

**PROCEEDINGS**

**PEAS-2023**

**5th Global Conference on Changing  
Paradigm in Engineering and  
Applied Sciences Research**

**Venue: Osaka International Convention Center**

**Osaka, Japan**

**Date: May 27-28, 2023**



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

*Consortium-ET*

Consortium of Engineering & Technology



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# **Book of Abstracts Proceedings**

**5th Global Conference on Changing Paradigm in Engineering and Applied Sciences Research (PEAS-2023)**

Osaka, Japan  
May 27-28, 2023

Email: [info@consortium-et.com](mailto:info@consortium-et.com)

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Proceedings of the 5th Global Conference on Changing Paradigm in Engineering and Applied Sciences Research (PEAS-2023)

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***5th Global Conference on Changing Paradigm in  
Engineering and Applied Sciences Research (PEAS-2023)***

**Venue: Osaka International Convention Center Osaka, JAPAN**

**Conference Theme:** Provides a premier interdisciplinary platform for researchers, practitioners and educators to present and discuss the most recent innovations, trends, and concerns as well as practical challenges encountered and solutions adopted in the fields of Engineering and Technology.



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



# CONFERENCE AGENDA

DATE: May 27-28, 2023

LOCATION: Osaka International Convention Center Osaka, JAPAN

DAY: Saturday-Sunday

EVENT TITLE: 5th Global Conference on Changing Paradigm in Engineering  
and Applied Sciences Research

## Start Time

09:15 am - 09:25 am: Registration & Kit Distribution  
09:25 am - 09:35 am: Inauguration and Opening address  
09:35 am - 09:45 am: Grand Networking Session

**Tea/Coffee Break (09:45 am -10:00 am)**



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DATE: May 27-28, 2023

LOCATION: Osaka International Convention Center Osaka, JAPAN

DAY: Saturday-Sunday

EVENT TITLE: 5th Global Conference on Changing Paradigm in Engineering  
and Applied Sciences Research

Session: 01

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

Track A: Business, Economics, Social Sciences and Humanities

Presentation ID	Manuscript Title	Paper ID
Duo-Yue Shu	Under the Premise of Sponsorship and Endorsement, How to Improve the Credibility of Social Media Influencers to Increase Consumers' Purchase Intention	OSKAFA-MAY23-105B
Chia-Ni Wu	Tacit Collusion in Network Goods Markets	OSKAFA-MAY23-107B
Szu-Han Tai	The Effect of Characteristics of YouTuber on Consumers Willingness to Pay Subscription Fees and Donations - Parasocial Interaction as a Mediator	OSKAFA-MAY23-108B
Fang-ling Chen	Understanding User Preferences for Meteorology Web	OSKAFA-MAY23-110B
Pinshan Lien	The Factors toward a Success Crowdfunding Project: A Case Study of Kickstarter	OSKAFA-MAY23-111B

11:00 am 11:30 am pm: Second Presentation Session

Track B: Engineering, Technology & Applied Sciences

Presentation ID	Manuscript Title	Paper ID
HsienKuo Chang	Estimation of Chart Tide Level of Marine Structures around Taiwan Waters	PEAS-MAY23-101
Chih-Chung Wen	Deep Learning Networks for Barrier Land Segmentation	PEAS-MAY23-102

11:30 am 11:45 am : Second Presentation Session

Track C: Medical Medicine and Health Study

Presentation ID	Manuscript Title	Paper ID
Marija Kronic	Human Central Nervous System and Human Induced Global Environmental Change: a Systems perspective	HMP-MAY23-P102

**Lunch Break & Ending Note: (11:45 am - 01:00 pm)**

## CONFERENCE AGENDA

DATE: May 27-28, 2023

LOCATION: Osaka International Convention Center 5-3-51 Kita-ku Nakanoshima Osaka, JAPAN

DAY: Saturday-Sunday

EVENT TITLE: 5th Global Conference on Changing Paradigm in Engineering  
and Applied Sciences Research

### **PARTICIPANTS REGISTERED AS LISTENER / OBSERVER**

The following Scholars/ practitioners who dont have any paper presentation, however they will attending the conference as delegates & observers.

**Official ID:** PEAS-MAY23-103A

Wei Chen

National Yang Ming Chiao Tung University,Hsinchu, TAIWAN

## CONFERENCE AGENDA

DATE: May 27-28, 2023

LOCATION: Osaka International Convention Center 5-3-51 Kita-ku Nakanoshima Osaka, JAPAN

DAY: Saturday-Sunday

EVENT TITLE: 5th Global Conference on Changing Paradigm in Engineering  
and Applied Sciences Research

### Conference Day 02 (May 28, 2023)

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



*5th Global Conference on Changing Paradigm in Engineering  
and Applied Sciences Research (PEAS-2023) Osaka, Japan*

***TRACK A***

***BUSINESS, ECONOMICS, SOCIAL SCIENCES AND  
HUMANITIES***



## **Under the Premise of Sponsorship and Endorsement, How to Improve the Credibility of Social Media Influencers to Increase Consumers' Purchase Intention**

\*Dr. Yu-Chi Wu

National University of Kaohsiung, Taiwan

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**Keywords:** Social Media Influencers, Influencer Credibility, Influencer Trust, Purchase Intention.

This study will examine the antecedent variables through which social media influencers may improve their credibility when receiving advertising and endorsement fees, and how they can influence and improve these factors. This study proposes three antecedent variables of influencer credibility (interactivity, professionalism, and influencer fit). This study suggests that social media influencers can improve their credibility by increasing these antecedent variables. In addition, this study will examine whether the credibility of social media influencers affects consumers' purchase intentions. This study may provide direction and recommendations on what social media influencers need to do to improve their credibility while receiving endorsement fees, potentially filling a gap in influencer marketing. It serves as a basis for further research on influencer trust and purchase intention.

## **The Effect of Characteristics of YouTuber on Consumers Willingness to Pay Subscription Fees and Donations -Parasocial Interaction as a Mediator**

\* Dr. Yu-Chi Wu

National University of Kaohsiung, Taiwan

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**Keywords:** YouTube, YouTuber, Parasocial interaction, Donation, Willingness to pay subscription fees, Characteristics

Nowadays, YouTube plays an important communication platform in marketing. However, as the internet celebrity market becomes increasingly competitive. How can YouTubers continue the popularity of their channel by attracting viewers to revisit regularly and increasing their willingness to subscribe? It has become a very important issue that YouTubers and businesses must consider. In this article, we investigate the characteristics related to influences on YouTube. More precisely, we investigate YouTubers characteristics and video content and how parasocial interaction to viewers willingness to pay subscription fees and donations. Using online questionnaires and the Partial least squares regression (PLS) approach, we examined whether these prosocial relationships were formed primarily through the characteristics of YouTubers and their followers. Questionnaires include students and people from various industries such as service industry, civil servants, or financial industry, etc. It provides suggestions for YouTubers to improve their profitability and increase their relationships with consumers.

## The Factors Toward a Success Crowdfunding ProjectA Case Study of Kickstarter

\* Pin-Shan Lien

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Science and Technology Shanghai, China

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**Keywords:** Crowdfunding, Kickstarter, Feature Selection

Reward-based crowdfunding platforms such as Kickstarter are an alternative for many start-ups and individual creators to raise funds and seek public support. However, it is difficult to predict the success of the crowdfunding project. Therefore, the uncertainty of crowdfunding projects has been a challenge. This research uses feature selection to check the features to impact the projects' success most. The research uses a dataset collecting 4063 projects completed on Kickstarter between 2020 and 2022. The importance of each feature is calculated using information gain techniques to determine the ranking of features that affects project outcomes. The results of the information gain show that the length of the project name, project goal, waiting time for backers, whether it is recommended by Kickstarter staff, and the average backer sponsorship and project duration are the most essential features.

## Tacit Collusion in Network Goods Markets

\* Dr. Ya-Po Yang

National University of Kaohsiung, Taiwan

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**Keywords:** Tacit collusion; Network Externalities, Cournot Competition, Bertrand Competition

In this study, we establish a duopoly model in which two firms produce network goods in the market. Respectively, we consider the differences in the three conditions of non-cooperation, collusion, and deviation from the collusion between the two firms in quantity competition and price competition to compare the profit, social welfare, and the ease of collusion between Cournot competition and Bertrand competition. Most of the previous studies suggest that collusion among firms is easier and more stable under Cournot competition than Bertrand competition. However, after taking network externalities into account, this study finds that, the collusion of the two firms is more stable if the network effects is strong, and that, the tacit collusion of the two firms engaging in Bertrand competition is more stable than in Cournot competition if the network effects is strong enough.

## Understanding User Preferences for Meteorology Websites

\* Fang-Ling Chen

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**Keywords:** Weather Information, Meteorological Website, Usability, User Interface, Information Richness

With the effects of global warming, severe disasters caused by extreme weather frequently occur. To educate people to react to weather disasters, accurate and appropriate information conveying is an issue. This research aims to understand how to assist people in reading weather information. We start by analyzing various meteorological websites from different countries and find that most websites provide information such as weather forecasts, typhoons, earthquakes, and marine meteorology. We also find websites presenting meteorological information in different ways. A questionnaire survey based on information types and presentations is designed to learn the users' preferences. The result shows that the accumulated rainfall, satellite cloud, weather forecast, and radar echo maps are the most important and commonly used graphics. Regarding weather or climate information, people are most concerned about the weather conditions for the day, followed by recent rainfall observations. Since typhoon is a widespread disaster in Taiwan, it gets more attention. Furthermore, text-based information is acceptable for Taiwanese users because the Taiwanese Central Weather Bureau makes public announcements in text. However, users also like the animation presentation and think it is more readable than pure text. The finding will be used to redesign a user-friendly and easy-to-use weather website for improving information communication.



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***TRACK B***

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

## ESTIMATION OF CHART TIDE LEVEL OF MARINE STRUCTURES AROUND TAIWAN WATERS

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Taiwan

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**Keywords:** Chart datum, approximate lowest low water, lowest astronomical tide, harmonic analysis, nodal tides.

The chart level is very important factor for navigation safety and structure design in harbor engineering. The traditional design of Approximate Highest High Water (AHHW) and Approximate Lowest Low Water (ALLW) are estimated and compared with the international standard of Highest Astronomical Tide (HAT) and Lowest Astronomical Tide (LAT) at 34 tidal gauges around Taiwan waters for hourly data from 2012 to 2013. All HATs exceed the corresponding AHHW with an average of 13.03 cm and a standard deviation of 5.95 cm. All LATs are lower than the corresponding ALLW, with an average of 24.48 cm and a standard deviation of 10.95 cm. If nodal tides are considered, these differences are larger than those without nodal tides.

## DEEP LEARNING NETWORKS FOR BARRIER LAND SEGMENTATION

<sup>1\*</sup>HsienKuo Chang, <sup>2</sup>WEIWEI CHEN, <sup>3</sup>CHIHCHUNG WEN, <sup>4</sup>JINCHENG  
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**Keywords:** Convolutional neural network, Siamese network, Area attenuation, Tidal deviation.

Barrier islands are vital dynamic landforms that not only host ecological resources and often protect coastal ecosystems from storm damage. The Waisanding barrier in Taiwan has suffered from continuous beach erosion in recent decades. Few studies have been carried out to understand the characteristics of the barrier change to provide a reference for future barrier protection. In this study, we developed a SiamUnet network compared to three basic DeepUnet networks with different image sizes to effectively detect barrier waterlines from 207 high-resolution satellite images. The evolution of the barrier waterline shape is obtained and then the attenuation rate of the land area is estimated to be  $-0.344 \text{ km}^2/\text{year}$ . The effect of the tidal deviation threshold on the area attenuation is discussed.





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***TRACK C***

***MEDICAL MEDICINE AND HEALTH STUDY***

## **Human Central Nervous System and Human Induced Global Environmental Change: a Systems perspective**

<sup>1\*</sup>Marija Krunic

Systems Engineering Department, Colorado State University Fort Collins, Colorado,  
USA

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**Keywords:** Nervous System, Global, Environmental Change

The global environmental changes are no longer a matter of prediction but a matter of tracking. Body of evidence shows that Earth biosphere is feeling the anthropogenic pressure and that species after species are getting endangered or extinct. But how are we as species doing? Our bodies tell the story. The brain is at the forefront of human interaction with the environment and the changing climate may have direct effect on function of human Central Nervous System (CNS) and thus human behavior. This paper focuses on direct influence of climate change related atmospheric conditions on human behavior and CNS. Paper presents the meta-analysis of current literature documenting detected associations between neurological issues and whether variables. The approach presupposes that Human Body System closely tracks the changes to Earth System. The goal of the paper is to offer the overview of current literature as well as propose a venue for further research into climate change risk factors specific to brain diseases and disorders.

## ***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.*

