International Conference On International Colleges

ICIC2022

An Online Conference at the Tunghai University International College

June 24th 2022

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PROGRAM IN DETAIL

Keynote Speech (9:00 – 9:45)

Asia in the Vanguard of International Education in the 21st Century

Dr. Randall Nadeau, Fulbright Taiwan

With opening remarks by Dr. James Sims and Dr. Yevvon Chang
Hosts: Eric Huang and Penny Lu

Parallel Oral Presentation Sessions 1 (10:00 – 11:30)

Session 1A

1 **Solid-State Electrolyte in Lithium-Ion Battery: An Undergraduate Perspective**

Mrinalini Mishra, Assistant Professor
Sustainability Science and Engineering Program, Tunghai University International College

2 **High Energy Density Supercapacitor Using CNT-coated Electrodes**

Rachel M. Rompas
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Mrinalini Mishra, Assistant Professor
Sustainability Science and Engineering Program, Tunghai University International College

3 **Impact of Composition Modulation of Hybrid Electrolyte for High Voltage Lithium-Ion Batteries**

Purna Chandra Rath, Postdoctoral Researcher
Department of Materials Science and Engineering, National Yang-Ming Chiao Tung University

Jeng-Kuei Chang, Distinguished Professor
Department of Materials Science and Engineering, National Yang-Ming Chiao Tung University

Moderator: Dr. Mrinalini Mishra
Session Host: Abbie Olson

Session 1B

1 **Creating Semantic Value in the Production Goods Business: International Case Analysis of Machine Tool Suppliers in Asian Economies**

Hao-Cheng Chen, Assistant Professor
International Business Administration Program, Tunghai University International College

2 **Analysis of the Benefits of Pre-anesthesia Visit Operations Assisted by a Line Chatbot—Take a Local Community Teaching Hospital as an Example**

Youh-Sheng Lin
Department of Information Management, Tunghai University

Tzu-Chiang Chiang, Associate Professor and Associate Chairperson of EMBA
Department of Information Management, Tunghai University

Moderator: Dr. Hao-Cheng Chen
Session Host: Alan Lin

Session 1C

1 **Spinoza, Zhang Zai and Deep Ecology**

Michael Hemmingsen, Assistant Professor
Interdisciplinary Degree Program, Tunghai University International College

2 **The Influence of Coca Cola Ads' Attractiveness on Consumer Behavior of Young Adults in Taiwan**

Vic Wang, Daniel Hu and Wayne Lin
International College, Ming Chuan University

3 **Taiwanese Businesses Post-Brexit**

Eric Chen, Justin Kang, Ashlie Chen and Jennifer Kang
International College, Ming Chuan University

Moderator: Dr. Michael Hemmingsen
Session Host: Garim Jones

Parallel Poster Sessions 2 (12:00 – 14:00)

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1 **Foreign Carbon Regulations and their Impact on Taiwan's Industry**

Cheng Yi Hsuan (Mia)
Sustainability Science and Engineering Program, Tunghai University International College

2 **A Systematic Review of Literature on Paper Container Recycling**

Martina Hung
Sustainability Science and Engineering Program, Tunghai University International College

3 **Synthesizing Nolybdenum Diselenide ($MoSe_2$) for Supercapacitor Application**

George Krizza Esmeña Kiongson and Janeth Carolina Ramírez Pineda
Sustainability Science and Engineering Program, Tunghai University International College

4 **High Energy Density Supercapacitor Using CNT-coated Electrodes**

Rachel M. Rompas
Sustainability Science and Engineering Program, Tunghai University International College

5 **Developing NFTs using Sustainable Blockchain Technology**

Huang Yu Wei
Sustainability Science and Engineering Program, Tunghai University International College

Session B2: Management

1 **The Creation and Use of Excel Dashboards in Decision Making at Small Companies**

Svetlana Sokolova, Josef Shu
International Business Administration Program, Tunghai University International College

2 **Starbucks Strides Towards Green Marketing**

Skylar Ang, Eric Huang
International Business Administration Program, Tunghai University International College

3 **The Future of Biomedical Waste Disposal and Sustainable Development Goals at Tulen Kasih Hospitals**

Tim Loh Hey Jiann
Sustainability Science and Engineering Program, Tunghai University International College

Albert Samuel Juanda, Bryan Kholin, Rebecca Caroline Potts
International Business Administration Program, Tunghai University International College

4 **Burger King Promotes Product Sustainability through Low-Carbon Footprint Menu Items**

Sean Darren
Interdisciplinary Degree Program, Tunghai University International College

Jovinius Lofiardi, Prince Nicholas
International Business Administration Program, Tunghai University International College

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Clyde Dwyer
Davidson College

Marcus Kallor
Davidson College

Vivi Chen
International Business Administration Program, Tunghai University International College

William Daniel
Sustainability Science and Engineering Program, Tunghai University International College

6 **Inequality in Private Vehicle Ownership and Its Relations with Efficient and Sustainable Practices**

Stephan Philip, Carlen Averyo Tanzil, Avrel Jovan Boy
International Business Administration Program, Tunghai University International College (Taiwan)

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Albert Samuel Juanda, Marcella Benedikta, Jovinius Lofiardi
International Business Administration Program, Tunghai University International College (Taiwan)

8 **Organizing a "Walking School Bus" for Tunghai Primary Schools and/or Kindergartens**

Jonathan P. Butarbutar, Aldo E. Wicaksono, Ssegane Bashir
International Business Administration Program, Tunghai University International College (Taiwan)

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Eric Huang, Skylar Ang
International Business Administration Program, Tunghai University International College (Taiwan)

2 **My Favorite Georgian Dish**

Svetlana Sokolova

International Business Administration Program, Tunghai University International College (Taiwan)

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International Business Administration Program, International College, Tunghai University, TW

Catherine Tadlock
East Asian Studies Department, Davidson College, USA

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Justin Chen, Brian Lee, Ivy Hsing-Yu Kuo, Thomas Yu-Luen Lee, Yevvon Yi-Chi Chang
International Business Administration Program, Tunghai University International College (Taiwan)

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Winn Liu, Yevvon Yi-Chi Chang
International College, Tunghai University (Taiwan)

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Sandy Chou, Yevvon Yi-Chi Chang
International College, Tunghai University (Taiwan)

Daniel Saltz
Department of Asian Studies, DePauw University (USA)

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Zachary Lin, Richard Chang, Sam Yang, Yevvon Yi-Chi Chang
International College, Tunghai University (Taiwan)

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Christy Caroline, Axel Neno, Yevvon Yi-Chi Chang
International College, Tunghai University (Taiwan)

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Session 3A

1 **Quickness, Persistence, and Distributive Justice: An Application of the Personalized System of Instruction to a Business Calculus Course**

Carol Troy, Associate Professor
International Business Administration Program, Tunghai University International College

2 **Who Stays in the Field and Who Exits? The Career Paths of Sustainability Graduates at an International College in Taiwan**

Anna Tjin
SIM Center for Simulation Education and Research, University of Medicine and Health Sciences

Carol Troy, Associate Professor

International Business Administration Program, Tunghai University International College

Moderator: Dr. Carol Troy
Session Host: Abbie Olson

Session 3B

1 **A Policy Perspective on the Transition to Sustainability of Private Mobility in Taiwan**

Timo Eccarius, Assistant Professor
Sustainability Science and Engineering Program, Tunghai University International College

Tsu-Jui Cheng, Assistant Professor
Department of Transportation and Communication Management Science, National Cheng Kung University

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Ling Chi
Sustainability Science and Engineering Program, Tunghai University International College

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Peter S. Shen
Sustainability Science and Engineering Program, Tunghai University International College

Moderator: Dr. Timo Eccarius
Session Host: Alan Lin

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1 **Humanities, or Loving One's Own Obsessions in a Crazy, Mixed-up World**

Karen Kingsbury, Professor
Humanities and Asian Studies School of Arts, Sciences, and Business, Chatham University

2 **The Unique Role of a Student Choir in the University's Educational Ecosystem**

Philip Rice, Music Director
Luce Choir, Tunghai University

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Closing Ceremony (16:00 – 16:45)

ORAL PRESENTATION ABSTRACTS

Oral Presentation 1A-1

Solid State Electrolyte in Lithium-based Battery: An Undergraduate Perspective

Mrinalini Mishra, Assistant Professor
Sustainability Science and Engineering Program, Tunghai University International College (Taiwan)

Abstract

A device that can store a large amount of energy safely is the major challenge towards the perfection of batteries. Many batteries contain liquid electrolytes, which are potentially flammable and not environment-friendly. Further, dendrite formation also induces a poor cycle life and low Coulombic efficiency. Hence, solid-state lithium-ion batteries (LIBs), which consist of entirely solid components, particularly solid-state electrolytes (SSE), have become increasingly attractive. They offer an enticing combination of higher safety and increased energy density - which is how much energy the battery can store for a given volume. The mechanical stability and flexibility of SSEs are vital factors for their practical implementation in LIBs. The solid ceramic electrolyte, specifically doped-$Li_7La_3Zr_2O_{12}$ (LLZO), has many advantages over organic liquid electrolytes. However, its brittle nature and poor interfacial contact with electrodes limit the battery performance. This issue can be alleviated by combining it with a solid polymer electrolyte (SPE) such as poly (ethylene oxide) (PEO). are usually semi-crystalline materials, have several benefits such as cost-effectiveness, good solvation toward lithium salts, high flexibility, lightweight, and intimate adhesion to electrodes, and thus have attracted a lot of attention. However, the low ionic conductivity of SPEs restricts their high-power applications. In this work, doped LLZO was synthesized using a facile and cost-effective solid-state reaction method, which can be easily scaled up for mass production. Then, the optimal Ga-doped cubic-phase LLZO combined with PEO was then used for practical Li//$LiFePO_4$ (LFP) cells. The basics of a LIB, the problems associated with liquid electrolytes, and the details of this study will be presented from an undergraduate perspective.

Keywords: lithium-ion battery, solid-state electrolyte, dendrite formation, LLZO

Oral Presentation 1A-2

High Energy Density Supercapacitor Using CNT-coated Electrodes

Rachel M. Rompas
Sustainability Science and Engineering Program, Tunghai University International College (Taiwan)

Abstract

Higher and perpetual energy storage demand is inevitable due to the increased number of human activities. Regardless of lithium-ion battery's excellent properties to store a large amount of energy, it is still lacking a high-power density which is required by some devices to be charged instantly. This is where a supercapacitor steps in. As supercapacitors are widely known to be admirable in terms of energy and power density, much research has been done to improve the performance. Zinc tin oxide (ZTO) is commonly acknowledged for its stability under various conditions as well as its properties of having high electron conductivity, electron mobility, and low visible absorption, making it a perfect candidate for supercapacitor's electrode to widen its range of applications. The role of carbon nanotubes (CNT) towards supercapacitors has also been well-discussed by experts to increase the device's efficiency. To that aim, this work is meant to prove whether the favorable properties of carbon nanotubes can increase the energy density of ZTO supercapacitor while not degrading its performance.

In this work, the ZTO & CNT-coated ZTO pristine were successfully synthesized by following a reported work. Further, X-ray diffraction analysis was done for the structural characterization, and it was observed that the desired phase could obtained. Cyclic voltammetry was also performed to measure the electrochemical performance. The details of the experimental work and analysis will be presented during the conference.

Keywords: energy storage, supercapacitor, carbon nanotubes, energy density

Oral Presentation 1A-3

Impact of Composition Modulation of Hybrid Electrolyte for High Voltage Lithium-Ion Batteries

Purna Chandra Rath, Postdoctoral Researcher
Department of Materials Science & Engineering, National Yang-Ming Chiao Tung University (Taiwan)

Jeng-Kuei Chang, Distinguished Professor
Department of Materials Science and Engineering, National Yang-Ming Chiao Tung University (Taiwan)

Abstract

Electrolyte is a key component in high-voltage lithium-ion batteries (LIBs). Bis(trifluoromethylsulfonyl)imide (TFSI)-based ionic liquid (IL) has high thermal and electrochemical stability, but it is not an ideal battery electrolyte due to the poor rate capability of cells that use it, problematic anode compatibility, and high cost. The incorporation of a carbonate solvent could mitigate these problems, but it would also lead to serious Al current collector corrosion at high potential. This long-existing problem is overcome in this study by modulating the LiTFSI concentration and IL/carbonate ratio in the hybrid electrolyte. The Al corrosion and electrolyte decomposition side reactions at 5 V (vs. Li^+/Li) can be suppressed in 3 M LiTFSI 25%-IL electrolytes, in which good performance of a high-voltage $LiNi_{0.5}Mn_{1.5}O_4$ (LNMO) cathode is achieved. Capacities of 140 and 88 mA h g^{-1} were measured at 0.1 and 2C, respectively (vs. 25 mA h g^{-1} at 2C for a plain LiTFSI/PMP–TFSI IL electrolyte). After 300 charge– discharge cycles, 90% of the initial LNMO capacity was retained. This electrolyte also shows low flammability and great wettability toward a polyethylene separator. Moreover, this electrolyte allows elevated-temperature storage and operation of LNMO cells at 55 ºC, which is not possible with the conventional carbonate electrolyte. Good compatibility of the electrolyte with a graphite anode is also demonstrated. The proposed electrolyte design concept has great potential for next-generation 5 V Li ion batteries.

Keywords: 5 V battery, Al corrosion, electrolyte design, high safety, anode compatibility

Oral Presentation 1B-1

Creating Semantic Value in the Production Goods Business: International Case Analysis of Machine Tool Suppliers in Asian Economies

Hao-Cheng Chen, Assistant Professor
International Business Administration Program, Tunghai University International College (Taiwan)

Abstract

The world is markedly moving from the product manufacturing phase to a new era of customer value creation. Manufacturing goods only for functional value without realizing the importance of semantic value exposes such companies to a high risk of losing the most customer loyalty in the face of fierce competition. This study exploratively examines how disparities in managerial resources affect the creation of semantic value in the context of the production goods industry. Adopting a pattern-matching approach to constructing a new framework facilitates a nuanced understanding of the constructs and allows for a stepwise process of building a new theory based on the theoretical background. By investigating and analyzing the cases of a major Japanese company and a medium-sized Taiwanese company located in the Asian economic region, this research drew out critical concepts of semantic value and propose theoretical and practical implications relating to the notions of management resources and the customer value creation.

Keywords:

semantic value, resource integration, capability realization, hospitality competence, trigger

Oral Presentation 1B-2

Analysis of the Benefits of Pre-anesthesia Visit Operations Assisted by a Line Chatbot—Take a Local Community Teaching Hospital as an Example

Youh-Sheng Lin
Executive Master of Business Administration Program (EMBA), Tunghai University (Taiwan)

Abstract

In order to improve the quality of anesthesia care and ensure the safety for patients, preoperative communication and perioperative care between the anesthesia medical team and patients are extremely important. The anesthesiologist must fulfill the obligation to inform, in addition to the language that the patient understands, but also with the help of other explanatory documents or multimedia information, to achieve the consensus that must be established between doctors and patients, and to implement the spirit of informed consent. This study aims to explore the benefits and effects of using the Line Anesthesia Chatbot to provide anesthesia information for patients who come to the hospital for surgery and anesthesia, and at the same time conduct a correlation study on the anesthesia instructions and consent forms provided by anesthesiologists and hospitals, collect information by using the online questionnaire method, and invite patients or qualified legal representatives to write questionnaires through mobile phones to the SaveyCake website after using the Line Anesthesia Robot Platform, and collect a total of 206 valid questionnaires. The findings of the study include: (1) Application situation: Regardless of the way, timing、content integrity、convenience and integrity of content sharing, the overall satisfaction rate of the line anesthesiology chatbot provided by the hospital exceeds 80%, and the users are mostly patients themselves and their families. (2) Benefits of use: For patients or families, the provision of anesthesia instruction information with the line anesthesiology chatbot, whether it is the convenience of sharing or the completeness of the content of the sharing, has shown specific significance in statistics, indicating that it is easier to achieve the purpose of sharing than the anesthesia information provided by the anesthesiologist or the anesthesia instruction and consent form. (3) Impact of use: At the same time when anesthesiologists explain anesthesia, using the internal data and image-assisted explanations of the line anesthesiology chatbot, it is easier for patients or their families to understand, which increases the effectiveness of anesthesiologists' explanations.

Key words: pre-anesthesia visit、line chatbot、informed consent

Oral Presentation 1C-1

Spinoza, Zhang Zai and Deep Ecology

Michael Hemmingsen, Visiting Assistant Professor
Interdisciplinary Degree Program, Tunghai University International College (Taiwan)

Abstract

Benedict de Spinoza has had an important role to play from the beginning of Deep Ecology as a philosophical movement. However, Deep Ecology subscribes to biocentric account of value, in which all living things – not just human beings – have intrinsic rather than merely instrumental value, and it is questionable whether Spinoza's metaphysics can provide this. In fact, Spinoza's metaphysics arguably entails precisely the anthropocentrism that Deep Ecology rejects. In this paper, then, I argue that a better metaphysical foundation for Deep Ecology is that of the Song-era Confucian, ZHANG Zai. Like Spinoza, Zhang is a monist, and his metaphysics therefore shares a lot of what makes Spinoza initially attractive to Deep Ecologists. However, his philosophy of polarity and harmony – as opposed to Spinoza's metaphysics of substance and expression – supports biocentrism in a way that Spinoza's cannot.

Oral Presentation 1C-2

The influence of Coca Cola Ads' Attractiveness on Consumer Behavior of Young Adults in Taiwan

Vic Wang, Daniel Hu, Wayne Lin
International College, Ming Chuan University (Taiwan)

Abstract

Coca Cola is a world-wide beverage company, and its marketing and advertising strategy of Coca Cola is incomparable in the industry. Coca Cola's marketing strategy has been researched by many scholars, but previous research fell short to examine the young generation's reaction to the advertisement of Coca Cola in Taiwan, so this paper aims to examine whether the attractiveness of advertising and its effects on the young generation's purchase intention in Taiwan. The participants were exposed to tractable and complicated ads in order to determine if the younger generation is more likely to purchase Coca Cola after watching these ads. Furthermore, we probe Taiwanese students' customer satisfaction and behavior, and brand value and loyalty based on their reactions to selected Coca Cola advertisements. The results shed light on the precise reasons behind students' choices and provide an insight into young adults' decision-making processes.

Keywords: purchase intentions, advertising attractiveness, marketing strategy

Oral Presentation 1C-3

Taiwanese Businesses Post-Brexit

Eric Chen, Justin Kang, Ashlie Chen, Jennifer Kang
International College, Ming Chuan University (Taiwan)

Abstract

Brexit is one of the biggest economically relevant issues, which has had a severe impact on the politics and economy not the UK and EU but other businesses around the world. Half of companies that engage in international trade see the uncertainty of Brexit as a barrier to exports, leading to reduced investment. Although Taiwanese government seeks to promote economic and trade cooperation with the UK, pragmatic Taiwanese businesses are still observing this event, and the small and medium-sized enterprises are likely to seize business opportunities once the situation settles down. Nevertheless, there is barely any research that explores trade condition between Taiwan and the UK. Therefore, our paper sets to investigate the impact of Brexit on Taiwanese company's revenue and the post-Brexit transformed relationship between Taiwan and the UK companies. Results reveal that Brexit did not have harm Taiwanese businesses. Most companies have not been affected much by trade relationships and revenue or by tariffs after Brexit.

Keywords: Brexit, international trade, tariff/revenue impacts, Taiwan businesses

Oral Presentation 3A-1

Quickness, Persistence, and Distributive Justice: An Application of the Personalized System of Instruction to a Business Calculus Course

Carol Troy, Associate Professor*
International Business Administration Program, Tunghai University International College (Taiwan)

Abstract

An influx of foreign and nontraditional undergraduates has transformed Taiwan's international colleges into vibrant, multicultural spaces where English is the medium of instruction. Because the newcomers bring greater academic diversity, larger spreads in English skills and subject readiness are now found within the same classroom. Teachers must accommodate differences between individual students' exam performance and learning rate. At the same time, they must hold all students to the same assessment standards.

One alternative is the Personalized System of Instruction (PSI), in which the course content is divided into units that the learners study individually, at their own pace. A student completes a unit by passing the associated quiz, and can retake failed quizzes as needed, without any point penalty. Unlike traditional assessment frameworks, the PSI approach allows students to achieve a desired quiz grade through two channels: quickness (thorough preparation before the first attempt) or persistence (repeated attempts). Some students may welcome the PSI, as it gives them the opportunity to earn higher grades through persistence. However, others may reject the PSI because it challenges their notions of distributive justice.

In this study, the PSI was applied to a course in Business Calculus among international business administration majors at an international college in Taiwan. Eight quizzes were administered over the 13-week course period. Students' actual course grades were compared with those that they would have achieved had they not repeated quizzes. Results showed that persistence improved students' grade performance. A post-course survey was conducted to assess students' perception of distributional justice. While a small minority of students felt that the grading system (retakes without a point penalty) was unfair, most felt that it was acceptable.

Keywords: international college, student diversity, personalized system of instruction, assessment, distributive justice

Oral Presentation 3A-2

Who Stays in the Field and Who Exits? The Career Paths of Sustainability Graduates at an International College in Taiwan

Anna Tjin
Royal College of Surgeon in Ireland, University of Medicine and Health Sciences
SIM Center for Simulation Education and Research (Ireland)

Carol Troy
International Business Administration Program, Tunghai University International College (Taiwan)

Abstract

A university education is supposed to result in greater employment opportunities for graduates. This traditional vocational view holds that undergraduate study is a long-term investment, in which the university serves as a gateway to the student's chosen professional area. The costs of this investment are the tuition paid by the student's family and the time and effort expended by the student to complete his/her degree requirements. The benefit is the student's access to a career that would otherwise have been out of reach.

On an individual level, the "return-on-investment assumption" (ROI assumption) can be tested by observing whether the student, after graduating, obtains a position in (or adjacent to) the major field of study. On a degree program level, it can be tested by aggregating this employment outcome (in-field versus exit) over all graduates. Leaders may also ask which features of the program, and what student characteristics, are associated with "in-field" post-graduate employment.

This study investigates the factors associated with in-field employment among 20 recent graduates of a four-year sustainability program. Semi-structured interviews and surveys were used to capture each student's personal experience during the post-graduation job search. The graduates assessed their own preparedness for the workforce and described features of the sustainability program they perceived to affect the employment outcome. Based on the data, we present descriptive statistics and conjectures concerning the student characteristics and program features that affect the in-field versus exit outcome.

The results of this study will be of interest to decision makers in sustainability and other degree programs. Recent crises and socioeconomic trends have led to unprecedented public doubts concerning the value of a university education. In the face of this challenge, a program's ROI can serve as a key performance indicator and a concrete measure of its worth.

Key words: Work Readiness, Careers, Competence and skill development, Employability skills

Oral Presentation 3B-1

A Policy Perspective on the Transition to Sustainability of Private Mobility in Taiwan

Timo Eccarius, Assistant Professor
Sustainability Science and Engineering Program, Tunghai University International College (Taiwan)

Tsu-Jui Cheng, Assistant Professor
Department of Transportation and Communication Management Science, National Cheng Kung University (Taiwan)

Abstract

The promotion of e-mobility could be highly beneficial to Taiwan, a country with a population of 23 million, 14 million scooters and 8 million cars. Private cars were estimated to account for 51% and scooters for 13% of the GHG emissions in the road transport sector. Transitioning to e-mobility is mostly happing in the two-wheeler segment. The promotion of e-mobility and the required charging infrastructure via policies, funding mechanisms, and implementation rules is fragmented across vehicle and investment types. Furthermore, policy failures and contradictions have thwarted efforts in the recent past. Moving forward more clarity and alignment in policy is needed. While net zero carbon is the central goal, measures must also be questioned about their social equity. This presentation discusses past, present, and future of the sustainability transition of private mobility in Taiwan.

Keywords: sustainable transportation, electric mobility, policy

Oral Presentation 3B-2

Sustainable Cellulose-based Supercapacitor using Nitrogen-doped Graphene Obtained from Waste Polyethylene-terephthalate (PET) Bottles

Ling Chi
Sustainability Science and Engineering Program, Tunghai University International College (Taiwan)

Abstract

With the development of technology, more and more people have demands of energy supply for small electronic devices, such as sport watches and biosensors. Electrochemical energy storage devices, particularly electrochemical capacitors, are now being recognized in response to the growing demand for clean energy. Among all of techniques have been applied today, graphene-based materials have great potential for use in supercapacitors and other energy storage devices because of its properties of high surface area and effective low-cost synthesis. In the past few years, three-dimension (3D) nitrogen-doped graphene (NG) has shown promise as an effective electrode material for application in high performance supercapacitors. However, most of the research uses toxic and nonbiodegradable chemicals, such as heavy metals or strong acid solvents, during NG syntheses and they can lead to negative impacts on the environment. Based on the latest research, the development of a low-cost, scalable and as well as eco-friendly method for the synthesis of novel 3D nitrogen-doped graphene as an electrode material for supercapacitors has shown great potential. Therefore, in our proposed research project, I will develop a green chemistry approach for high-performance electrochemical supercapacitor based on the synthesis of NG obtained from waste polyethylene-terephthalate (PET) bottles. Nitrogen doping will be used to enhance the capacitive properties of graphene by a new synthetic method using urea as a nitrogen precursor. PET based NG will be synthesized from the decomposition of thermally reducing PET and graphite doping N atoms into the lattice. Furthermore, I will use the synthesized NG to develop a cellulose-based electrode for use in the proposed supercapacitor with 100% biodegradability since urea, waste PET bottles and cellulose are cost-effective, biodegradable and environmentally friendly. Through cyclic voltammetry and impedance spectroscopy measurements, we hope to find the relationship between the structure and morphology of NG and the observed electrochemical performance. Moreover, we will analyze energy and power density of the electrodes and test cyclic stability for 5000 charge/discharge cycles. Thus, we hope to get excellent electrochemical reversibility, good multiplier performance and improved electrochemical double layer capacitance for carrier transport within the electrodes during 8 months research (Figure 1). Consequently, we hope the green synthesis method can be used for mass production of NG as it is economic-effective and environmentally friendly in addition to processing waste plastic materials.

Keywords: Energy Storage Device, Supercapacitor, 3D nitrogen-doped graphene, Plastic Material, Sustainability

Oral Presentation 3B-3

Investigating the Thermal Properties and Energy Performance of a Green Roof in Tunghai University

Peter S. Shen
Sustainability Science and Engineering Program, Tunghai University International College (Taiwan)

Abstract

During the past decades, human activities have caused an urban heat island effect which has resulted in about 1 oC increase in global average surface temperature, better known as global warming or global climate change. At the Paris climate agreement in 2015, world leaders agreed to decrease the average global temperature by 1.5 oC. Sustainable and innovative solutions are being research and implemented to combat global warming, including green roofs to resolve the urban heat island effect.

In Taiwan, 78% of the rainfall is concentrated over the summer and especially during the typhoon season between July and September. However, according to the Intergovernmental Panel on Climate Change (IPCC), the typhoons pathways will begin to shift north in the pacific, thus decreasing the number of typhoons in Taiwan. According to the Taiwan Ministry of Interior, the standard surface temperature of the roof during summer months should be about 60 to 70 o C. If the number of typhoons decrease, it is likely that roof temperatures will increase.

Therefore, the aim of the proposed research project is to investigate whether the green roof can reduce the surface and ambient air temperature while also retaining water.

Currently, there is a lack of information and data analysis on the thermal performance of green roofs in the subtropical climate of Taiwan. The main objectives are to:

1) investigate whether the implementation of a green roof will result in thermal reduction.
2) determine the extent of this reduction.
3) investigate green roof water retention ability.
4) discuss potential applicability of the green roof technology in Taiwan.

To simulate a rooftop in Taiwan and perform controlled experiments, we will fabricate wooden boxes from recyclable pallet material. The insulation layer and green roof will be placed on top of the wooden box while a window on the side of the box will allow us to perform temperature analysis. All experience will be conducted on the rooftop of the International College at Tunghai University, Taichung, Taiwan.

Keywords: Green Roof, Thermal Insulation, Temperature, Urban Heat Island Effect,

Oral Presentation 3C-1

Humanities, or Loving One's Own Obsessions in a Crazy, Mixed-up World

Karen S. Kingsbury, Professor of Humanities and Asian Studies*
School of Arts, Sciences, and Business, Chatham University (USA)

Abstract

Humanities 人文學科—the human language ARTS part of the liberal arts—invites us not only to connect with other people more completely, by bringing our critical thinking skills to bear on the intra-personal parts of the many problems we see in our world, but also to tap into our own deepest passions and dreams, and use them as an engine for growth and creativity. This talk outlines some of the challenges that humanities-oriented students and scholars commonly face—from underfunding to confusion to perfectionism—but emphasizes the wellspring of resource that this line of study can bring into our lives. In a crazy, mixed-up, but ultimately lovable world such as ours, sometimes it is only by going deep into our own true obsessions that we can find greater balance, wellbeing, and magnanimity.

Oral Presentation 3C-2

The Unique Role of a Student Choir in the University's Educational Ecosystem

Philip Rice, Music Director*
Luce Choir, Tunghai University (Taiwan)

Abstract

In universities throughout the globe, student choirs provide venues for amateur classical music performances. A choir has several advantages for students. The entry barriers are low: no formal training is required, and anyone who can hold a pitch is welcome, even if he/she doesn't read music. Choirs encourage active learning. By spending a few hours per week in rehearsals, a student can learn to sing and experience a wide range of the best classical repertoire. A choir empowers its members, transforming them from passive listeners to performers. A choir is a social unit. It gives students a rare opportunity to connect and form lasting friendships with like-minded individuals in other departments. Although choirs are not "courses," and do not confer academic credit, they are still vital to the university's mission of providing a comprehensive liberal arts education.

The biggest challenge that choirs face as volunteer organizations is continued existence. Since most choirs are not sponsored by academic departments or programs; the failure rate is high. To survive and grow, a choir must find individualized ways to attract funding, recruit new members, and retain qualified leadership. At the same time, it must find ways to coexist with other units in the larger university ecosystem.

In this case study, I describe an amateur musical organization, the Tunghai University Luce Choir. I trace the choir's historical roots to the university's founding and describe how its leadership hand stakeholders have evolved. I present the strengths, weaknesses, opportunities, and threats that the choir must consider as it charts its future direction.

By promoting amateur musicianship, organizations such as Luce Choir serve the needs of the student community. At the same time, they are crucial to the future of classical music, since today's choir members will become tomorrow's supporters and the backbone of the listening public.

Keywords: amateur musician, classical music, volunteer organization, university, stakeholders

POSTER PRESENTATION ABSTRACTS

Sustainability Session: Poster P-S1

Foreign Carbon Regulations and their Impact on Taiwan's Industry

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Abstract

Under the pressure of global sustainable development, many countries have started to develop national carbon markets to achieve carbon reduction targets. Although there are currently no mandatory regulations in Taiwan, Taiwan, as a country that relies on export trade as an economic source, should need to be prepared for future participation in international carbon markets. The Taiwan government is currently beginning to study a reduction management law, called the “Climate Change Response Act”, however, after the release of rules for EU countries to begin carbon border tax regulation. Further analysis and countermeasures are needed for government and industries in Taiwan to deal with carbon related regulations issued by various countries

Sustainability Session: Poster P-M2

A Systematic Review of Literature on Paper Container Recycling

Martina Hung
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Abstract

A systematic literature review was conducted focused on the recycling of paper containers in Taiwan. Since the pandemic started, food delivery has increased drastically. This has led to strong increase in paper container use, but also recycling. Paper production generates many types of waste. It also consumes much water and energy, resulting in pollution. Paper containers should be recycled, rather than disposed of in landfills or incinerated. Landfilling produces toxic components leaching into the soil, while incineration introduces toxic components directly into the atmosphere. Government policy and consumer behaviour play equally important roles. Even if an environmentally friendly recycling system for paper containers is in place, its environmental effectiveness is still determined by consumer behaviour. This project focused on systematically reviewing and synthesizing the literature on paper containers recycling. In reviewing research published in the last twenty years, 187 articles were initially identified. Out of these, 31 primary studies were chosen based on predefined criteria. Several major study areas were identified: life cycle assessment, consumer behaviour, green packaging, pollution, health risk, policy, recycling methods and alternatives to paper containers. Research gaps and potential avenues for future research are discussed. This work could prove informative for policymakers or researchers seeking to advance paper container recycling in Taiwan.

Synthesizing Molybdenum Diselenide ($MoSe_2$) for Supercapacitor Application

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Abstract

Transitioning to renewable energy has been part of decarbonization strategies throughout the years in addressing climate change globally. Although renewable energy is abundant in nature, renewable energy is an unstable source, where the development of energy storage technology such as supercapacitors is essential. Considerable attention is given to supercapacitors due to its ability to store large amounts of energy, long life cycle, and stability. However, current supercapacitors commonly consist of expensive, rare, and toxic materials and bear the inability to store large amounts of energy in relation to its volume. Two-dimensional (2D) materials have shown the potential to aid the advancement of electrode materials because of their unique properties. Thus, it has drawn the interest of researchers in developing 2D materials-based electrodes that are safe, abundant, and low-cost with high electrochemical performances. This work focuses on molybdenum diselenide ($MoSe_2$) fabricated by electrodeposition as an alternative to graphene, to be utilized as electrode material for supercapacitors and to collect relevant data. This paper will help fulfill the knowledge gap concerning the application of $MoSe_2$ on supercapacitors. Presently, $MoSe_2$ was deposited electrochemically on nickel foam at different potentials, ranging from -1.4 V to -1.1 V. The performance of samples fabricated at different potentials was analyzed using cyclic voltammetry and galvanostatic charge-discharge. Also, the samples are being examined utilizing X-ray diffraction and scanning electron microscopy. The details of the work will be presented at the conference.

Keywords: 2D materials, electrode, Molybdenum diselenide, Supercapacitor

Sustainability Session: Poster P-S4

High Energy Density Supercapacitor Using CNT-coated Electrodes

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Abstract

Higher and perpetual energy storage demand is inevitable due to the increased number of human activities. Regardless of lithium-ion battery's excellent properties to store a large amount of energy, it is still lacking a high-power density which is required by some devices to be charged instantly. This is where a supercapacitor steps in. As supercapacitors are widely known to be admirable in terms of energy and power density, much research has been done to improve the performance. Zinc tin oxide (ZTO) is commonly acknowledged for its stability under various conditions as well as its properties of having high electron conductivity, electron mobility, and low visible absorption, making it a perfect candidate for supercapacitor's electrode to widen its range of applications. The role of carbon nanotubes (CNT) towards supercapacitors has also been well-discussed by experts to increase the device's efficiency. To that aim, this work is meant to prove whether the favorable properties of carbon nanotubes can increase the energy density of ZTO supercapacitor while not degrading its performance.

In this work, the ZTO & CNT-coated ZTO pristine were successfully synthesized by following a reported work. Further, X-ray diffraction analysis was done for the structural characterization, and it was observed that the desired phase could obtained. Cyclic voltammetry was also performed to measure the electrochemical performance. The details of the experimental work and analysis will be presented during the conference.

Keywords: energy storage, supercapacitor, carbon nanotubes, energy density

Sustainability Session: Poster P-S5

Developing NFTs using Sustainable Blockchain Technology

Huang Yu Wei
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Abstract

What I'm working on is NFT on sustainable blockchain. Block chain technology have always been considered as a technology that come with a lot of unnecessary energy waste. The research shows that bitcoin blockchain spent more energy than some other country like Switzerland or Norway. From my observation that NFT might be the new trend of the future product, but due to the huge amount of energy waste, it makes me start to develop my NFT on sustainable blockchain.

Management Session: Poster P-M1

The Creation and Use of Excel Dashboards in Decision Making at Small Companies

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Abstract

The Excel dashboard is a very helpful tool for a small business owner. A small business does not have the resources like big company to hire professionals to analyze their data. And all the data is still too complicated to be calculated by human brain. Therefore, the need for Excel dashboard is borne. The easy access of Excel and the ability to convert huge amount of data into visual presentation, are the two main reasons why it is one of the most useful and critical tools for a small business owner.

In this study, we demonstrate the easy but detailed guidelines of converting digital data into graphical presentation, and in the end, we combine all the charts and put them in a interactive dashboard. But before demonstrating the step-by-step guideline for making a dashboard, we first discuss the purposes and values the dashboard can bring to a entrepreneur.

To better demonstrate our project, we came up with a hypothetical company called Sweet Cabinet. Sweet Cabinet has already made a lot of sales in different cities in Germany, but they are having trouble organizing thousands of numbers and making sense out of it. This is exactly the moment when a company this scale needs to use the dashboard to help them making sense of the numbers. After making the dashboard, they saw their strength in certain product, like different chips they make. Besides the strength, they also noticed the sales in Frankfurt is not as good as the other city. After realizing the shortcoming in Frankfurt, they immediately react to it by adapting new marketing strategies in the city.

Management Session: Poster P-M2

Starbucks Strides Towards Green Marketing

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Abstract

From September 2019, the government had the procedure that the convenience stores, chain stores, and fast-food restaurants cannot provide plastic straws to the customers. Government promotes ecofriendly, corporate social responsibility, ESG (Environment, Social, and Governance), green marketing education, and encourages customers to use tumblers, and can get a 10-dollar discount.

Why did the government promote no plastic straw? Plastic straws are extracted from petroleum crude oil, and the cost of their production is low. Strew production speed is too fast to be completely biodegraded. Therefore, the manufacturing process inevitably causes a considerable degree of pollution to the environment. If the straws are used for a long time, they may cause health concerns and ecological contamination. Polyvinyl chloride (PVC) is one of the raw materials used in straws. Straws made from this material contain a large amount of plasticizer, which dissolves in beverages when exposed to high temperatures or containing esters, making it difficult to break down or excrete the plasticizer once it enters the body.

In 2020 Starbucks announced to the world that they forbid using plastic straws in their business. Starbuck has been dedicated to using low pollution, energy conservation, and recyclable productions. It has also been using carton straws or a lid that can be directly drunk from it instead of traditional plastic straws for green marketing. While some people didn't approve of the new policy of Starbucks because the new straw is made out of a carton. The new straw was easily broken and can't stay on the drink for too long, because it will go soft and humid. The customers were concerned and argued that the new straw may affect the quality of their drinks.

Management Session: Poster P-M3

The Future of Biomedical Waste Disposal and Sustainable Development Goals at Tulen Kasih Hospitals

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Rebecca Caroline Potts, Albert Samuel Juanda, Bryan Kholin
International Business Administration Program, Tunghai University International College (Taiwan)

Abstract

During the Covid-19 pandemic, the hospital waste produced in Indonesia doubled. Indonesia generated approximately 2.23 kg/bed/day of health care waste (HCW) during the pandemic, based on estimates from the UN Environment Program (2020). In late 2021, overall HCW in Indonesia reached its peak level of 493 tons/day. Only 122 of 3,112 hospitals have incinerators. Others rely on third-party waste management companies to dispose of their waste. Furthermore, hospitals/medical facilities must pay up to US$7.50 per kg in remote areas like Papua province to process their waste in Java. During the pandemic, hospitals produce up to 50kg to 2 tons of HCW per day, depending on the facility size. In Indonesia, enforcement, and supervision of HCW disposal are inadequate; subsequently, this highly toxic waste could still end up in regular landfills and riverbanks. Health care waste has always been a problem since most Indonesians work in the agricultural sector. They depend on a clean environment to make a living. Therefore, if HCW is not disposed of properly, it will be detrimental to the environment.

A shift in public expectations of their products or services may occur in Indonesia due to the alarming and urgent climate crisis and increased environmental awareness in the coming years. The transformation into a sustainable hospital is beneficial as it focuses on long-term value creation for the company and its stakeholders, both environmentally and human. Tulen Kasih Hospitals can increase its market potential and gain competitive advantages by implementing it. To anticipate this, in addition to the Indonesian government's drive toward a zero-carbon emission goal by 2060, Tulen Kasih Hospitals adopted a three-pronged approach: reducing waste and reinventing waste management through green procurement removing single-use products in hospitals' daily operations, digitalization of patients' information eliminates paper use, and applying renewable energy technologies (Solar panels, EV Ambulances).

Management Session: Poster P-M4

Burger King Promotes Product Sustainability through Low-Carbon Footprint Menu Items

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Abstract

The fast-food industry is the most significant contributor to carbon footprint in the world. Food production contributes around 37% of global greenhouse gas emissions, showing the huge impact that our diets have on climate change. In the US, 99% of animals used for food live on massive industrial factory farms where they are crammed into wire cages, metal crates, or other highly restrictive enclosures inside filthy, windowless sheds as the demand for meat, dairy, and eggs increases worldwide. More land is needed to cultivate crops that will become livestock feed, driving deforestation. Around 33% of the land globally is dedicated to livestock feed. Roughly one-third of the food produced worldwide for human consumption every year, approximately 1.3 billion tons, get wasted. These became a significant problem for the fast-food industry once consumers became more aware of their product or service.

The fast-food industry is the most significant contributor to carbon footprint in the world. Besides environmental issues, Burger King (BK) also faces public criticism due to adverse health effects, animal cruelty, and food waste. By transforming towards sustainability in daily operations, BK could have competitive advantages in brand image, reduce costs, and reach the potential green consumer market, which is growing significantly. To resolve the problems and catch up with its' major competitor (McDonald's), who had made a substantial move. There are three commitments from BK toward sustainability. The first is to use 100% of our packaging from certified recycled sources. Secondly, reduce food waste by 30% and adopt WRAP's food waste roadmap. And the third is energy efficiency by using LED and training staff for responsible energy usage, which saved 1.1million kWh, equivalent to nearly 950,000 CO2 car miles. Environmental observers praise the BK's commitment but demand more robust actions to reduce carbon footprint, deforestation, and food waste.

Keywords: Stakeholders, Consumers, Sustainability, Fast Food Industry

Management Session: Poster P-M5

Taiwan vs. The United States of America: Why there are no High-speed Rails in the World's Superpower?

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William Daniel
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Clyde Dwyer
Davidson College (USA)

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Abstract

The Taiwanese government has shown that putting significant investment into high-quality public transportation yields positive results for the economy, environment, and the population. One specific example of this is the High-Speed Rail (HSR). The High-Speed Rail Corporation is a privately owned company in Taiwan that is supported heavily by the Taiwanese government. By encouraging investment in the HSR, the Taiwanese government has allowed its citizens to travel around the island relatively cheap and efficiently. On the other hand, Amtrak, one of the leading train companies in the United States is quite expensive, has limited availability, and does not provide a particularly quick means to travel around the US. Therefore, Amtrak is unpopular in the US causing increased reliance on cars and planes for domestic travel. Overall, we plan to see why the Taiwanese government's investment in the HSR has been so successful and how some of these successes can potentially be seen by the American government if they are to work harder toward subsidizing development in the train travel industry.

Management Session: Poster P-M6

Inequality in Private Vehicle Ownership and Its Relations with Efficient and Sustainable Practices

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Abstract

Private vehicles are often not used efficiently. Being used not to its maximum capacity, private vehicles are contributing a high amount of unnecessary carbon emissions. The imbalance of vehicle ownership between more economically able people and people who can't afford private vehicles are massive, with richer people having multiple private vehicles when other people from a lower economic class lack the means to afford their own private vehicle.

With the context of Tunghai being a private university with more economically able people, we want to conduct surveys on how efficient are the private vehicle usage and the ratio between the efficiencies and how much emissions are added through these practices per household. By doing these surveys, we would also like to inquire how much resources, space, and potential usage towards our transportation infrastructure. Through these numbers, we want to analyze the alternatives of public transport and the hypothetical events of these vehicles used to its maximum efficiency/inefficiency based on a concrete data set through the samples we collect from Tunghai students.

Keywords: Car usage, efficiency, carbon emissions, parking space, sustainability.

Management Session: Poster P-M7

Transforming Cities Through Public Transportation

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Abstract

Megacities are home for up to 10 million people, even though they offer better employment and living. Megacities face serious problems, namely traffic congestion and air pollution. High traffic volumes contribute to large amounts of air pollution. Air pollution causes 7 million premature deaths, and US$6 Trillion is spent on healthcare annually. Time is money, and due to traffic congestion, $87 billion worth of productivity was lost last year, averaging $1,348 per driver, according to new data analyzed by research firm INRIX.

Increasing migration from rural to cities should be taken seriously by developing or optimizing existing public transportation to accommodate the rise. By implementing Green TOD and enforcing high costs for private vehicles, cities may significantly decrease traffic congestion, air pollution, and increase the local economy. Two primary solutions could be implemented in cities due to their' multifaceted problem-solving capability. First is the Green Transit-Oriented Development, based on the conventional TOD to cope with the rapid rise of urbanism and reduce dependency on private vehicles in the US by providing public transportations within communities' reach (400 meters). Green TOD highlights the harmonization development of transportation, society, and the environment, to build a sustainable and livable transit-oriented community. Secondly, the idea is to encourage people to use public transportation by enforcing the high costs of owning private vehicles through higher taxes, parking fees, congestion pricing, and not subsidizing fuel prices (policies typically encountered in developing countries). However, cities must provide adequate and convenient public transportation. This case study will show how cities could tackle their problems by integrating technology and sustainability into public transport to serve the public better.

Management Session: Poster P-M8

Organizing a “Walking School Bus” for Tunghai Primary Schools and/or Kindergartens

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Abstract

“Walking School Bus” has been a huge success to the community across the nation that aims at increasing children’s physical health, leadership skills, socializing skills, and others. “Walking School Bus” is a community fun project for children's growth by walking along with a set of routes and walking them to school. The “Walking School Bus” community will target Tunghai Primary school and/ or Kindergarten students as the participant. The participant will be supervised by school committees, project community leaders, and their own parents may also come to accompany them. Community leaders will be an act of voluntary for Tunghai High School students and/ or Tunghai University students. The parking spot near the Tunghai High School entrance will be used for parents to park their car and as the rendezvous point for the students. Starting from the parking area, going through the way into the High school entrance and then reach the Tunghai Primary and the Kindergarten area. The whole walking path will be assessed to ensure the participants’ safety and parents’ trust. The community project will be conducted once a month. We will first conduct an online survey form from parents have been sending their children to school/kindergarten by cars. The data will be helpful for us to determine our project to be successful.

Korean Foods vs Taiwan Foods

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Abstract

In the era of globalization, the Internet is becoming more and more popular. The development of transportation has led to more exchanges between countries, breaking down the barriers that used to exist in the past. The cuisines of various countries can be easily found all over the world, such as Taiwanese pearl milk tea, Korean spicy fried rice cakes, Japanese miso soup, etc. On the contrary, residents have begun to cherish and value local food, which is not only a local characteristic but also a sign and symbol of national friendship for foreign tourists.

Taiwanese pig blood cake vs Korean blood sausage

Taiwanese pig blood cake is a traditional snack in night markets. It is served on a stick covered with powdered peanut and topped with coriander, while the Korean blood sausage is served together with spicy fried rice cake.

Taiwanese fried chicken vs Korean fried chicken

Taiwanese fried chicken is a popular midnight snack in Taiwan. Whenever they fry the chicken, the air is surrounded with an aromatic smell of basil, which makes passersby salivate. In contrast, Korean fried chicken is not only fried but also covered by their sauce called “gochujang.” The sauce pushes the fried chicken to another level.

Taiwanese sesame chicken soup vs Korean ginseng chicken soup

Taiwanese sesame chicken is suitable for cold weather. The ingredients are rice wine, sesame oil, and ginger. The rice wine can make you feel warm, and the sesame oil is for fragrance. For the Korean ginseng chicken, they put raw rice, ginseng, and garlic inside the whole chicken, then boil it for hours. The ginseng chicken is so tender, that the meat falls off the bones.

International Session: Poster P-I2

My Favorite Georgian Dish

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Abstract

There are many different nationalities in the world, and so each nationality has its food, you can say the visiting card of a particular country. For example, I always associate any country with its food. America with fast food restaurants, Italy with pizza, but my favorite country is Georgia, and the favorite food of this Khinkalia. Few people know about this country, the culture of this country, and what delicious food is in this country. Let's start getting acquainted with this country, with food and culture.

Let's start with the fact that this is the most amazing and picturesque country, the nature of this country is sometimes mesmerizing, this country has beautiful mountains. The mountains are very high and from the mountains, there is a stunning view of a seemingly spacious and vast country. I think a country like this should have some good food? Undoubtedly!! There are many beautiful dishes, but in my opinion, the best is "Khinkali" it is dumplings, but with a very beautiful name, and this dish is also the hallmark of this country because many people know that the most delicious "Khinkali" is only in Georgia. But let's first understand the origins of this dish? During the Turkish war, soldiers who were wounded needed to recuperate, get stronger, and then Georgian women came up with the idea of making lamb dumplings, they also added meat broth inside and fed the soldiers, and the Georgians really liked this dish and so they began to cook it not only for the soldier but for all people.

Imagine you are sitting in a restaurant located on a mountain, you look into the distance at the beautiful mountains and a beautiful red sunset, you feel the wonderful alluring aromas of food and finally, these wonderful Khinkalia are brought to you. These are very fragrant, juicy dumplings, their aroma drives you crazy. You bite this dish for the first time, and you see and feel this taste of broth and meat that melts in your mouth, I think this is a great feeling for every person. Juiciness, pleasant aroma - this is Georgian food.

International Session: Poster P-I3

To Dip or Not to Dip? Culture's Effect on Spring Roll Consumption in Asia

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Abstract

Spring rolls are believed to have originated from eastern China during the Jin Dynasty between 266 to 420 A.D., and to this day they are still one of the most recognizable dishes. Spring rolls are usually eaten during the Spring Festival in China and Taiwan. The festival traditionally honors deceased family members and deities and is a time to reflect on mythological Chinese tales. Family members return to their home villages from the big cities to reunite with their loved ones and cook gourmet meals to share with the family. The golden rolls represent gold bars which symbolize wealth and prosperity.

Spring rolls are made of thin wheat-based square wrappers filled with some combination of pork, bean sprouts, mushroom, garlic, cabbage, and then deep-fried until golden brown. Spring rolls' influence has spread across North America and throughout Asia. The ingredients inside these delicious rolls vary depending on the region and local culture such as Hong Kong, normally featuring pork and bean sprouts inside, while Vietnamese spring rolls are normally wrapped in a wheat/flour skin. The usual ingredients are pork, shrimp, glass noodles, mushrooms, and shallots. These rolls are served hot and are dipped in a soy or fish sauce. In the United States, they are known as egg rolls, which were invented in New York in the early 1930s. The globalization of spring rolls is remarkable. Their widespread consumption demonstrates the cross-cultural influence of cultures and foods, highlighting the greater historical implications of this seemingly simple dish.

Keywords: Spring rolls, Origins, Culture, Spring Festival, Globalization

International Session: Poster P-I4

Bubble Tea as Fashion Icon or Identity?

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Abstract

Bubble milk tea is one of the most popular, and the most known desserts in Taiwan. It is so popular that people from all around the world would fly to Taiwan just to have a taste of the legendary drink. Nowadays, hand shake shops have already spread to every corner of the world. You can see it in most of the countries. Meaning that bubble milk tea itself has become a cultural asset of Taiwan.

There are a variety of theories about the origin of bubble milk tea. There are currently two shops in Taiwan claiming to be the inventors of the well-known bubble milk tea.

One is Chun Shui Tang, the other is Hanlin Co. But when it comes to the driving force behind the fame is Chun Shui Tang. When the shop first came up with a brand new drink, bubble milk tea wasn't so popular. But by chance, after being interviewed by a Japanese TV program, it finally attracted the attention of businessmen. The bubble tea shops that have sprung up after the rain have replaced the previous bubble tea shops and become synonymous with the general term for tea and refreshing beverage shops.

Thanks to the rapid development of Internet media, the name of the interesting drink bubble milk tea is introduced to foreigners. Soon after, not only did it become one of the must-taste delicacies of Taiwan, but beverage shops also started to spread around the world.

Nowadays, there even has a different kind of taste in different countries, for instant, in Taiwan we still used to the traditional flavor for bubble tea, but in the U.S. they add a variety of ingredients into the boba tea, such as taro and fruit flavored boba or boba that is made out of salted caramel cookie dough, and they even changed the basic from milk tea to Thai milk tea or matcha latte, and it seems like a on-going trend for the rest of the world.

Keywords: bubble milk tea, icon, identity, popular drink in Taiwan

International Session: Poster P-I5

Served Hot and Cold: A Modern Take on Food and Identity

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Abstract

I started this course thinking about the culture and the past without thinking much about the present. So many modern cuisines would not be possible in the past and the idea of that just makes me think "what a time to be alive. The idea of food that can be served both cold and hot seems like a paradox because of the extreme opposites but this presentation doesn't just contain one but two paradoxes where this type of food can be explored in both spectrum of pricing; one that burns a hole in your bank account and another that can be obtained with a few coins.

Keywords: Instant noodle, mango with sticky rice, sushi, servings style, food and identity

International Session: Poster P-I6

Savory or Sweet? :Cultural Variations in Bagels Between America and Taiwan

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Daniel Saltz
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Abstract

The bagel was brought to America by Jewish and eastern European immigrants popularized in the 1970s. With this project being conducted in Taiwan, we have the opportunity to compare and contrast bagels in the United States and Taiwan. The goal of the research is to observe the specific changes bagels undergo as a result of being popularized in Taiwan.

Keywords: bagel, cultural food, Ring-shaped bread, transformation of bagel identity

International Session: Poster P-I7

Tastes Like Nostalgia? : Shaved Ice

Zachary Lin, Richard Chang, Sam Yang, Yevvon Yi-Chi Chang
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Abstract

In order to gain a deeper understanding toward one of the representative of Taiwan, shaved-ice. We decided to start this project.We curious on why mango shaved-ice have higher fans than traditional shaved-ice in the world, even foreigners are insane with it. To foreigners who may first time visited Taiwan, what is their first-mind for Taiwanese shaved ice? Recently, Taiwan is well-known for its mango shaved ice and easily attract most of foreigners love. Taiwan Traditional shaved ice gradually faded out in people eyes, but it still represents precious memory for our generation.

Keywords: Shaved ice, nostalgia, culture

International Session: Poster P-I8

Ketupat as Traditional Food of Indonesian Culture

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Abstract

Indonesia's cultures and traditions are extremely diverse. Since Muslims make up a majority of Indonesians, the country has the world's largest Muslim population. The Indonesian habit of eating ketupat at Eid Al-Fitr is one example of how cultures are strongly linked to religion, and symbolizes apology and blessing. Ketupat is a rice dish covered in young coconut leaves that are weaved into a diamond shape, which has a meaning "connected with each other". Sunan Kalijaga, an Indonesian theology who was a prominent figure among Muslims in Demak, Central Java, was the first to introduce Ketupat. However, the practice of just eating ketupat during Eid Al-Fitr will eventually fade away. In Indonesia, each region developed its own specific customs for cooking and serving ketupat based on their tribes and culture. Not only spread in Indonesia, but also reached our neighbour country, such as Singapore, Malaysia and Brunei Darussalam.

Ketupat is a unique way of consuming a rice product. From the various types of rice in Indonesia, there's two kinds of rice that used in Ketupat, such as pulen and pera. The different between these two is on the texture. Pulen rice has a smoother texture than Pera, mostly in Indonesia used Pulen rices on their Ketupat, but it is possible if there's still use Pera rice in several regions. As it mentioned before, Ketupat generally wrapped in young coconut leaves called "anyaman janur". They mostly select two leaves with width 3 – 5 cm that taken from the top of the coconut tree.

Keywords: Culture, Eid, Indonesian, ketupat, Muslim