program, in addition to minimum monitoring and evaluation system, have an impact on recidivism. That said, former terrorist inmates have been identified returning violence and involve in terrorism. Further in this study, it develops risk reduction theory that requires behavioural change of terrorist inmate, in order to reduce the risk of recidivism. An inmate classification scheme is used to measure risk level of each inmate, and intended to identify prison assignment, the required level of supervision and control, as well as identifying appropriate de-radicalization program for each terrorist inmate.
Peace-making Criminology Theory in Analyzing Returnee as the Agent of Change in Indonesia

Novi¹, Muhamad Syauqillah², Jerry Marcellinus Logahan¹

¹,²,³Terrorism Studies, Schools of Strategic and Global Studies, University of Indonesia, Indonesia

Abstract: This paper explains about peace-making criminology which acts as a peaceful medium for Indonesian returnees. Up till now, it turns out that Indonesia does not have a standard concept and method yet on handling returnees, despite the number of Indonesians who returned from Syria, Iraq and the Philippines reached 125 from 2014 to 2019. Therefore, peace-making criminology can be used as a method for dealing with returnees because this approach puts forward the humanist aspect. This research used a qualitative approach by conducting unstructured interviews as well as literature as secondary material. In this research, it can be seen that humanist treatment towards those who have returned from a conflict state has a positive impact as they can be the agents of peace for other returnees. Thus, placing returnees as the agent of change through peace-making criminology approach will avoid them neither from re-radicalized nor return to the conflict states.

Alleviative Effects of Magnesium on Copper-Induced Oxidative Stress in Grapevines

Chen Bo-Ching¹, Juang Kai-Wei²

Abstract: Intensive and long-term application of copper (Cu)-containing fungicides in vine-growing areas has led to the accumulation of Cu on the surface of some vineyard soils around the world, thus posing the problems of Cu toxicity to the organisms therein. In this study, a hydroponic experiment was conducted to determine the influence of magnesium (Mg) on the oxidative stress and the Cu accumulation in grapevine seedlings exposed to a solution Cu concentration of 15 µM. Results of the present study showed that Cu accumulated mainly in the roots and inhibited the elongation of new roots. For oxidative stress, the Cu exposure not only induced antioxidant enzymes (superoxide dismutase (SOD) activity and catalase and APX concentration), but also increased production of reactive oxygen species (H₂O₂ and malondialdehyde (MDA)) in the roots and leaves. On the other hand, the Cu-induced SOD, CAT, H₂O₂, and MDA content in the roots decreased significantly with increasing solution Mg concentration of 2, 4, and 8 mM. Furthermore, Mg-addition declined the accumulation of Cu in the roots. The present results indicated that Cu exposure causes oxidative stress to grapevine seedlings, yet Mg alleviates Cu-induced oxidative stress by preventing Cu from binding to toxic action sites at the surface of grapevine roots.
How Green Marketing Influences the Green Behavioral Intentions of Hot Spring Hotel Guests

Kuo-Chien Chang¹, Ya-Ti Hsu², Chu-Jin Hsiao³

Abstract: This study applied the stimulus–organism–response (S–O–R) paradigm to investigate the effects of green marketing on the green behavioural intentions of hot spring hotel guests. In so doing, this study explored the mediating roles of green innovation, green image, and green perceived value from a micro-perspective. This study also considered the moderating role of destination trust from a macro-perspective. This study administered surveys to guests of hot spring hotels in the Jiao-Xi township of Taiwan. As shown in Figure 1, the results revealed that green image and green perceived value mediated the relationship between green marketing and green behavioural intention. Among these two variables, green perceived value showed a more significant mediating effect. Therefore, hot spring hotels should aim to improve green perceived value by providing guests with unique and environmentally beneficial services, such as services related to eco-tourism and environmental protection. Hotels may also benefit from adopting green construction materials, energy-efficient lightbulbs, and water-saving faucets. This study further found that, although green marketing positively affects green innovation, green innovation did not mediate the relationship between green marketing and green behavioural intention. This suggests that the innovative green services currently offered by hot spring hotels may not be sufficient to impress hot spring hotel guests. This therefore suggested that hot spring hotels improve guest perceptions of green innovation by providing intimate and convenient services such as fixed-point shuttle bus services, encouraging guests to use public transportation, and by offering bicycle rental services. Finally, as shown in Table 1, this study found that destination trust significantly moderated the relationships among green innovation, green image, green perceived value, and green behavioural intention. Moreover, green innovation affected green behavioural intention more strongly when guests had lower trust in a hot spring destination. Thus, this study inferred that, if guests who do not initially trust a hot spring destination are impressed by the hot spring hotel’s innovative green services upon arrival, they will experience cognitive dissonance. This experience pushes them to have self-regulation in mental by increasing the positive cognition of hot spring hotel, which leads to an increase in green behavioural intention. In other words, when guests experience cognitive dissonance, consumers can improve the credibility of the new cognition by changing the behaviour or increasing the cognition consistent with the behaviour, thus replacing the old cognition and obtaining a psychological balance.
UK Ministry of Defence - Women in the Military

Ella Fleming

Abstract: This collaborative work is conducted between the UK’s Defence Science Technology Laboratory (Dstl) - a Ministry of Defence (MOD) organisation, and the Defence Institute for Psychological Defence (DIPR), part of the Indian Defence Research and Development Organisation (DRDO). The research is an India Human Sciences Collaboration (UK-I-HSC) Study titled “The Integration of Women and Gender issues in Extraterritorial Military Operations” with the aim to enhance the understanding of gender differences on extra-territorial military operations, in the peacekeeping environment for DIPR and in general mission roles for Dstl. Recommendations are suggested by both countries in order to address gendered challenges or barriers, particularly to women deploying on extra-territorial operations. The results from the first two work packages have informed the design of the current work package; this third, ongoing collaborative study between the UK and India is an investigation into the issues surrounding women in the military as leaders, and assesses the various leadership assessment tools or methods available that may inform subsequent studies in this area. It aims to highlight key generational issues or barriers faced by women and men in leadership and compares views of leadership from senior and junior personnel. The aim is to gain a diverse understanding of women and men’s experiences of military leadership and provide a balanced concept that appreciates the opportunities available to women in the military, rather than focusing on barriers only. These experiential results are then intended to be taken forward and used as a mechanism to inform and enable effective future military and peacekeeping training.
The Effectiveness of Insider Mediation for Sustainable Peace-A Case Study in Mindanao, the Philippines

Miyoko Taniguchi

Abstract: Conflict and violence have prevailed over the last four decades in conflict-affected areas in Muslim Mindanao, despite the signing of several peace agreements between the Philippine government and Islamic separatist insurgents (the Moro National Liberation Front (MNLF) and the Moro Islamic Liberation Front (MILF)), and peacebuilding activities on the ground. In the meantime, the peace talks had been facilitated and mediated by international actors such as the Organization of Islamic Cooperation (OIC), and its member countries such as Indonesia, and Malaysia, and Japan. In 2014, both the Government of the Philippines (GPH) and the MILF finally reached a Comprehensive Peace Agreement (CAB) in 2014 under the Aquino III administration, though a Bangsamoro Basic Law (BBL) based on the CAB was not enacted at the Catholic-majority of the Philippine Congress. After a long process of deliberations at the Congress, Republic Act 11054, known as the Bangsamoro Organic Law (BOL) was enacted in 2018 under the Duterte administration. At the beginning, President Duterte adopted an “inclusive approach” that involves the MILF, all factions of the MNLF, non-Islamized indigenous peoples, and other influential clan leaders to align all peace processes under a single Bangsamoro peace process. A notable difference from past administrations, there is an explicit recognition of all agreements and legislations based on the rights of each stakeholder. This created a new identity as “Bangsamoro”, the residents of Muslim Mindanao, enhancing political legitimacy. Besides, it should be noted an important role of “insider mediators”—a platform for the Bangsamoro from diverse sectors attempting to work within their respective organizations in Moro society. Give the above background; this paper aims at probing the effectiveness of insider mediation as one of the alternative approaches for mediation in peace process. For the objectives, this research uses qualitative methods such as process-tracing and semi-structured interviews from diverse groups of stakeholders at from the state to the regional level, including the government officials involved in peace process under the Presidential Office, rebels (MILF and MNLF), civil society organizations involved in lobbying and facilitating peace process especially in the legislative process. The key outcomes and findings are that the Insider Mediators Group, formed in 2016, had taken on a significant role in facilitating the achievement of a wider consensus among stakeholders on major Moro issues such as BBL’s passing during the last administration to call for unity among the Bangsamoro. Most of its members are well-educated professionals affiliated with the MILF, the MNLF, and influential clans. One of the group’s biggest achievements has been the lobbying and provision of legal advice to legislators who were not necessarily knowledgeable about the peace process during the deliberation of the bicameral conference of the BBL, which eventually led to its passage. It can be concluded that in the long run, strengthening vertical and horizontal relations between the Moro society and the State and among the Moro peoples that can be viewed as a means to sustainable peace.
Water Imbalances as a Source of Migration and Violence in Nigeria

Frederic Noel Kogou Kamta

Abstract: This paper examined the relationship between water availability, migration and conflicts in Nigeria. It examined the causes of the differences in water availability between northern, central and southern Nigeria and the human response to these differences. Data for this study were collected by interviewing local residents in northeast Nigeria but also experts in research centres and from governmental institutions in Abuja. The paper also relied on literature from various sources. The study revealed that the scarcity of water and fertile land often pushed northern farmers and Fulani herdsmen to migrate south towards the middle belt and southern parts of the country, thus mixing with people from different ethnic groups and religion. This mixture was proven to be one of the reasons behind violence, added to the fact that people are easily manipulated into conflict based on ethnicity and religion. This is often done by selfish politics who uses ethnicity and religion to create conflict which allows them to achieve their political ends. The paper recommended the industrialization of livestock production, which will reduce migration of Fulani herdsmen to the south and the relocation or creation of manufacturing industries to northern areas that will employ farmers and diversify their sources of income, hence reducing migratory trends towards South.