

ISBN: 928-906-9928-42-4



PAET- 2019

**International Conference on Theoretical & Practical Implications
in Computers Applications, Applied Sciences & Engineering
Technology**

December 02-03, 2019/ Singapore

Proceedings of International Conference on Theoretical & Practical Implications in Computers Applications, Applied Sciences & Engineering Technology (PAET)

Conference organized by:



**Research Forum
for Applied Sciences,
Engineering & Technology**

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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Exploration of new research bits of knowledge and an intuitive stage for improving innovation and advancement

Lead the researchers through global communication and collaboration.

Scholastic Innovation, Excellence and Integrity, Insightful Research, Networking, Professional Leadership, Assorted Variety and Equity, Collegiality and Collaboration, Corporate Social Responsibility

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Research Forum for Applied Sciences Engineering and Technology

Table of content

Welcome Message	5
Scientific Committee	6
Conference Description	7
Conference Schedule	8
Inclusion and Wellbeing in Teacher Education: Focus on Gender and Sexual Diversity	12
Teaching Thai EFL Learners to Detect Definite and Indefinite Contexts at the First Stage of English Article Ac	13
The Antipollutant Mechanism of Compound PTS from Blueberry in Particulate Matter-Induced HaCaT Ker- atinocytes	15
Heat Transfer Enhancement in a Micro-channel Cooling System using Guiding Vane	16
Prevalence of Bipolar Disorder, its Socio-Demographic Correlates in the Adult Population of Hebei Province, China: A Population-Based Survey	18
The Prevalence of Sexual Harassment toward Psychiatric Nurses and its Demographic Correlates in China	19
Upcoming Events	20

Welcome Message

The Research Forum for Applied Sciences Engineering and Technology (RFAET) welcomes you to the International Conference on Theoretical & Practical Implications in Computers Applications, Applied Sciences & Engineering Technology (PAET)

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

Jan Fook, International Centre for Higher Education Educational Research, Leeds Trinity University, UK
Jennifer Bowerman, MacEwan University, Canada
Jo Ann Rolle, Medgar Evers College, The City University of New York, USA
John Davies, Victoria University of Wellington, New Zealand
Julie Baldry Currens from Higher Education Academy, UK
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Jan Fook, International Centre for Higher Education Educational Research, Leeds Trinity University, UK
Jennifer Bowerman, MacEwan University, Canada
Jo Ann Rolle, Medgar Evers College, The City University of New York, USA
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Mudrajad Kuncoro, Gadjah Mada University, Yogyakarta, Indonesia
Justin Henley Beneke, University of Winchester, UK

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.

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.

Conference Schedule

International Conference on Theoretical & Practical Implications in Computers Applications, Applied Sciences & Engineering Technology (PAET)

Hotel Grand Pacific Singapore
December 02-03, 2019

09: 00 am - 09: 20 am	Registration and Reception
09: 20 am - 09: 30 am	Introduction of Participants
09: 30 am - 09: 40 am	Inauguration and Opening address
09: 40 am - 09: 50 am	Grand Networking Session
09: 50 am - 10: 00 am	Tea Break



International Conference on Theoretical & Practical Implications in Computers Applications, Applied Sciences & Engineering Technology (PAET)

**Day 01: Monday
December 02, 2019**

Session 01: (10: 00 am 12: 00 pm)

Track A: Business, Social Sciences and Humanities

Presenter Name: Dr. Wendy Carr & Dr. Blye Frank

Reference ID: SHBMC-DEC-007 & SHBMC-DEC-007C

Paper Title: Inclusion and Wellbeing in Teacher Education: Focus on Gender and Sexual Diversity

Presenter Name: Soisithorn Isarankura

Reference ID: SHBMC-DEC-012

Paper Title: Teaching Thai EFL Learners to Detect Definite and Indefinite Contexts at the First Stage of English Article Acquisition

Track B: Engineering & Technology, Computer, Basic & Applied Sciences

Presenter Name: Adel E. Alshayji

Reference ID: PAET-DEC19-001

Paper Title: Heat Transfer Enhancement in a Micro-channel Cooling System using Guiding Vane

Presenter Name: Feng-Lin Yen

Reference ID: RETI-DEC19-CEAS102

Paper Title: The Antipollutant Mechanism of Compound PTS from Blueberry in Particulate Matter-Induced HaCaT Keratinocytes

Track C: Medical, Medicine & Health Sciences

Presenter Name: Wenwang Rao

Reference ID: SIN-1129-101M

Paper Title: Prevalence of Bipolar Disorder, its Socio-Demographic Correlates in the Adult Population of Hebei Province, China: A Population-Based Survey

Presenter Name: Liangnan Zeng

Reference ID: SIN-1129-102M

Paper Title: The Prevalence of Sexual Harassment toward Psychiatric Nurses and its Demographic Correlates in China

Closing Ceremony & Lunch: 12: 00 pm 01: 00 pm

Lunch Break & Closing Ceremony



International Conference on Theoretical & Practical Implications in Computers Applications, Applied Sciences & Engineering Tech- nology (PAET)

**Day 02: Tuesday
December 03, 2019**

Conference second day is reserved for participants own tourism activities.



Track A: Business, Social Sciences and Humanities



Inclusion and Wellbeing in Teacher Education: Focus on Gender and Sexual Diversity

Dr. Wendy Carr ^{1*}

Dr. Blye Frank ²

^{1,2}Faculty of Education, University of British Columbia, Vancouver

Corresponding email: wendy.carr@ubc.ca

Faculties of education prepare educators for practice in highly diverse contexts, and the curricula, discourses and cultures they create have profound effects upon youth; in particular those whose sexual orientation or gender identity (SOGI) do not fit neatly within the gender binaries and assumptions that pervade school systems. Schmidt, Chang, Carolan-Silva, et al. (2012) refer to new literacies needed to support LGBTQ2+ students as a different language and a different way of talking about and deconstructing experience. From 2016 to present, the UBC Faculty of Education has engaged in a process of reflection and analysis about how it includes or marginalizes gender and sexually diverse people. SOGI-inclusion involves enhancing knowledge and understanding, reducing stigma and shifting language and attitudes, and the approach weve taken is to identify SOGI-inclusion as a professional competency necessary for educators in todays schools. This is both timely and pertinent as recent studies (e.g., Taylor et al. (2015)) indicate that a majority of practicing teachers do not feel equipped to teach inclusively with respect to gender and sexual diversity. An overview of this approach, along with findings from a curriculum mapping exercise and student-teacher surveys, will be presented by the project lead and Dean of the Faculty. Our goal is to prepare knowledgeable, inclusive educators and improve the experience of those who may be marginalized because of their sexual orientation or gender identity. We hope that the work at UBC can inspire and also be informed by what is happening on other campuses around the world.

Index Terms: Inclusive Education, Gender Diversity, Sexual Diversity, Teacher Education



Teaching Thai EFL Learners to Detect Definite and Indefinite Contexts at the First Stage of English Article Ac

Soisithorn Isarankura *

Southeast Asia University, Thailand

Corresponding email: soisithorn55@gmail.com

This article reports a small-scale pilot study investigating the Thai students ability to detect definite and indefinite noun phrase (NP) contexts. The participants included 25 Thai undergraduate students studying in the Business English major in a private Thai university. A pre-test and post-test were given before and after the article instruction focusing on detecting definiteness of English NP contexts. The results reveal that prior to the article instruction, the students correctly used the, a/an and θ at 63.43%, 54.67%, and 20.80% respectively. The results show that the was overused in contexts that called for a/an and θ at 35.33% and 37.60%, respectively. Following the one-hour article instruction, the post-test was administered. It was found that the students were able to detect the definite contexts in the test correctly at 78.86% and they used the correctly at 16% higher than they did before the instruction (i.e. 79.43% 63.43%). The improvement in using the was statistically significant. The findings suggest that the binary feature [HK] introduced in the lesson helped the students to better understand the notion of definiteness. Since the correct use of the requires only the proper detection of definiteness, whereas usage of a/an and requires detection of noun countability and number, which tend to be features that constitute greater obstacles in correctly using articles, the teacher should proceed from the most unmarked article in the first stage of article instruction.

Index Terms: Definiteness, Specificity, Genericity, Countability, Hearers Knowledge



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Track B: Engineering & Technology, Computer, Basic & Applied Sciences



The Antipollutant Mechanism of Compound PTS from Blueberry in Particulate Matter-Induced HaCaT Keratinocytes

Feng-Lin Yen ^{1*}, Stephen Chu-Sung Hu ², Chih-Hua Tseng ³

^{1,2,3} Kaohsiung Medical University, Taiwan

Corresponding email: flyen@kmu.edu.tw

Particulate matters (PM) are one of the real-time air quality index for monitoring the order of severity of a city. PM also can cause several diseases development, including cardiovascular system, respiratory system, neurological system, and cancer and skin diseases. Skin is the first line of defense of human body's largest immune organ and long-term exposure with PM induced several chronic skin diseases, such as atopic dermatitis, aging, psoriasis and androgen alopecia. Therefore, topical antioxidant administrations help to prevent PM-induced skin disease, such as antioxidants. Compound PTS is a major active component and index compound present in blueberry, almond, peanut, and Pterocarpus indicus. Previous studies have demonstrated that PTS possessed many pharmacological activities, including anticancer, photoprotective, antioxidant, anti-inflammation, and antibacteria. However, the molecular biological mechanisms of PTS on PM-induced HaCaT keratinocytes injuries have not been investigated yet. Our results demonstrated that PTS treatment can inhibit the aging expression in keratinocytes, including decreased reactive oxygen species production, inhibited MMP-9 protein expression and increased filaggrin protein expression. In addition, PTS can also inhibit the protein expression of 5-reductase and COX-2 in PM-induced keratinocytes. In conclusion, we suggested that PTS could be used as an additive in pharmaceutical and cosmetic for preventing air pollutant induced skin injury but the clinical study also should be performed in the further study.

Index Terms: Particulate Matters (PM), Compound PTS, Keratinocytes, Aging, Cosmetic



Heat Transfer Enhancement in a Micro-channel Cooling System using Guiding Vane

Adel E. Alshayji *

Mechanical Engineering Department, Collage of Engineering and Petroleum, Kuwait University, Kuwait

Corresponding email: a.alshayji@ku.edu.kw

This work focus on enhancing heat transfer in micro-channel by introducing guiding vane with fix angle in the flow direction. This study focused on the effect of vane angle and flow speed on cooling effect for cavities inside micro-channel. The micro-channel has internal groves as shown to increase the surface area and therefore enhance the heat transfer. The simulated channel has a height of 100 μm and a length of 500 μm . Increasing vane angle and flow speed will help in reducing hot temperature accumulation inside the micro-channel cavities. For moderate flow speed correspond to $Re = 500$, and vane angle = 45° we can reach significant reduction cavities temperature inside the channel without huge drop in pressure across the channel.

Index Terms: Heat Transfer, Micro-channel Flow, Internal Guiding Vane



Track C: Medical Medicine & Health Sciences



Prevalence of Bipolar Disorder, its Socio-Demographic Correlates in the Adult Population of Hebei Province, China: A Population-Based Survey

Wenwang Rao, Jr¹, Yun-Shu Zhang^{2*}, Qing Li, MD³

^{1,3} University of Macau, China

² Hebei Psychiatric Hospital, Hebei province, China

Corresponding email: raoww14@gmail.com

Few studies have estimated the prevalence and correlates of bipolar disorder (BP) in agricultural areas of China. This study examined the one-month and lifetime prevalence of BP, its subtypes and socio-demographic factors in the adult population of Hebei province, a predominantly agricultural area of China. Methods: A multistage, stratified, cluster random sampling method was used to estimate the prevalence and correlates of BP in adults in Hebei province, China. The expanded version of the 12-item General Health Questionnaire (GHQ-12) and the Structured Clinical Interview for DSM-IV Axis I Disorders-Patient Edition (SCID-I/P/C) were administered to establish the diagnosis of BP. Results: A total of 20,884 participants were screened. The weighted lifetime prevalence of BP type I (BP-I), type II (BP-II), and BP not otherwise specified (BP-NOS) were 0.20% (95% CI: 0.14-0.26%), 0.13% (95% CI: 0.08-0.18%), 0.03% (95% CI: 0.009-0.06%) and 0.03% (95% CI: 0.009-0.06%), respectively. The weighted one-month prevalence estimates were 0.12% (95% CI: 0.08-0.17%) for BP, 0.07% (95% CI: 0.04-0.11%) for BP-I, 0.03% (95% CI: 0.006-0.05%) for BP-II, and 0.02% (95% CI: 0.003-0.04%) for BP-NOS. Multiple Poisson regression analysis revealed that positive family history of any psychiatric disorder ($P < 0.001$, OR=6.48, 95% CI: 2.53-16.56) was significantly associated with greater risk of BP.

Index Terms: Prevalence, Epidemiology, Bipolar Disorder, China



The Prevalence of Sexual Harassment toward Psychiatric Nurses and its Demographic Correlates in China

Liangnan Zeng^{1*}

Yu-Tao Xiang²

^{1,2}University of Macau, China

Corresponding email: 15228289304@163.com,

This study aimed to examine the prevalence of sexual harassment (SH) towards Chinese psychiatric nurses and its demographic correlates. A total of 2,124 psychiatric nurses were consecutively recruited from 10 psychiatric hospitals distributed across 10 provinces of China; of them, 1,449 were included for analyses. Participants socio-demographic characteristics, experiences of workplace SH in the past year, and quality of life (QOL) were recorded. Overall, 21.5% (n=311) of participants reported SH, with 8.4% (n=121) reporting once, 7.1% (n=103) reporting twice and 6.0% (n=87) reporting three times or more. Psychiatric nurses who experienced SH had lower QOL in physical ($F(1, 1,448) = 33.05, P<0.001$), psychological ($F(1, 1,488) = 18.35, P<0.001$), social ($F(1, 1,448) = 8.60, P=0.003$), and environmental ($F(1, 1,488) = 11.71, P=0.001$) domains. Multiple logistic regression analysis found that nurses with shorter clinical experience were more likely to experience SH ($P<0.05, OR=0.95, 95\% CI: 0.92-0.99$). Conclusions: Workplace SH towards psychiatric nurses is common in mental health treatment settings in China. Considering its deleterious impact on nurses wellbeing and care quality, effective staff training on the management of SH and a zero tolerance policy against SH should be developed for this population.

Index Terms: China, Sexual Harassment, Psychiatric Nurses



Upcoming Events

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