

PROCEEDINGS

EEAS-2018

**International Conference on Empirical
Evidence on Engineering, Basic and
Applied Sciences Research**

**Venue: Osaka International Convention Center
Osaka, Japan
Date: June 26-27, 2018**



CONFERENCE BOOK OF ABSTRACT PROCEEDINGS

Consortium-ET

Consortium of Engineering & Technology



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Book of Abstracts Proceedings

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Proceedings of the International Conference on Empirical Evidence on Engineering, Basic and Applied Sciences Researchh (EEAS)

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***International Conference on Empirical Evidence on
Engineering, Basic and Applied Sciences Research
(EEAS)***

Venue: Osaka International Convention Center, Japan

Conference Theme: Providing Platform for enhancement of research
and developmental activities through networking.



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Email: Michael@consortium-et.com

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Conference Supervisor

Email: contact@consortium-et.com

Natthawut Kaewpitoon (Ph.D.)

Conference Cordinator

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CONFERENCE TRACKS

- Computer and Software Engineering
- Mechanical & Metallurgical Engineering
- Electrical & Electronics Engineering
- Civil Engineering
- Bio-Technology & Food Technology
- Chemistry & Chemical Engineering
- Physical, Applied and Life Sciences
- Interdisciplinary

CONFERENCE CHAIR MESSAGE

Michael Sasaoka

“International Conference of Consortium of Engineering & Technology” is a platform that thrives to support the worldwide scholarly community to analyze the role played by the multidisciplinary innovations for the betterment of human societies. It also encourages academicians, practitioners, scientists, and scholars from various disciplines to come together and share their ideas about how they can make all the disciplines interact in an innovative way and to sort out the way to minimize the effect of challenges faced by the society. All the research work presented in this conference is truly exceptional, promising, and effective. These researches are designed to target the challenges that are faced by various sub-domains of the social sciences and applied sciences.

I would like to thank our honorable scientific and review committee for giving their precious time to the review process covering the papers presented in this conference. I am also highly obliged to the participants for being a part of our efforts to promote knowledge sharing and learning. We as scholars make an integral part of the leading educated class of the society that is responsible for benefitting the society with their knowledge. Let’s get over all sorts of discrimination and take a look at the wider picture. Let’s work together for the welfare of humanity for making the world a harmonious place to live and making it flourish in every aspect. Stay blessed.

Thank you.

Michael Sasaoka

Conference Chair

Email: contact@consortium-et.com

CONFERENCE SCHEDULE

Consortium-et-2018

Venue: Osaka International Convention Center, Japan

Time: Registration & Kit Distribution (09:00 am - 09:30 am)

Day: Tuesday

Date: June 26, 2018

Venue: Room 1

09:30 am - 09:40 am	Introduction of Participants
09:40 am - 09:50 am	Inauguration and Opening address
09:50 am - 10:00 am	Grand Networking Session

Tea/Coffee Break (10:00 am - 10:30 am)

DAY 01 (June 26, 2018)

First Presentation Session (10:30 am - 11:30 am)

Venue: Room 1

Track A:Engineering, Technology & Applied Sciences

Presenter Name	Manuscript Title	Paper ID
Haider Ali	FSI-Based Investigation On The Effects Of Turbulent Flow On The Microalgae Cells Structures	EEAS-JUNE-108C
Mincheol Park	A Study on Flow Control of Rear Flange Parts for 34ton-class Composite Driving Device	EEAS-JUNE-110
Yunhyeok Lee	A Study on Precision Drilling of CFRP For BEAM & HAT Parts	EEAS-JUNE-111
Jinyoung Lee	Improving the Extraction of Ara H 1 (A Peanut Allergen) from a Peanut-Based Food Matrix for SWCNT-Based Biosensor Detection	EEAS-JUNE-109

DAY 01 (June 26, 2018)

Second Presentation Session (11:30 am - 12:30 pm)

Venue: Room 1

Track B: Business, Economics, Social Sciences & Humanities

Presenter Name	Manuscript Title	Paper ID
Dr. Jeanne Ellyawati	Brand Communication and Its Effect on Brand Equity on Instagram	IRBEMSH-068-ANI105
Chien-Chi, Lin	Comparing Food and Agricultural Education Programs at Urban and Rural Elementary Schools	IRBEMSH-068-ANI106
Yu Shan Hsu	Indeterminacy in a Small Open Economy with Income Effect on Leisure Demand	OSA-468-102B
Chomkate Ngamkaiwan	Encouraging ESL Learners to Speak English in Large Classes towards the Combining Arrangement Activities	OSA-468-103B

Lunch Break & Ending Note: (12:30 to 01:30 pm)

Participants Registered As Listener/ Observer

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

Official ID: EEAS-JUNE-108

Cheol Woo Park

School of Mechanical Engineering, Kyungpook National University South Korea

Official ID: OSA-468-104BA

Woo-yeul Baek

Department of Sport Management, Kyonggi University, Korea

Official ID: OSA-468-102MA

Jeong Yong Na

Dongguk University Ilsan Hospital, Korea

Conference Day 02 (June 27, 2018)

Second day of conference will be specified for touristy. Relevant expenses are borne by Individual him/herself.



*International Conference on Empirical Evidence on
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TRACK A

ENGINEERING, TECHNOLOGY & APPLIED SCIENCES



FSI-based investigation on the Effects of Turbulent Flow on the Microalgae Cells Structures

¹Cheol Woo Park, ^{2*}Haider Ali

³Kyung Won Kim

^{1,2,3}School of Mechanical Engineering, Kyungpook National University, South Korea

Corresponding Email: chwoopark@knu.ac.kr

Keywords: Microalgae, Raceway Pond, Fluid-Structure Interaction

Open raceway ponds are widely used for the mass cultivation of microalgae. Sunlight, water, nutrients, and carbon dioxide are supplied in excess to raceway ponds to increase the photosynthetic efficiency of microalgae. An electric-driven paddle wheel is used to ensure the turbulent mixing of microalgae cells in raceway pond for their efficient interaction with sunlight, nutrients, and carbon dioxide. Unfortunately, the cell wall of microalgae cells is fragile and high turbulent mixing can damage it by applying large hydrodynamic stresses. The effect of turbulent mixing on the wall structure of microalgae cells must be evaluated to improve the productivity of raceway pond. An arbitrary LagrangianEulerian based fluid-structure interaction (FSI) method was applied to model the effects of water turbulence on the microalgae cell wall structure. The effects of hydrodynamic and geometric properties of raceway pond on the microalgae cell wall structure were also evaluated to optimize the pond design. Microalgae cell wall shear stress, cell wall deformation, and von Mises stress in raceway pond were investigated by considering the effects of aspect ratios, water depths, and paddle wheel rotational speeds. Results show that the high wall shear stress reduces boundary layer around microalgae cells thereby increases the nutrients diffusivity. An increase in the aspect ratio significantly reduces the microalgae cell wall deformation because of small hydrodynamic stresses. Similarly, increasing the water depth also reduces the hydrodynamic stresses on the microalgae cells. Turbulent mixing increases with an increase in the paddle wheel speed, but it also increases the microalgae cell wall deformation. Therefore, hydrodynamic and geometric properties of the pond must be carefully selected to improve the biofuel productivity.

A Study on Flow Control of Rear Flange Parts for 34ton-class Composite Driving Device

^{1*}Mincheol Park, ²Yunhyeok Lee

³Donghwan Kim

^{1,2,3}Dept. of Mechanical Engineering/Engineering, Gyeongsang National University,
South Korea

Corresponding Email: mcpark0070@naver.com

Keywords: Pressure Pulsation, Orthogonal Array, FE-anlysis

The composite driving device is a component that moves forward and backward of a crawler type construction machine. Also, it is a complex and compact structure system combined with hydraulic counter balance valve, axial piston type hydraulic motor part and planetary type gearbox, and it is required various functions, high rigidity and high reliability. Recently, the demand for excavators of 29 to 34 ton class is increasing in large-scale plant industry in overseas markets. It is necessary to study the driving device which is a component of the excavator. The rear flange which is a component of composite driving device is designed to the shape of the internal flow path. The problem of generation of vibration and noise has emerged as the size increases. Generally, vibration and noise are caused by pressure pulsations. Therefore, research to minimize pressure pulsation is needed. In this paper, pressure pulsation was analyzed according to the design parameters of the internal flow path shape of rear flange. The finite element method and the orthogonal arrays table were used to determine the optimal shape. Design variables were selected as 3 factor 3 level, the parameters were inlet area, outlet area and radius of curvature. CFD analysis was performed according to the orthogonal array table. Finally, the design conditions to minimize the pressure pulsation were obtained.

A Study on Precision Drilling of CFRP for BEAM & HAT Parts

^{1*}Yunhyeok Lee, ²Mansoo Joun

³Mincheol Park, ⁴Donghwan kim

^{1,2,3,4}Material process convergence, Gyeongsang National University, South Korea

Corresponding Email: dldbsgur0518@naver.com

Keywords: CFRP, Drilling, Optimum Condition

Recently, the demand for lightweight and durable materials is increasing due to the growth and development of the industry. Especially, CFRP (Carbon Fiber Reinforced Plastics) is used in a variety of industrial fields such as aerospace and automobiles where high specific stiffness and specific strength are required compared with metallic materials. However, CFRP has several problems, such as delamination around the inlet and outlet holes at drilling, fiber separation, and tearing on the drilled surface. Optimal machining conditions are required to prevent machining defects. In this paper, optimum processing conditions for manufacturing BEAM and HAT vertical used as main parts of the aircraft's middle body were decided. Conventional studies to prevent CFRP machining defects have determined optimal machining conditions based on tool shape (point angle), material, feed rate and rotation speed(RPM). BEAM & HAT vertical part, considered in this paper, is machined with sintering of diamond drill tool with excellent wear resistance. However, BEAM & HAT vertical part machining defect occurred under conditions of set by feed rate and rotation experienced person. Therefore, processing defect analysis of feed speed and rotation speed is required. The experiments were carried out by selecting feed rate and rotational speed as variables. The shape around the inlet and outlet holes at drilling according to the feed speed and rotation speed was analyzed. The microscope used to verify the machined CFRP surface. As a result of the analysis, optimum processing conditions could be obtained

Improving the Extraction of Ara H 1 (A Peanut Allergen) from a Peanut-Based Food Matrix for SWCNT-Based Biosensor Detection

¹Abdus Sobhan, ^{2*}Jun-Hyun Oh

³Jinyoung Lee*

^{1,2}Department of Plant and Food Sciences, Sangmyung University, 31 Sangmyungdae-Gil, Dongnam-Gu, Cheonan-Si, Chungcheongnam-Do 31066, Republic of Korea

³Gyedang Institute of General Education, Sangmyung University, 31 Sangmyungdae-Gil, Dongnam-Gu, Cheonan-Si, Chungcheongnam-Do 31066, Republic of Korea

Corresponding Email: dorglylee@gmail.com

Keywords: Pretreatment, Sodium Chloride, Single-Walled Carbon Nanotube-Based Biosensor

The extraction of peanut allergen from food seems to be difficult due to retaining complex food matrix. The buffer extraction method using Tris-HNO₃ (pH = 8.4) was used for extraction of native peanut allergen in actual food. The objectives of this study are to extract peanut allergen Ara h1 from peanut based food and detect allergenic extractions using a developed single-walled carbon nanotube (SWCNT)-based biosensor. All tests of extraction for complex food were performed by employing various extraction conditions including temperatures, extraction times, and the influence of additives (NaCl and skimmed milk powder). Analyses of these tests were confirmed using the biosensor device in order to compare their allergenic nature. The detection principal of biosensor was based upon the binding of Ara h1 to immobilized anti-Ara h1 antibody (pAb) through 1-pyrenibutanoic acid succinimidyl ester (PBASE), which was linked to the SWCNTs. The measurements of each step were confirmed via linear sweep voltammetry (LSV) in manufacturing process of the sensor device. The peak levels of extraction were achieved using mixture of Tris-HNO₃ (p 8.4) with accumulating 1M NaCl at 60C for 15 min and 21C for 60 min, respectively. In addition, the significant extraction was performed at 21C for 15 min. Three conditions were selected since they allowed the extraction of the highest levels of Ara h1. This work highlights the importance to adjust extraction procedures regarding the target allergen and food matrix components.

TRACK B

BUSINESS, ECONOMICS, SOCIAL SCIENCES & HUMANITIES

Brand Communication and Its Effect on Brand Equity on Instagram

*Dr. Jeanne Ellyawati

Master Of Management Program Atma Jaya Yogyakarta University, Indonesia

Corresponding Email: ellyawati@hotmail.com

Keywords: Brand Communication, Brand Awareness, Brand Loyalty, Perceived Quality, Brand Equity, Instagram.

This study aims to investigate the effect of brand communication on brand equity on media Instagram. The dimension of brand communication is measured using firm-created and user-generated content variables. Data were collected by using cross-sectional survey design with paper and pencil test. The research subject is customer of Jogja Food Truck (JFT) Community and follows their Instagram. Samples of 300 respondents were collected using purposive sampling method. Multiple linear regression statistic methods are employed to analyze data. The result shows that the dimensions of firm-created content (FCC) communication in online social media has a positive effect on brand equity. While user-generated content (UGC) discussion in online social media partially effects on brand equity.

Comparing Food and Agricultural Education Programs at Urban and Rural Elementary Schools

^{1*}Chien-Chi, Lin, ²Ming-Ching, Lee

^{1,2}Department of Tourism, Food & Beverage Management, Chang Jung Christian
University, Taiwan

Corresponding Email: christy@mail.cjcu.edu.tw

Keywords: Food, Agricultural, Education

This study investigated a sample of elementary school students in southern Taiwan receiving food and agricultural education. The students were from Dongguang Elementary School in metropolitan Tainan and Jingliao Elementary School in rural Tainan. Both schools possess abundant agricultural resources and provide food and agricultural education through programs whose curricula, students, and settings reflect local characteristics. This study compared both schools provision of food and agricultural education along with the life experiences of their respective students to determine what accounts for the differences between the two programs. Moreover, the respective programs of both schools were analyzed to determine whether implementing such programs as a form of environmental education can encourage the public to further understand food and agriculture, thereby developing public beliefs and practices. Finally, by comparing the food and agricultural programs of both schools, this study examined how urban and rural schools tailored their programs to local conditions.

Indeterminacy in a Small Open Economy with Income Effect on Leisure Demand

*Yu Shan Hsu

National Chung Cheng University, Taiwan

Corresponding Email: ecdysh@ccu.edu.tw

Keywords: Indeterminacy, Small Open Economy, Income Effect on Leisure Demand

This paper studies a two-sector growth model with a technology of social constant returns and with a utility that features either a zero or a positive income effects on the demand for leisure. The purpose is to investigate how the existence of aggregate instability or equilibrium indeterminacy depends on both the intensity of the income effect on the demand for leisure and the value of the labor supply elasticity. The main finding is that when there is a factor intensity reversal between the private perspective and the social perspective, indeterminacy arises even if the utility has a positive income effect on leisure demand. Moreover, we find that a smaller value of the labor supply elasticity increases the range of the income effect on leisure demand and thus increases the possibility of equilibrium indeterminacy.

Indeterminacy in a Small Open Economy with Income Effect on Leisure Demand

*Chomkate Ngamkaiwan

Mahidol University International Demonstration School, Thailand

Corresponding Email: chomkate.nga@mahidol.edu

Keywords: Combining Arrangement, ESL Learners, Large classes, Speaking Opportunities

The purpose of this research is to explore how to promote English speaking opportunities among the English as Second Language (ESL) learners in large classes towards the application of the combining arrangement activities. The research design followed the mixed methods in which surveys and documentary analysis were used for the data collection process. The samples in this study were 48 Grade 11 students at an international demonstration school. According to the research results, there was 21% increase in the number of students who often participated in English speaking activities while there was 26% decrease in the number of students who only sometimes participated in such activities. Compared to the pre-intervention period, although 52% felt neutral towards the following statement, 46% of the students supported that the intervention activities effectively increased their English speaking opportunities in class. Regarding the design of the intervention activities, their common features include split information, individual task, mutual dependency, E-shape seating arrangement, direct communication, self-reflection, individual grading, problem-solving or critical thinking experiences, and entertaining or interesting contents. In this research, the invention activities were mostly simulation games, role-plays and role-play speeches, and case-based group discussions, which encouraged the students to communicate with the whole class in English, learn new vocabularies and expressions, promote competitiveness and teamwork, and reduce the learners stress with fun and low-pressure environment.

UP COMING EVENTS

You can find the details regarding our upcoming events by following below:

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To disseminate knowledge and help scholars, practitioners and administrators to promote the high quality research.

