

**PROCEEDINGS**

**ISET-2022**

**4th International Conference on Innovative  
Approaches in Sciences, Engineering  
and Technology**

**Venue: Hotel MyStays Shin-Osaka Conference Center, Japan**

**Osaka, Japan**

**Date: Aug 27-Aug 28, 2022**



# ***CONFERENCE BOOK OF ABSTRACT PROCEEDINGS***

*Consortium-ET*

Consortium of Engineering & Technology



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# **Book of Abstracts Proceedings**

**4th International Conference on Innovative Approaches in Sciences, Engineering and Technology (ISET-2022)**

Osaka, Japan  
Aug 27-Aug 28, 2022

Email: [info@consortium-et.com](mailto:info@consortium-et.com)  
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Proceedings of the 2nd International Conference on Innovative Approaches in Sciences, Engineering and Technology (ISET)

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***4th International Conference on Innovative Approaches  
in Sciences, Engineering and Technology (ISET)***

**Venue: Hotel MyStays Shin-Osaka Conference Center, Japan**

**Conference Theme:** Forum for enhancement of research and developmental activities through networking and sharing ideas.



## **ADVISORY BOARD**

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Kwansei Gakuin University, Japan

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Kwansei Gakuin University, Japan





## ORGANIZING COMMITTEE

**Michael Sasaoka**

Conference Chair

**Email:** Michael@consortium-et.com

**Prof. Robert Jacobs**

Conference Supervisor

**Email:** contact@consortium-et.com

**Natthawut Kaewpitoon (Ph.D.)**

Conference Cordinator

**Email:** contact@consortium-et.com



## 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](mailto:contact@consortium-et.com)



# CONFERENCE AGENDA

DATE: Aug 27-Aug 28, 2022

LOCATION: Hotel MyStays Shin-Osaka Conference Center, Japan

Event Title: 4th International Conference on Innovative Approaches in Sciences

Engineering and Technology ISET-2022

## Start Time

- 09:00 am - 09:10 am: Registration & Kit Distribution
- 09:10 am - 09:20 am: Introduction of Participants
- 09:20 am - 09:30 am: Inauguration and Opening address
- 09:30 am - 09:40 am: Grand Networking Session

**Tea/Coffee Break (09:40 am - 10:00 am)**



# CONFERENCE AGENDA

DATE: Aug 27-Aug 28, 2022

LOCATION: Hotel MyStays Shin-Osaka Conference Center, Japan

Event Title: 4th International Conference on Innovative Approaches in Sciences

Engineering and Technology ISET-2022

## 10:00 am - 11:30 am: Presentation Session

### Track A: Engineering, Technology & Applied Sciences

Paper ID	Manuscript Title	Presenter Name
ISET-AUG22-101	Effects of Electrode Types on Ciprofloxacin Removal by Electrochemical Oxidation	Ching-Yung Liao
ISET-AUG22-102	Efficient Removal of Perfluorohexanoic Acid by Electrocoagulation/flotation with Surfactants	TZUNG-YU HO

### Track B: Business, Economics, Social Sciences & Humanities

SMPA-AUG22-101	Limited internationalization as an instrument increase investment and migration attractiveness of the region	Sergey Yachin
SMPA-AUG22-103	Adaptation of Thai Women whose husbands migrate to work abroad	Suvimon Khamnoi
SMPA-AUG22-104	Factors Influencing Work-life Balance of Thai University Staff Members	Nattawat Auraiampai

### Ending Note

# CONFERENCE AGENDA

DATE: Aug 27-Aug 28, 2022

LOCATION: Hotel MyStays Shin-Osaka Conference Center, Japan

Event Title: 4th International Conference on Innovative Approaches in Sciences

Engineering and Technology ISET-2019

## Conference Day 02 (August 28, 2022)

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



*4th International Conference on Innovative Approaches in  
Sciences, Engineering and Technology(ISET-2022) Osaka, Japan*  
ISBN: 978-621-6543-88-0

***TRACK A***

***ENGINEERING, TECHNOLOGY & APPLIED SCIENCES***

## Effects of Electrode Types on Ciprofloxacin Removal by Electrochemical Oxidation

<sup>1\*</sup>Ching-Yung Liao, <sup>2</sup>Yu-Jung Liu

<sup>1,2</sup>National Taiwan University, Taipei, Taiwan, ROC

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**Keywords:** Electrochlorination, Electrode Materials, Intermediates, Defluorination

Ciprofloxacin is a common antibiotic and is frequently detected in environmental media. It is concerned because it may cause the emergence of drug-resistant bacteria and may form harmful product after oxidation or other reactions. Developing an effective and suitable treatment technology for this compound is an important issue. In this study, different electrodes were used, including graphite, graphite felt, boron-doped diamond (BDD), and dimensionally stable anode (DSA) to degrade the antibiotic ciprofloxacin by electrochemical oxidation with sodium chloride as the electrolyte. Among the four electrodes, the BDD electrode can completely remove the pollutant in the shortest time. Indirect oxidation with active chlorine was the dominant pathway at low current densities, while at high current densities, direct oxidation became the main pathway. Intermediate products identified by UPLC-Q-TOF-MS illustrate the cleavage of piperazine ring and fusidic acid, and include the substitution reaction of fluoride ion on the benzene ring may all occurred during reaction. The high defluorination rate of the system with BDD shows it is the best one among the four electrodes to remove ciprofloxacin while graphite felt seems to be the best one for TOC removal. Comparing with the previous literatures, the electrochemical oxidation is an energy effective process for ciprofloxacin removal



## Efficient Removal of Perfluorohexanoic Acid by Electrocoagulation/flotation with Surfactants

<sup>1\*</sup>TZUNG-YU HO, <sup>2</sup>Ching-Yao Hu

<sup>1,2</sup>National Taiwan University, Taipei, Taiwan, ROC

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**Keywords:** Perfluorohexanoic acid (PFHxA), electrocoagulation/flotation (ECF), surfactants, energy yield (G50), electrical energy per order (EEO)

Perfluorohexanoic acid (PFHxA) belongs to the group of short-chain polyfluorinated chemicals (PFCs), which is a 6-carbon perfluorocarboxylic acids (PFCAs). Long-chain PFCs have been regulated worldwide by the Stockholm Convention. Short-chain PFCs, which are replacements to long-chain PFCs, however, are more soluble in water and more difficult to absorb on the solid-phase surface than long-chain PFCs, thus being wide spread in the environment. Although short-chain PFCs have low bioaccumulation potential and low acute toxicity, they have a longer persistence. In this study, an electrocoagulation/flotation technology (ECF) was used to remove PFHxA in wastewater with addition of surfactants (OTAB, DTAB, CTAB, TBAB, and SDS). The effects of type and dose of surfactants on the removal efficiency of PFHxA were investigated. Results show that the solution with initial concentration of 5 mM PFHxA added with 5 mM DTAB has the best removal rate of 92/



*4th International Conference on Innovative Approaches in  
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***TRACK B***

***BUSINESS, ECONOMICS, SOCIAL SCIENCES & HUMANITIES***

## **Limited internationalization as an instrument increase investment and migration attractiveness of the region**

\*Sergey Yachin

Far Eastern Federal University,Russia

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**Keywords:** Internationalization Of The Territory, Regions Attractiveness, Human Resources.

Limited internationalization of a territory is analyzed in relation to the development conditions of the Russian Far East. Taking into account further reduction of Russias population, the regions major problem is insufficient investment appeal and low migration attractiveness for foreign partners. It can be attributed to the lack of basic guarantees to ensure long-term interest of investors and human resources that are to be attracted. The guarantees can be provided by a special concession regime to enable limited internationalization of certain sections of the regions territory. The regime could be modeled after exisiting international industrial clusters.

## **Adaptation of Thai Women whose husbands migrate to work abroad**

<sup>1\*</sup>Suvimon Khamnoi , <sup>2</sup>Dr.Dusadee Ayuwat

<sup>1,2</sup>Khon Kaen University, Thailand

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**Keywords:** Adaptation, Migration To Work Abroad

This article investigates the adaptation of women whose husbands migrate to work abroad. The qualitative research method was employed. In-depth interview was the tool and conducted with the key informants, including 20 Thai women who left behind international migration for more than one year and 10 key informants. Data were collected from April to May 2019 in Tumbon Kho Tai, Sawang Dandin district, Sakon Nakhon province; there is a district with the highest number of international migration. Content analysis method was applied to data analysis. The results showed that women whose husbands migrate to work abroad as a person who left behind have to adapt themselves by changing the way of agricultural production, household expense plans, and career. Thought involves the husbands migration patterns.

## Factors Influencing Work-life Balance of Thai University Staff Members

<sup>1\*</sup>Nattawat Auraiampai , <sup>2</sup>Wanichcha Narongchai  
<sup>1,2</sup>Khon Kaen University, Thailand

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**Keywords:** Work-life balance, Job satisfaction, Attitude toward work, Organization Culture, Engagement

This article aims at explaining the factors influencing the work-life balance of Thai University staff members. The quantitative research method was applied based on the analytical unit at an individual level. The data was collected from January to February, 2018 using the questionnaire that measures peoples happiness with the sample group comprising 2,873 Khon Kaen University staff members (72.1% of the total of 3,898 members). The descriptive analysis and the multiple regression statistics were applied with the data in order to find the factors influencing the work-life balance of Thai university staff. The findings show female majority among the respondents (65.6%). Most of the sample group (44.4%) were at the Gen X age range (39-53 years), whereas 18.3% were at the Gen B age range (54 years old and over). Most (42.1%) hold a bachelors degree, 78% are supporting staff and 22.0% are academic staff members. The analytical results show the majority (64.8%) have the work-life balance while 35.2 percent do not. Age, absence of congenital disease, being supporting staff, perception of organization culture, job satisfaction, attitudes toward work and organization, and organization engagement are the factors significantly influencing the work-life balance at the level of 0.01. The factors studied explain the variation of the work-life balance of the staff at 41.7% ( $R^2=0.417$ ).

## **Factors related to The Structural Violence in Women's work: A Case of Khon Kaen Province, Thailand**

<sup>1\*</sup>Dusadee Ayuwat,<sup>2</sup>Piyakamon Mahiwan  
<sup>1,2</sup> Khon Kaen University, Thailand

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**Keywords:** Structural Violence, Womens work, Violence in work

This research aims to examine factors related to structural violence in womens work. The quantitative methodology was employed with individual level as a unit of analysis. The sample consisted of 398 women who are working in government agencies and private enterprise. The samples were randomly by multi-stage sampling technique in 9 municipals of Khon Kaen province. The data were collected using the interview schedule from May to June 2018 and analyzed by descriptive statistics and Chi-square. The results found that most of women samples were in Generation Y (19-38 years old). 51.3% of women sample were married, and 43.7% got a bachelors degree or higher degree. Most of women sample was worked in large organizations and 40.7% of the women samples have worked more than 10 years. The result showed that 23.9% of women samples were subjected to the structural violence in work at a rather high level and high level (combined). When analyzing factors related to the structural violence in womens work with Chi-square, it was found that the characteristics of women (age and education level), work condition factors (the understanding of women's labor rights), and social and gender factors (socialization of gender roles and self-efficacy in work) are the factors that related to the structural violence in womens work at the low level of relationship at 0.265 0.214 0.270 0.315 and 0.224 respectively at statistically significant 0.01 level.

## ***UP COMING EVENTS***

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

<http://consortium-et.com/upcoming-events/>

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# MISSION

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

