



## **CONFERENCE PROCEEDINGS**

**2nd ICSTR Jakarta – International Conference on Science & Technology  
Research, 19-20 September 2019**

**19-20 September 2019**

## **CONFERENCE VENUE**

**Universitas Al Azhar Indonesia, Komplek Masjid Agung Al Azhar, Jakarta,  
Indonesia**

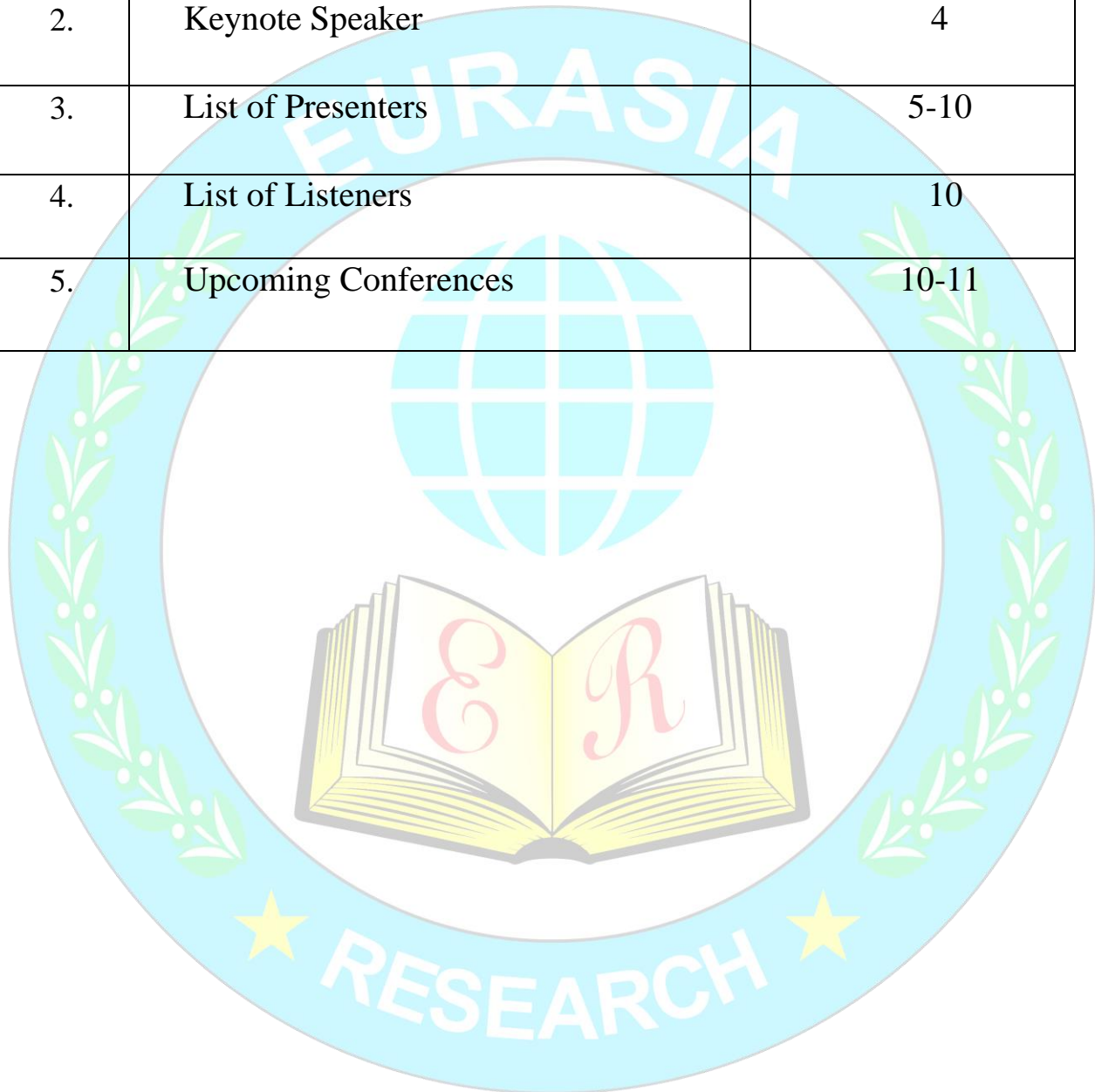
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**Preface:**

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Our mission is to make continuous efforts in transforming the lives of people around the world through education, application of research & innovative ideas.

## **KEYNOTE SPEAKER**



**Dena Noviarini**

**Ministry of Research and Technology, Faculty of  
Economics, State University of Jakarta, Indonesia**

**Topic: Ancient Information and Technology: The Way of  
Our Life**

**Dena Noviarini is working with the Ministry of Research and Technology, Indonesia. She is a Lecturer in Public Sector Reform Program assignments, including ISO 9001:2008 in State University of Jakarta, Indonesia. She is also a holder of series Research Intellectual Copyrights from the Ministry of Intellectual and Copyrights. Her accomplishments include – Graduate and Member of Young Leader Programme JICA 2010, the Indonesian Ministry of Research and Technology’s Grant Year 2017, the Chair Associate of SICSSAM Korean Conference 2017 & the Indonesian Ministry of Research and Technology’s Grant Year 2018**

## **PRESENTERS**

**Shanaia Argurza  
ERCICSTR1919051**

**The Interplay between Arts and Waste Management: A Phenomenological Study**

**Goldame Oblero Yapit**

**Lorma Colleges Basic Education Schools, Urbiztondo San Juan, La union Philippines**

**Alonzo Andrei Go Rimando**

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**Ms. Shanaia Margareth Sia Argueza**

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**Christian Ian De Guzman**

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### **Abstract**

Many economically developing countries produced more waste for as a country develops, the level of consumption also increases which causes the diminution of proper waste control because of the continuous production of wastes. Waste management liabilities stated that waste management practices, knowledge and awareness differs by sex, class, and age of the students. In general, the cooperation of communities and government is really important to minimize the effects of poor waste management of our community which encouraged the government implementing rules which creates creating necessary institutional mechanisms and incentives, declaring certain acts prohibited and providing penalties and appropriating funds. Our main research problem is; What are the challenges in the implementation of proper waste management. This research is a phenomenological research. Our participants are the artists of the Iilikha Artist village. Baguio experienced waste management problems because some people did not cooperate with the laws because of use of technology and their level of participation. People can contribute in creating a sustainable environment by creating advocacies that can help minimize waste or by understanding the concept of upcycling. The artists of the said village recycled waste to create something more beautiful that could lessen wastes. Our research could serve as a basis for the future researches so that they would not have much trouble in understanding waste management. It could also give the future researchers a head start on what to do and serve as a convenient guide. It could give them a clearer comprehension of Waste Management.

**Keywords: Waste; Education; Liability; Upcycling; Utilization**

**Andres A.  
Regondola, Phdbm  
ERCICSTR1919053**

**Digital Marketing Channels: A Breakthrough of Promoting Tourism Industry In The Kingdom of Bahrain**

**Andres A. Regondola, Phdbm**

**AMA International University Bahrain, College of Administration and Financial Services (CAFS)**

### **Abstract**

The study aims to deliver useful insight not only effective channels but solution for delivering a strong value application to build internet communication in the tourism industry in the Kingdom of Bahrain along with information center with visitor, destination websites and daily deal sites. The objective is to develop a greater strategy about the applications on online channels work the will help in the tourism industry. This study utilized applied method of research to find out solution for an immediate problem facing in a society especially in the tourism industries to develop innovative technologies. Research was conducted data were gathered using a questionnaire accomplished by the employees of Ministry of Tourism, Commerce and Industry and visitors. With the aid of SPSS (Statistical Package for Social

Sciences), the Pearson coefficient of correlation was used to analyze the significant relationship on the effectiveness and of the level of awareness of digital marketing channels in tourism industry in the Kingdom of Bahrain along information center with visitor, destination websites and daily deal sites. On the basis of the research findings, conclusion and recommendation showed that the Ministry of Tourism, Commerce and Industry should evolve the website to employ effective electronic customer relations management components to encourage customers to keep coming back and this will create an impression consistent with the organizations desired image. Based on the recommendation evolve the website into an e-commerce tool and an international website which can be tailored for global markets. And lastly, Technical training is required in building e-commerce applications, e-commerce website security, electronic transactions and e-commerce system administration.



Sumarni  
ERCICSTR1919054

**Genre Differences In Language Learning Strategies**

Sumarni

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**Abstract**

This study investigates the application of language learning strategies by different gender of university students. To do so, memory, cognitive, compensation, metacognitive, affective, and social language learning strategies were investigated. To collect data, the Strategy Inventory for Language Learning (SILL; Oxford, 1990) was administered to male and female student. They, then, were analyzed using descriptive statistics. The findings of the study indicated that students used a wider range of learning strategies and different from those often preferred by their gender. Both female and male often use social strategies while the lowest frequency strategy use both them were different. The results of this study can be useful for language teachers instead of raising their awareness on reducing the gap between the students' language learning strategies and their teaching technique preferences.

**Keywords:** Language Learning Strategy; Gender; Male; Female

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+  
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**Analysis of Robotics Industrial Manufacture & Promotion of Artificial Intelligence**

Aneel Ahmed

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Hamza Karamatullah

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**Abstract**

The present age is the age of science and innovation. Robots have long borne the planned to conquer any hindrance between the automatized world (the web of things) and the physical world. As the most reassuring possibility to subject the following major modern upset after the present third (computerized) mechanical upheaval, apply autonomy is set to play an ever progressively huge job in the public arena for its impact in each part of life. Counting prescription and medicinal services, building administration, fabricating, nourishment creation, coordination and transportation. The present century is likewise the century for Asia, or more noteworthy China specifically. China has turned into the greatest and quickest creating nation in the worldwide modern robot showcase for its changing assembling condition and improving nature of-expectations for everyday comforts, with anticipatable interest of robots in the assembling business, yet in addition other administration and societal segments. With its solid convention in innovation and close connections to overall research wildernesses, Hong Kong at present holds a main edge in parts, for example, medicinal, coordination, and household administration robots. Not with standing, with its total size, money related duty, and solid modern establishment, the Terrain is quickly grabbing pace, particularly in the mechanical and amusement divisions. It is subsequently a basic minute for scientists to join endeavors and structure a minimum amount in automated research to keep up the provincial, and towards overall lead in administration mechanical research. Hong Kong analysts, chipping away at the front line of

	<p>mechanical autonomy that is intently connected with the future economy. Have many top-level work for mechanical careful help, call the board, assembling, and warehousing the executives, prompting exceedingly translational and gainful results that would help build up and flourish the Hong Kong one of a kind industry in restorative and administration robots, supplemented by a huge creation center and great market in the Territory. After deep study about the countries who are well developed in robotic world. We can have summed up with an idea that those countries who are using technology from this modern age are not only just getting advantage also building their national character amongst the other nation.it becomes mandatory to make our generation acknowledgement about this global automized technology and provides the platform to the industry to use such robotic autonomous system so that under developing countries should take advantage from them. Today the technology which is very popular amongst the scientific society according to latest research is the knowledge of AI (Artificial Intelligence). Inspire from NASA we research about the latest technology beneficial for human beings come up with an idea that as far the question of Industrial manufacturing is concerned we all know that accuracy and quality of work is possible through the machinery as compare the human work is referencng.</p> <p><b>Keywords:</b> Artificial Intelligence, Replacement Of Human Labor To Autonomous Robots And New Jobs, Industrial Automized And Robotize System, Advancement Of Efficiencies In Manufacture Processes, Possibilities And Limitations Of The Integration Between Body And Brain, The Existence Of Intelligent Machinery, An Ethical Framework Shared By Entire Scientific Community, Improvement Of Modern Research Method With The Advancement In Technology, Industrial Maintenance At Cheaper Rates, Improves The Quality Of Work, Companies Need (Autonomous System Self-Decision Robots)</p>
<p><b>Agung Kurniawan</b> ERCICSTR1919060</p>	<p><b>Obtaining 0 (Zero) Contour Value For Enclave Claim Regime 12 Nautical Miles On Hatohobei Island Republic of Palau Against the Republic of Indonesia in According with UNCLOS 1982 Using Satellite</b></p> <p style="text-align: center;"><b>Derived Bathymetry</b> <b>Geographic Information System, Universitas Gadjah Mada, Indonesia</b></p> <p style="text-align: center;"><b>Agung Kurniawan</b> <b>Postgraduate of Geography, Faculty of Geography, Universitas Gadjah Mada, Indonesia</b></p> <p style="text-align: center;"><b>Agus Iwan Santoso</b> <b>Indonesian Hydrographic and Oseanography Center, Indonesian Navy, Indonesia</b></p> <p style="text-align: center;"><b>Abstract</b></p> <p>UNCLOS (United Nations Convention on the Law of The Sea) 1982 give authority to coastal state to make claims on their sea regime. An island that is more than 125 nautical miles from the main land where the baseline to draw a territorial line is drawn, then the island is given the right to claim the maritime regime by enclave method 12 nautical miles maximum. In determining enclave claims, 0 (low-lowest) contour points are needed through satellite derived bathymetri using the Lyzenga bathymetry algorithm. The data used in this study is a multispectral planetscope image with a resolution of 3 meters and a sea map of the Hatohobei island region. To normalize the depth value, tidal correction is done by extrapolating from the nearest tidal station. The results of the Lyzenga bathymetry algorithm are converted into contour lines to obtain a contour value of 0 (zero), and buffer 12 nautical miles is carried out. The results of this study show areas that can be claimed by Hatohobei island (Republic of Palau) in according with UNCLOS (1982).</p> <p><b>Keywords :</b> UNCLOS 1982, Enclave, Lyzenga Bathymetry, Contour Value 0 (zero)</p>
<p><b>Afrizal</b> ERCICSTR1919061</p>	<p><b>Determinant Factors Affecting the Accounting Method Choices and Reported Profits of Big Industrial Companies in Indonesia</b></p> <p style="text-align: center;"><b>Afrizal</b> <b>Associate Professor of Faculty Economics and Business of Jambi University, Jambi, Indonesia</b></p> <p style="text-align: center;"><b>Susfa Yetti</b> <b>Lecturer of Faculty of Economics and Business of Jambi University, Jambi, Indonesia</b></p> <p style="text-align: center;"><b>Abstract</b></p> <p>This study aims to find out the determinant factors affecting the choice of accounting methods and the</p>

	<p>reported profit of big industrial companies in Indonesia. The results showed: (1) Total assets of big industrial companies, DER and bonus managers simultaneously had a significant influence on the choice of Accounting Methods which increase profit of the companies. This was supported by Nagel R Square of 0.558 or it could be interpreted that the model could give an effect to change variations of the choice of accounting methods by 58.80%. (2) The debt of big industrial companies which is represented by debt to equity ratio has a significant effect on the choice of Accounting Methods. It means that the greater the company's debt, the greater the tendency of the company to select the accounting methods that increase reporting of company's profit. (3) Big industrial companies that have a bonus managers have significant effect on the choice of the Accounting Method because the Wald test value is <math>59,356 &gt; 2</math> or p-value <math>0,00 &lt; \alpha 0,05</math>. This means that the greater the bonus manager of the company, the greater the tendency of the company to select accounting methods that increase reported profit. (4) Sales volume, Debt to Equity Ratio, and Bonus managers simultaneously have significant effect on the reporting of company's profit of big industrial companies in Indonesia. This was stated by <math>F_a</math> which was greater than <math>F_{table}</math> or <math>377.82 &gt; 1.96</math> at <math>(\alpha = 0.05; k-1; N_k)</math> or P value <math>0,000 &lt; 0.05</math> and supported by Adjusted R Square of 0.641 or 64.10% or it can be interpreted that this model can influence the change variations of reported profit of companies 64.10%. (5) Companies with a greater sales volume have a significant effect on reporting of company's profit. This was indicated by <math>t_a &gt; t_{table}</math> at <math>(\alpha = 0.05; N-k)</math> or <math>33,642 &gt; 1.96</math> <math>(\alpha = 0.05; N-k)</math> or with a significance level of P value <math>0,000 &lt; 0.05</math>. This means that the greater the company's sales volume, the greater the company's profit will be.</p> <p><b>Keywords:</b> Asset, Debt to equity ratio, Accounting methods, and Profit</p>
<p>Samsul Pahmi ERCICSTR1919062</p>	<p><b>The Impact of Government Policies, Parental Education and Family Economy on GER</b></p> <p>Samsul Pahmi Primary School Teacher Education Department, Nusa Putra University, Sukabumi, Indonesia</p> <p><b>Abstract</b></p> <p>Indonesia is still not free from the problem of dropout rates, the value of the Net Enrollment Rate (NER) and Gross Enrollment Rate (GER) is still quite low when compared to other developed countries. Several national and international studies show that government policies and family economic levels have a great influence on the success of senior high school education, but in addition to these two factors, researchers believe that parents' level of understanding of education is an important factor in the success of their children's education. So that this study aims to determine the Association and Effects of Government Policy, Parental Education and Family Economy simultaneously and separately to the low APK of high school senior level. Secondary data in this study were obtained from CBS Indonesia and the 2016/2017 and 2017/2018 Indonesian Ministry of Education Data and Statistics Center. Other instruments used to collect primary data were questionnaires given to senior high school class XII students in schools that were set up as samples and interviews were conducted with principals, parents' representatives, and related agencies. Data analysis was performed through multiple linear regression to find out simultaneously and find out the most influential factors of the three variables on the increase in GER. The results of the study will be used as a basis for determining alternative solutions to problems that can be used by policy makers and other relevant parties, especially in the field of Education Management in improving GER at the district / city, provincial and national levels.</p> <p><b>Keywords:</b> Gross enrollment rate; GER; Government policy; Family economy; Parental education</p>
<p>Jacek Hunicz ERCICSTR1919055</p>	<p><b>Real-Time Monitoring and Energy Split Optimization of A Hybrid Fuel-Cell-Battery City Bus</b></p> <p>Jacek Hunicz Lublin University of Technology, Faculty of Mechanical Engineering, Nadbystrzycka 36, 20-618 Lublin, Poland</p> <p>Dariusz Kasperek Ursus Bus S.A., Frezerów 7a, 20-209 Lublin, Poland</p> <p>Arkadiusz Malek University of Economics and Innovation, Projektowa 4, 20-209 Lublin, Poland</p> <p>Magdalena Smietanka</p>



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**Abstract**

This paper evaluates energy consumption of a hybrid fuel-cell-battery electric city bus. The bus is powered by two 110 kW synchronous electric motors integrated with a rear axle. Energy storage system is based on li-ion battery pack with 75.5 kWh capacity. Two, 30 kW each, fuel-cell modules generate energy on-board from 33 kg of hydrogen stored in metal-polymer tanks under 350 bar pressure. This configuration enables continuous operation on a distance of approximately 400 km without recharging the battery or refilling of hydrogen. This study provide the in-depth analysis of energy consumption under supervised real-world conditions. The operation data is collected using fleet management system and evaluated in the context of charging/filling infrastructure as well as in the context of on-board energy system optimization. Depending on the availability of hydrogen and capacity of the electrical network both the infrastructure and the fleet configuration can be tailored to minimize not only energy consumption, but also total cost of ownership. In the current study measurement data were used to validate energy consumption model. The model enabled comparison of different configurations of on-board energy storage structure in terms of fuel-cell/battery capacities and select optimal solution for the given operating conditions and available infrastructure.

**Keywords:** City Bus, Electric Vehicle, Hydrogen, Fuel-Cell, Energy Consumption

**IT Strategic Planning and Process Framework for Ethiopian Higher Educational Institution**

**Patrick D. Cerna**

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**Patrick Cerna**  
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**Abstract**

Ethiopian Higher Educational Institution (EHEI) established an ICT Directorate office for each public universities, colleges and institute, with the same supervisory level as Dean of Colleges, Faculty and Institute to implement and integrates ICT in all aspects of educational system from teaching, learning and research. It has been established a university wide ICT Infrastructure and built capacity to serve the University core processes and outreach the external community with required ICT consultancy services and other research/development requirements. However, to date based on the existing literature and in the case of TVETI, there has been no common and uniform IT manual of policies for each above-mentioned department in ICT Directorate and up to today it has not been assimilated in Senate Legislation of each EHEI. This research study focus on effective IT strategy for the ICT Directorate aligned to the strategic targets and management of Ethiopian Higher Educational Institution (EHEI). The propose IT strategic plan will be included to the existing EHEI goals, objectives and action plan that will be given priority not only as a supporting services but important role in educational decision making and planning. The study aims at designing a IT strategic plan based on the framework as proposed by Alex Cullen and Marc Cecere. SWOT, Critical Success Factors (CSF) and IT Balanced Scorecard will be adopted to analyze the needs of IT in EHEI. This IT master plan will serve as a road map and ICT strategic development plan that will serves as guiding model strategic plan for the adoption, implementation, monitoring, and evaluation of ICT services under ICT Directorate office of EHEI particular TVETI.

**Keywords:** IT Strategic Planning, Process Framework, CSF, Balance Scorecard

**Optimization of Laccase Adsorption-Desorption Behaviors on Multi-Walled Carbon Nanotubes for Enzymatic Biocathodes**

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**Abstract**

Laccase adsorption-desorption behaviors on the surface of multi-walled carbon nanotubes (MWCNTs) were investigated using spectrophotometry and voltammetry. The optimum condition for laccase adsorption is 5.0 mg/mL of laccase in 0.01 M phosphate-buffered saline (PBS) at pH 5.0. Laccase adsorption is a reversible phenomenon that is dependent upon the nature of MWCNTs and the concentration of ionic strength in the laccase solution. Chitosan was functionalized as a nanoporous reservoir to minimize laccase desorption. Chitosan was found to protect approximately 97.2% of the adsorbed laccase from MWCNTs during the first six hours of observation. The three-dimensional (3D) biocathode, MWCNTs-laccase-chitosan with a 0.2 cm<sup>2</sup> geometric area, was shown to have a stable open circuit potential (OCP) of 0.55 V, a current density of 0.33 mA cm<sup>-2</sup> at 0.2 V vs. saturated calomel electrode (SCE), and a stable current for 20 hours of successive measurements. This report provides a new insight into the study of a high-performance laccase based biocathode via optimization of adsorption and minimization of desorption phenomena.

**Keywords:** Laccase, Multi-Walled Carbon Nanotubes, Spectrophotometry, Voltammetry

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**Upcoming Conferences**

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- ICSTR Hong Kong – International Conference on Science & Technology Research, 26-27 September 2019
- 4th ICSTR Dubai – International Conference on Science & Technology Research, 09-10 October 2019

- 2nd ICSTR Prague – International Conference on Science & Technology Research, 17-18 October 2019
- 4th ICSTR Bangkok – International Conference on Science & Technology Research, 17-18 October 2019
- 4th ICSTR Singapore – International Conference on Science & Technology Research, 15-16 November 2019
- 5th ICSTR Dubai – International Conference on Science & Technology Research, 11-12 December 2019
- ICSTR Sydney – International Conference on Science & Technology Research, 12-13 December 2019
- 3rd ICSTR Bali – International Conference on Science & Technology Research, 21-22 December 2019
- 5th ICSTR Bangkok – International Conference on Science & Technology Research, 23-24 December 2019
- 3rd ICSTR Malaysia – International Conference on Science & Technology Research, 29-30 December 2019
- 6th ICSTR Dubai – International Conference on Science & Technology Research, 19-20 February 2020
- ICSTR Melbourne – International Conference on Science & Technology Research, 05-06 March 2020
- 5th ICSTR Singapore – International Conference on Science & Technology Research, 27-28 March 2020
- ICSTR Tokyo – International Conference on Science & Technology Research, 03-04 April 2020
- 3rd ICSTR London – International Conference on Science & Technology Research, 16-17 April 2020
- ICSTR Berlin – International Conference on Science & Technology Research, 14-15 May 2020