



## **CONFERENCE PROCEEDINGS**

**ICSTR Hong Kong – International Conference on Science & Technology  
Research, 26-27 September 2019**

**26-Sep- 2019 to 27-Sep- 2019**

## **CONFERENCE VENUE**

**Grand View Hotel, 88 Chun Yeung St, North Point, Hong Kong**

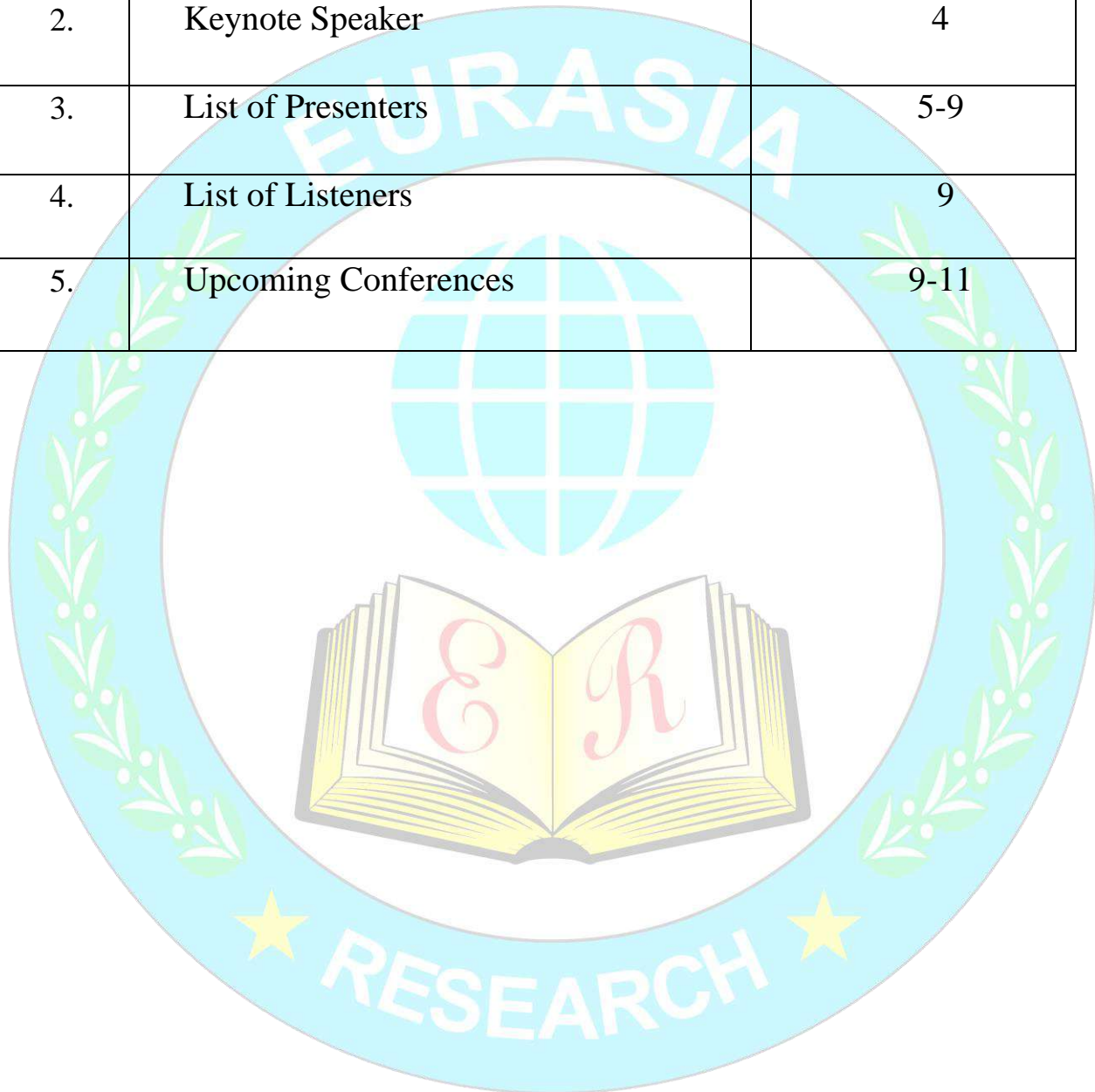
Email: [convener@eurasiaresearch.info](mailto:convener@eurasiaresearch.info)

<https://eurasiaresearch.org>

<https://straweb.org/>

**Table of Content:**

S. No.	Particulars	Page Numbers
1.	Preface	3
2.	Keynote Speaker	4
3.	List of Presenters	5-9
4.	List of Listeners	9
5.	Upcoming Conferences	9-11



**Preface:**

Scientific & Technical Research Association (STRA) is a conglomeration of academia and professionals for promotion of research and innovation, creating a global footprint. STRA aims to bring together worldwide researchers and professionals, encourage intellectual development and providing opportunities for networking and collaboration. These objectives are achieved through academic networking, meetings, conferences, workshops, projects, research publications, academic awards and scholarships. STRA strives to enrich from its diverse group of advisory members. Scholars, Researchers, Professionals are invited to freely join STRA and become a part of a diverse academic community, working for benefit of academia and society through research and innovation.

For this conference around 65 Participants from around 11 different countries have submitted their entries for review and presentation.

STRA has now grown to 3055 followers and 1562 members from 42 countries.

Membership in our scholarly association STRA is completely free of cost.

List of members: <https://straweb.org/membership/list-of-members/>

Membership Application form link: <https://straweb.org/membership/>

Proceedings is a book of abstracts, all the abstracts are published in our conference proceedings a day prior to the conference.

You can get our conference proceedings at: <https://straweb.org/conference/proceedings/>

We hope to have an everlasting and long term friendly relation with you in the future.

In this context we would like to share our social media web links:

<https://www.facebook.com/wasrti/>

You will be able to freely communicate your queries with us, collaborate and interact with our previous participants, share and browse the conference pictures on the above link.

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**



### **Engr. Marizen B. Contreras**

**Registered Professional Industrial Engineer, Mechanical Engineering Department, College of Engineering, University of Batangas, Batangas City, Philippines**

Topic: Lean Six Sigma as a Process Improvement Tool for Academic Institutions

*Engr. Marizen B. Contreras, a registered Professional Industrial Engineer, is a fulltime Assistant Professor IV of the College of Engineering and the Graduate School of the University of Batangas, where she finished her graduate studies in Business Administration, and undergraduate studies in Industrial Engineering. She is also a candidate for Doctor of Business Administration at Pamantasan ng Lungsod ng Maynila, Philippines, where she obtained her MS degree in Management Engineering. Prior to her present designation, she was assigned as the chairperson of Industrial Engineering of the University of Batangas for 8 years. She is an ISO Auditor, ALCUCOA Accreditor, a researcher, adviser, and statistician. Different professional organizations, local and international, recognized her scholarly works and vested her the following awards: Outstanding Paper Award recipient at World Conference in Business and Management 2018, Best Presenter Award at 2019 – IInd International Conference on Business, Economics, Law, Language, & Psychology (ICBELLP), and Best Paper Award at 5th Hernando B. Perez Search for the Best Faculty Research Paper. She also has a published research paper in the Global Business and Finance Review 2018, a Scopus (Elsevier) indexed journal.*

## **PRESENTERS**

**Shanaia Argueza  
ERICSTR1920051**

**The Interplay between Arts and Waste Management: A Phenomenological Study  
Ms. Goldame Oblero. Yapit  
Lorma Colleges Basic Education Schools, Urbiztondo San Juan, La union Philippines**

**Alonzo Andrei Go. Rimando  
Lorma Colleges Basic Education Schools, Urbiztondo San Juan, La union Philippines**

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

**Jio Carlo Opena. Tavares  
Lorma Colleges Basic Education Schools, Urbiztondo San Juan, La union Philippines**

**Shanaia Margareth Sia. Argueza  
Lorma Colleges Basic Education Schools, Urbiztondo San Juan, La union Philippines**

**Christian Ian De Guzman. Aban  
Lorma Colleges Basic Education Schools, Urbiztondo San Juan, La union Philippines**

### **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; Upeycling; Utilization**

**Ray John A.  
Salimaco  
ERICSTR192052**

**Agristore: Online Purchasing of Agricultural Products Using Laravel Framework and K-NN  
Algorithm**

**Ray John A. Salimaco  
Master in Information Technology - Student, University of Mindanao, Davao City, Philippines**

### **Abstract**

Farmers are considered as one of the poorest sectors in the Philippines. They work not only for themselves, but also for everyone who patronized their products. It has the big impact for the farmers on how we value their products especially for the prices. Currently, the majority of the farmers used the traditional way in marketing their agricultural products. They sell their product to the middlemen, whom the one that controls the prices and may result to deficit on the farmers' income. The technology is now used in selling and buying; not only ready-to-wear products but also agricultural ones. The system was designed which the farmers have the control of their prices and could deliver their product directly to the consumers. In searching available agricultural products is now possible and farmers could directly sell their products to the consumers in a reasonable price. Using the K - NN algorithm, the searching for available products near the consumers' location could help lessen time for both the

	<p>sellers and the buyers. The <a href="http://www.agristore.com.ph">www.agristore.com.ph</a> is developed using Laravel framework and Agile Development Cycle. The current system helps the farmers in increasing their income and improved the traditional marketing strategy. The researchers found out that the use of online buying and selling of agricultural products is more convenient than going to the market. Furthermore, it promotes a healthy lifestyle and helps busy parents. Thus, the online purchasing of agricultural products helps increase the income of the farmers in just a short period of time with the aid of this system. Keyword: Agri-Store, Agricultural Products, Laravel Framework, K-NN Algorithm</p>
<p>Sunila Bakhsh ERCICSTR1920053</p>	<p style="text-align: center;"><b>Stability and binding energies of Zinc octamer cluster and its low lying isomers</b></p> <p style="text-align: center;"><b>Sunila</b> University of Science and Technology of China Balochistan University of Information Technology, Engineering and Management Sciences, China</p> <p style="text-align: center;"><b>Xinguo Ren</b> University of Science and Technology of China, China</p> <p style="text-align: center;"><b>Yanyong Wang</b> University of Science and Technology of China, China</p> <p style="text-align: center;"><b>Abstract</b></p> <p>The structural and electronic properties of the Zn<sub>8</sub> cluster and its isomers are studied by using DFT. We have used a PSO method search to determine the ground state structure of neutral Zn<sub>8</sub> cluster which has been controversial due to the transition from Van der Waals to covalent bonding. The structural motifs are optimized using DFT approach to ensure the structures are fully relaxed. Results are compared with the literature to validate the accuracy of prediction method. The binding energies per cluster for each isomer are obtained and compared for each isomer. New low energy isomer are also obtained along with the ground state and were analyzed to ensure the true ground state of Zn<sub>8</sub>. Our results showed the ground state obtained has higher stability among other low lying isomers. The electronic properties such as ionization energies, electron affinities and HOMO-LUMO gaps of the ground state structure and its low lying isomers are calculated by using the all electron FHI-aims calculations. On comparing our results to prior studies, it can be seen that there is a good agreement for the lowest energy structure. Keywords: Zinc Clusters, Structure Prediction, Binding Energies, Density Functional Theory, PBE</p>
<p>Endang Tri Wahyuni ERCICSTR1920054</p>	<p style="text-align: center;"><b>Removal Organic Pollutant In Water by Smart Material</b></p> <p style="text-align: center;"><b>Endang Tri Wahyuni</b> Chemistry, Gadjah Mada University, Yogyakarta, Indonesia</p> <p style="text-align: center;"><b>Abstract</b></p> <p>This paper presents a study on the doping titanium dioxide with copper, referred as TiO<sub>2</sub>-Cu to enhance its visible light photocatalysis process for amoxicillin degradation. The doping was carried out by photo deposition of Cu<sup>2+</sup> ion into TiO<sub>2</sub> structure under UV light. The influence of the amount of Cu(II) doped on TiO<sub>2</sub> towards the characters and photo activity was evaluated. The doped TiO<sub>2</sub> photo catalyst resulted was characterized by XRD and UV-Vis DR machines. The activity of the photo catalyst was examined for degradation of the hazardous amoxicillin in water with the presence of visible light. From the characterization results, it is found that Cu doping on TiO<sub>2</sub> has uniquely improved the crystallinity of TiO<sub>2</sub> and shifted the light absorption from UV into visible region, indicating that TiO<sub>2</sub>-Cu was active under visible light. The shift increased as the amount of Cu dopant was increased from around 1.5-5.0 mg/g, but the shift was seen to decrease when the highest amount of Cu (7.5 mg/g) was doped. The shift trends implied that the low to medium amount of Cu doped could insert into the crystal lattice of TiO<sub>2</sub>, while the large amount of Cu may be only dispersed on TiO<sub>2</sub> surface. The doped TiO<sub>2</sub> showed higher efficiency on the amoxicillin degradation under visible light than that of shown by the process under UV. Furthermore with the same condition, the photocatalytic activity of Cu doped TiO<sub>2</sub> was higher than the un-doped one. The highest efficiency of the photo degradation under visible light, that was about 90 % from 100 ml of the amoxicillin 10 mg/L, was achieved by using 50 mg of the photo catalyst dose, in 24 h, and at pH 3 and by doped photo catalyst TiO<sub>2</sub> with 4.56 mg/g of Cu dopant. Keywords: Doped, Copper, Photo catalyst, TiO<sub>2</sub>, Amoxicillin, Degradation</p>



Theodore Chineke  
ERCICSTR1920055

**An Accelerated Renewable Energy Implementation In Africa Through “Transparent” Political Promotion**

Theo Chidiezie Chineke  
Department of Physics, Imo State University, Owerri, Nigeria

Ugochukwu Kingsley Okoroa  
Department of Physics, Imo State University, Owerri, Nigeria

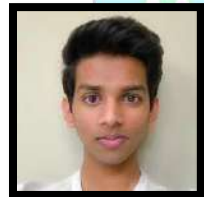
Chukwuma Moses Anoruob  
Department of Physics and Astronomy, University of Nigeria, Nsukka

Chibuikwe Placid Chimaa  
Department of Physics, Imo State University, Owerri, Nigeria

**Abstract**

Renewable energy sources are theoretically able to provide vast amounts of energy irrespective of fossil fuel reserves and will not be depleted as long as the sun keeps shining on our planet. We know that Africa is blessed with abundant but un-utilized sources of renewable energy; solar thermal, hydropower, solar photovoltaic (PV), geothermal energy, biomass and biogas. However, despite the abundance of solar energy resource in African continent, it is found that applications and utilization of the resource is majorly limited to small-scale and isolated applications. In this work is presented the solar electricity potential for selected African capital cities in the North, West, Central, East and Southern regions of Africa that ranged from 7.40 to 8.0 kWh/m<sup>2</sup>, 6.23-6.83 kWh/m<sup>2</sup> over West Africa, and 5.61-6.26 kWh/m<sup>2</sup> in Central Africa, East Africa; 6.32-6.93 kWh/m<sup>2</sup> and 6.71-7.0 kWh/m<sup>2</sup> in South Africa. We orchestrate that providing energy access to the hundreds of millions of unelectrified households in Africa quickly, cost-effectively and sustainably is a daunting challenge that can be achieved by government focused, monitored and implementable policies that will favour the transparent growth and not “lip-talk” about renewable energy particularly for the isolated domestic, commercial and industrial customers.

**Keywords:** Africa, renewable energy, solar electricity, policies, politics, sustainable energy



Nikhil Vamsi Boddu  
ERCICSTR1920056

**A Novel PCA-Based fMRI Noise Reducing Wishart Filter to Improve Neurodegenerative Disease Diagnosis**

Nikhil Vamsi Boddu  
Washington University in St. Louis, USA

**Abstract**

With increasing interest in functional MRI (fMRI) and functional connectivity networks to understand and diagnose neurodegenerative diseases such as Parkinson’s and Alzheimer’s, advanced methods for image processing are necessary to produce highly structured scans. fMRI is a convenient and effective analysis tool to understand the presence and progression of neurodegeneration, as it is a noninvasive in-vivo method for measuring neural activity through blood-oxygenation-level-dependent (BOLD) signal. Unstructured noise reduction is an essential step in fMRI processing for removing non-BOLD noise to reveal underlying neural function; however, no intuitive methods currently exist for this step in fMRI processing. Conventional processes such as spatio-temporal smoothing cannot effectively differentiate BOLD signal and noise, causing reduced image quality, blurring of cortical structures, and shifted neural signal. Due to this inconsistent image processing method, use of fMRI for clinical diagnosis is difficult and commonly avoided. Therefore, this study developed a novel process for differentiating and retaining neural signal more effectively using a Wishart Filter, which utilizes a Wishart noise eigenspectrum subtraction to remove unstructured eigenvalues that pollute the fMRI and connectome’s PCA eigenspectrum. Instead of spreading signal intensity across the brain volume like spatio-temporal smoothing, this novel method utilizes dimensionality reductions to specifically target unstructured signals in fMRI and isolate the BOLD. This study analyzed Wishart Filtering’s effects on random noise, connectivity, and gradients in fMRI and connectomes. Variations of the Wishart Filter were compared to a temporal low-pass filter and spatial smoothing to test for improvements in image quality. This study showed that Wishart Filtering significantly reduces noise and improves connectivity and gradient visibility in fMRI brain scans more effectively than spatio-

	<p>temporal smoothing without causing additional side-effects. Thus, this novel tool in biomedical image processing and analysis has the potential to improve fMRI as a more effective clinical diagnostic technique for neurodegeneration. Keywords: Computational Bioinformatics, Image Processing, Spatial Smoothing, Functional Neuroimaging, Noise Reduction</p>
<p>Placid Chibuike Chima ERCICSTR1920057</p>	<p><b>An Accelerated Renewable Energy Implementation In Africa Through “Transparent” Political Promotion</b></p> <p><b>Theo Chidiezie Chinekea</b> Department of Physics, Imo State University, Owerri, Nigeria</p> <p><b>Ugochukwu Kingsley Okoroa</b> Department of Physics, Imo State University, Owerri, Nigeria</p> <p><b>Chukwuma Moses Anoruob</b> Department of Physics and Astronomy, University of Nigeria, Nsukka</p> <p><b>Chibuike Placid Chima</b> Department of Physics, Imo State University, Owerri, Nigeria</p> <p><b>Abstract</b> Renewable energy sources are theoretically able to provide vast amounts of energy irrespective of fossil fuel reserves and will not be depleted as long as the sun keeps shining on our planet. We know that Africa is blessed with abundant but un-utilized sources of renewable energy; solar thermal, hydropower, solar photovoltaic (PV), geothermal energy, biomass and biogas. However, despite the abundance of solar energy resource in African continent, it is found that applications and utilization of the resource is majorly limited to small-scale and isolated applications. In this work is presented the solar electricity potential for selected African capital cities in the North, West, Central, East and Southern regions of Africa that ranged from 7.40 to 8.0 kWh/m<sup>2</sup>, 6.23-6.83 kWh/m<sup>2</sup> over West Africa, and 5.61-6.26 kWh/m<sup>2</sup> in Central Africa, East Africa; 6.32-6.93 kWh/m<sup>2</sup> and 6.71-7.0 kWh/m<sup>2</sup> in South Africa. We orchestrate that providing energy access to the hundreds of millions of unelectrified households in Africa quickly, cost-effectively and sustainably is a daunting challenge that can be achieved by government focused, monitored and implementable policies that will favour the transparent growth and not “lip-talk” about renewable energy particularly for the isolated domestic, commercial and industrial customers. Keywords: Africa, renewable energy, solar electricity, policies, politics, sustainable energy</p>
<p>Aulia Ratri Hapsari ERCICSTR1920058</p>	<p><b>Green Synthesis of Silver Nanoparticles with Aloe Vera Gel Leaf Extract As Bioreductor by Indirect Sonication Method</b></p> <p><b>Aulia Ratri Hapsari</b> Department of Chemistry, Faculty of Mathematics and Natural Sciences, Universitas Gadjah Mada, Yogyakarta, Indonesia</p> <p><b>Taufik Abdillah Natsir</b> Department of Chemistry, Faculty of Mathematics and Natural Sciences, Universitas Gadjah Mada, Yogyakarta, Indonesia</p> <p><b>Mudasir</b> Department of Chemistry, Faculty of Mathematics and Natural Sciences, Universitas Gadjah Mada, Yogyakarta, Indonesia</p> <p><b>Endang Tri Wahyuni</b> Department of Chemistry, Faculty of Mathematics and Natural Sciences, Universitas Gadjah Mada, Yogyakarta</p> <p><b>Abstract</b> In this study, silver nanoparticles were synthesized using aloe vera gel leaf extract as a bioreductor by indirect sonication method with the assistance of conventional ultrasonic bath. The aloe vera gel</p>



extract was used as a bioreductor due to the phenolic and aloin content. From the FT-IR of aloe vera gel leaf, it can be seen that there is a strong broad absorption band at 3410 cm<sup>-1</sup> represents phenolic OH groups. The absorption band at 1597 cm<sup>-1</sup> and 1720 cm<sup>-1</sup> is due to carbonyl groups, and C=C stretching, respectively, which indicates the presence of aloin compound. The addition of 0.1 mL of aloe vera gel leaf extract into 5 mL AgNO<sub>3</sub> 0.01 M reduced AgNO<sub>3</sub> to Ag<sup>0</sup>, which is shown by the color change. The color change from colorless to yellowish-orange after 1 h of indirect sonication indicated the formation of AgNPs, which then proved by the wavelength shift from 303 nm to 425 nm for AgNO<sub>3</sub> solution and AgNps, respectively. To find out the ability of synthesized AgNps as Hg(II) colorimetric sensor, 1 mL of Hg(II) was added into 4 mL of AgNps. The interaction between AgNps and Hg(II) reduced the peak intensity of surface plasmon resonance spectra at 425 nm, as indicated by the change in color from yellowish-orange to colorless.

**Keywords:** Silver Nanoparticles, Aloe Vera, Green Synthesize, Ultrasonic, Sensor, Mercury

## LISTENERS

**Okpara Daniel Chidi**

Chairman, Righteous Gate International Ltd, Lagos, Nigeria  
ERICICSTR1920050

**Akindele Tayo Oluwagbenga**

Chief Engineer, Righteous Gate International Ltd, Lagos, Nigeria  
ERICICSTR1920050

**Sulaiman Yisa Omeiza**

Computer Engineer, Righteous Gate International Ltd, Lagos, Nigeria  
ERICICSTR1920050

**Edeh Emmanuel Chukwuemeka**

Information Technology, Righteous Gate International Ltd, Lagos, Nigeria  
ERICICSTR1920050

**James K K. Kwiah**

Office of Sen A. Marshall Dennis, Liberian Senate, National Legislature of Liberia, Monrovia, Liberia  
ERICICSTR1920059

## Upcoming Conferences

<https://eurasiaresearch.org/stra>

- 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
- 4th ICSTR Kuala Lumpur – International Conference on Science & Technology Research, 14-15 May 2020

- ICSTR Seoul – International Conference on Science & Technology Research, 22-23 May 2020
- 3rd ICSTR Prague – International Conference on Science & Technology Research, 04-05 June 2020
- 6th ICSTR Singapore – International Conference on Science & Technology Research, 11-12 June 2020
- ICSTR Paris – International Conference on Science & Technology Research, 10-11 June 2020

