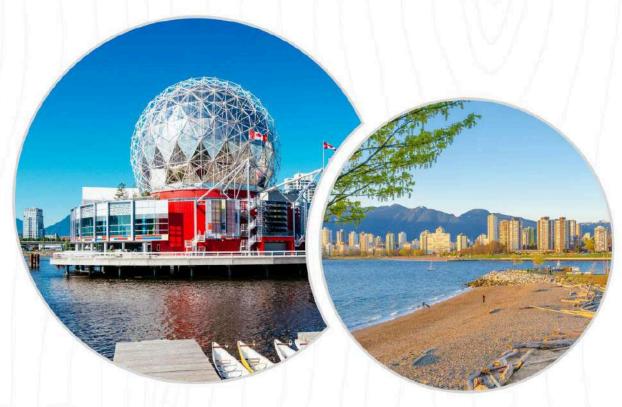
# **CONFERENCE ABSTRACT**

August 16-18, 2024 Vancouver, Canada







Proudly Canadian, Truly Global

## **Abstract Book**

August 16-18, 2024 – Vancouver, Canada

Format: Electronic Book

ISBN: 978-1-998259-40-3

#### **Venue**

The University of British Columbia
August 17, 2024
Vancouver, Canada

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## **Welcome**

As Conference Chair I'm honored to welcome all participants to the **Conference organized** by Global Conference Alliance Inc. held on April 26-28, 2024, in beautiful Vancouver, Canada

This conference will be an excellent opportunity to meet and network with delegates from around the world in areas of management, marketing, international business, human resource management, accounting, finance, entrepreneurship, digital marketing, informational technology, Nursing, healthcare, HRM Leadership, Social Science, Engineering, business, and economics. Participants should benefit from conference presentations exploring cutting-edge reviews and investigations in basic and applied research.

Attending this conference also gives you an opportunity to explore Vancouver and enjoy its scenic views, tropical climate, and friendly people. Vancouver enjoys a global reputation as one of the world's top cities for quality of life and recreation. Vancouver attracts many international conferences and events, including the 2010 Winter Olympics and Paralympics.

Thank you for considering attending the Conference. A wide scope of participation will enrich our conference and help us all add significant value and experience to our shared research objectives.

Dr. Afzalur Rahman

CEO & Conference Chair

**Global Conference Alliance Inc.** 

Proudly Canadian, Truly Global

Jahman.



## **Conference Venue**

## UBC ROBSON SQUARE ROOM: C215

Classroom Label, 800 Robson Street, Vancouver, British Columbia Canada V6Z 3B7

#### **Directions:**







#### **Public Transit:**

UBC Robson Square is a short walk from the Burrard, Granville, and City Centre SkyTrain stations. Use the TransLink website to plan your trip via transit from any location in the Lower Mainland: <a href="https://www.translink.ca/">https://www.translink.ca/</a>

#### **Driving & Parking**

To access the West Park lot for 800 Robson Street (Lot 189), head south on Howe Street to the corner at Nelson Street. The parking lot entrance will be on your right, just before Nelson. Note that Howe is a one-way street. Once you have entered the parking lot, follow the directional signs to UBC Robson Square. Please consult the West Park website for current pricing. Or Call Westpark at: 604-669-7275 [PARK]

#### **Accessibility**

UBC Robson offers elevator access via our entrance on Hornby Street at Robson Street.





## **Conference Time Schedule**

#### August 16-18, 2024 -Vancouver, Canada

- Friday, August 16, 2024 Arrival & Reception of the participants to Vancouver, Canada
- Saturday, August 17, 2024 (Conference Day) Registration, opening speech, keynote speech, and technical sessions:

#### Registration will start from 1 PM, Gate Closed 1:30 PM

| Activity - Saturday, August 17, 2024 (Conference Day) | Time              |
|---|-------------------|
| Registration, Opening Remarks & Lunch                 | 1:00 PM - 1:30 PM |
| Keynote Speaker - Topic 1                             | 1:35 PM - 1:45 PM |
| Keynote Speaker - Topic 2                             | 1:50 PM - 2:00 PM |
| Keynote Speaker - Topic 3                             | 2:05 PM - 2:15 PM |
| Keynote Speaker - Topic 4                             | 2:20 PM - 2:30 PM |
| Keynote Speaker - Topic 5                             | 2:35 PM - 2:45 PM |
| Keynote Speaker - Topic 6                             | 2:50 PM - 3:00 PM |
| Keynote Speaker - Topic 7                             | 3:05 PM - 3:15 PM |
| Keynote Speaker - Topic 8 & 9                         | 3:20 PM - 3:30 PM |
| Keynote Speaker - Topic 10 & 11                       | 3:35 PM - 3:45 PM |
| Keynote Speaker - Topic 12 & 13                       | 3:50 PM - 4:00 PM |
| Technical Session/ Paper Presentation (For all Topic) | 4:05 PM - 4:40 PM |
| Coffee Break, Certificate Giving and Photo session    | 4:45 PM - 4:55 PM |
| Closing Ceremony and Photo Session                    | 4:55 PM - 5:00 PM |

• Sunday, August 18, 2024 – City visit (optional to the participants)





## **Conference Committee Keynote Speech**



**Srini Sampalli**Cybersecurity in the 2020's Emerging Challenges and Potential Solutions

Dr. Srinivas (Srini) Sampalli is a Professor and 3M National Teaching Fellow in the Faculty of Computer Science at Dalhousie University, Halifax, Canada, with expertise in emerging wireless technologies, specifically, Internet of Things and Near Field Communications, with applications to healthcare and cybersecurity. He has led numerous industry-driven research projects in this area funded by Canadian federal agencies and industry partners. He manages and oversees the EMerging Wireless Technologies (MYTech) lab in the Faculty of Computer Science Where he has supervised over 150 graduate students in his career. His primary joy is in inspiring and motivating students with his teaching and research. He has received the Dalhousie Faculty of Science Teaching Excellence Award, the Dalhousie Alumni Association Teaching Award, the Association of Atlantic Universities' Distinguished Teacher Award, a teaching award instituted in his name by the students within his faculty, the Atlantic Canada Section IEEE Outstanding Educator Award, and the 3M National Teaching Fellowship, Canada's most prestigious teaching acknowledgement. Since September 2016, he has been holding the honorary position of the Vice President (Canada) of the International Federation of National Teaching Fellows (IFNTF), consortium of national teaching award winners from around the world.



#### **Keynote Speech**



Faisal Zahed

Energy Trading Risk Management Leader

MBA University of Houston Decision Science

Member of PMI, Cybersecurity Alliance, ETRM Chapters

With a passion for navigating the complex and dynamic world of energy markets, I am a seasoned ETRM professional dedicated to optimizing trading strategies, mitigating risks, and driving profitability in the energy sector.

**Professional Summary:** Faisal Zahed Delivered ETRM (energy trading risk management) solution to oil & gas majors and largest MLP service providers.

Professional Career: Exxon Mobil, Halliburton, BP, Shell, Enterprise Products, JERA America

**Professional Affiliations:** Member of PMI, Cybersecurity Alliance, ETRM Chapters





#### **Keynote Speech**



Ekram Azim, PhD, EP, RP Lead Scientist, WSP Canada

Dr. Ekram Azim is a Lead Scientist at WSP Canada with over 25 years of teaching, research and experiences around the world in the areas of Aquatic Resources consulting Management including aquaculture and fisheries. He is highly skilled in technical writing and editing, has published around 100 articles in peer reviewed journals, books, professional magazines, and newspapers. Dr. Azim also edited a book on "Periphyton: Ecology, Exploitation and Management" published by CAB International (UK), and attended numerous international conferences and presented scientific papers. Dr. Azim has maintained an international professional relationship by acting as an Associate Editor for Freshwater Science (Frontiers), an Editorial Board Member for Aquaculture Reports (Elsevier) and reviewer for numerous international journals and research grant proposals. His professional experience in both academia and industries has made him an excellent professional in solving real-word environmental issues through innovative science and cutting-edge technology. Besides professional activities, Dr. Azim is involved in various community development initiatives including a Co-founder of the Step to Humanity, a Canadian charity for international development.

**Keynote Speaker Topic:** Environmental Sustainability of Aquaculture and Fisheries: a Global Perspective.





## **Committee Members**

- Dr. Afzalur Rahman, Douglas College, Canada Conference Chair
- **Dr. Michael Henry,** Thompson Rivers University, Canada; Dean, School of Business & Economics Adviser
- Masum Billah Bhuiyan, Founder of Giant Marketers
  IT Entrepreneur || Public Speaker || Business Coach || Digital Marketing Expert
- Mr. John O'Fee, QC, Thompson Rivers University, Canada Business Law and Human Resource Management
- Dr. Erika Skita, Instructor, Granville College in Vancouver, Canada
- Dr. Dushyant Gosai, Colorado State University-Global Campus, United States Accounting
- Mr. Simon Parker, Douglas College, Canada Marketing and International Business
- **Dr. Ahmed Hoque**, Vancouver Island University, Canada Economics and Banking
- **Dr. Emrul Hasan**, The University of British Columbia, Canada -Finance
- Dr. Murat Erogul, Faculty Member, Adelphi University, USA
- Ms. Marisa McGillivray, Economist at Statistics Canada Consumer Prices Division
- Mr. Quazi M. Ahmed, IFC/World Bank Group Certified Master Trainer
- Mrs. Yasmin Jahir, Divisional Chair, Electrical and Computer Engineering Director of Operations, USA
- **Dr. Imtiaz Ahmed,** Assistant Professor, Department of Electrical Engineering and Computer Science, Howard University, Washington, DC, USA
- Husnu Saner Narman, Faculty Member at Marshall University





## **Authors' Presentation Review**

#### Saturday, August 17, 2024

| Name and Affiliation               | Title  |
|------------------------------------|--|
| Calorine Twebaze (Author)          | Impact of Artificial Intelligence (Ai) on<br>Predictive Maintenance of Oil and Gas |
| Uganda National Oil Company (UNOC) | Equipment.   |

| Name and Affiliation                             | Title   |
|--|---|
| Roya Geravand (Author)  Pars Oil and Gas Company | Application of Deconvolution Analysis in Conjunction with PLT-PTA to Evaluate Stimulation Job Performance: A case study on a Gas Condensate Reservoir located in the Middle East. |

| Name and Affiliation   | Title  |
|--|--|
| Bonsu Franklina Boakyewaa (Author)  Kwame Nkrumah University of Science and Technology | Hindrances to the Adoption of Prefabrication in the Ghanaian Construction Industry |

| Name and Affiliation              | Title  |
|-----------------------------------|--|
| Hailu Yifru Mengesha(Author)      | Safety and Security Evaluation of Three-Wheeler Taxis as a Public Transport in |
| Abnet Woube Building Construction | Kombolcha City, Ethiopia.  |



| Nam  | ne and Affili | ation     | Title  |
|--|---------------|-----------|--|
| Anteneh Admasu Belay (Author) East Africa Bottling share Company |               | ` /       |  |
| Yedilfana<br>(Co-Author)<br>Addis Ababa                          |               | Mekonnen  | Experimental and simulation analysis of biogas production from beverage wastewater sludge for electricity generation |
| <b>Wondwossen</b> <i>Addis Ababa</i>                             | •             | o-Author) |  |

| Name and Affiliation   | Title  |
|--|--|
| Masud Hatami (Author) Istanbul Technical University  Taraneh Saadati (Co-Author) Istanbul Technical University | Energy System Management in Historic Cities,<br>Yazd World Heritage Area |

| Name and Affiliation  |             | Title  |
|-----------------------|-------------|--|
| Dr. Florence (Author) | Appiah-Twum | Dynamic Environmental Efficiency Assessment and determinants; Evidence from Asia Pacific |
| Jiangsu University    |             | Countries.   |

| Name and Affiliation                           | Title   |
|--|---|
| Bless Kofi Edziah (Author)  Jiangsu University | Analyzing Material Efficiency in Sub-Saharan Africa: Does Technology Transfer Matter? |

| Name and Affiliation  | Title   |
|---|---|
| Owusu Elvis Agyemang (Author)  Naagee Automobile Enterprise | Emergency Response and Disaster Management in<br>Africa – A Case study in Ghana |





| Name and Affiliation   | Title  |
|--|--|
| Saeid Hejri (Author) Centre for Infrastructure Engineering, Western Sydney University      |  |
| Seyed Alireza Mostafavi (Co-Author) Department of Mechanical Engineering, Arak University  | Numerical Simulation of Biomass Pyrolysis<br>for Increasing Bio-Oil Yield: Insights for<br>Renewable Biofuels from Solid Wastes in a<br>Biomass Pyrolysis Process. |
| Reza Dorosti (Co-Author) Sharif Engineering and Process Design Consulting Company (SEPDCO) |  |
| Bijan Samali (Co-Author) Centre for Infrastructure Engineering, Western Sydney University  |  |



## **Instructions for Oral Presentation**

#### Saturday, August 17, 2024

#### **Devices provided by the conference organizer:**

- **❖** Laptop (with MS-Office and Adobe Reader)
- Projector and Screen

#### Materials provided by the presenters:

❖ PowerPoint or PDF files (files should be copied to the conference laptop at the beginning of each session)

#### **Duration of each presentation:**

- ❖ Regular oral presentation 10 minutes including Q&A
- ❖ Keynote speech 20 minutes

## **Instructions for Publication**

All accepted papers in the Conference will be published in the online conference proceedings:

**Title:** Conference Abstract August 16-18, 2024, Vancouver, Canada.

**ISBN**: 978-1-998259-40-3

Format: Electronic book

## **Instructions for Participants**

To attend the conference, please ensure you bring a printed invitation letter and a valid photo ID (such as Passport, Driving License, or any government-issued ID with a photo) on the day of the event. Admittance to the conference will not be granted without these documents. We greatly appreciate your cooperation.



## **Authors' Presentation Schedule**

## Saturday, August 17, 2024

| Name and Affiliation  | Title & Abstract   |  |
|---|--|--|
|   | Impact of Artificial Intelligence (Ai) on Predictive<br>Maintenance of Oil and Gas Equipment.  |  |
|   | Abstract   |  |
|   | The world of oil and gas operations continue to grapple with the critical intricacies of optimizing maintenance operations to avert Safety related disasters. The influence of Artificial Intelligence (AI) in revolutionizing various sectors is becoming increasingly prominent. This paper focuses on how artificial intelligence can provide a transformative solution to predictive maintenance in oil and gas operations. The research concentrated on oil and gas operations in East Africa.  |  |
| Calorine Twebaze (Author)  Uganda National Oil Company (UNOC) | AI is a relatively novel concept in many fields, including oil and gas engineering, thus the paper focuses on existing literature to understand existing problems in the East African energy context and how this technology can provide transformative solutions. The research compares East African factors with global elements to understand their uniqueness in the oil and gas operations.   |  |
|   | The study would enable; 1) Understanding whether the unique geological and operational attributes in East Africa can influence the efficacy of predictive maintenance for oil and gas equipment. 2) How AI powered predictive maintenance can have significant opportunities for East Africa's oil and gas operations, such as early detection of potential failures and remote monitoring capabilities, considering East Africa's hurdles and potential opportunities for advancements, and 3) Effective recommendations that East African nations can consider when seeking to optimize predictive maintenance activities. |  |
|   | The comprehensive research undertaken that involved maintenance practices in oil and gas, innovations in AI for predictive maintenance, enhancement of maintenance through   |  |



technologies, AI and predictive maintenance versus traditional methods, the following findings were highlighted:

- 1) Oil and Gas operations in East African countries face particular unique factors of geological complexities such as complex faulting, high pressured reservoirs as well as deep water exploration challenges. 2) The current study identifies unique attributes in limited infrastructure, inadequate technical expertise, political instability, and regulatory uncertainties.
- 3) Furthermore, the findings based on the literature review indicate that AI algorithms can analyse big data from sensors installed on oil and gas equipment, thus AI-enabled predictive.

This paper thus recommends: (1) investments in advanced technology like AI and Machine Learning (ML) Algorithms, (2) collaboration between Government Agencies, academic institutions, and independent Companies for broader knowledge-sharing on AI's implementation in oil and gas operations, and (3) robust regulatory frameworks that emphasizes, and encourages proactive, predictive maintenance actions by companies involved in oil and gas operations in East Africa.

**Keywords:** Artificial Intelligence, Innovation, Predictive Maintenance, Machine Learning, Algorithms, Oil and Gas, East Africa.

| Name and Affiliation  | Title   |
|---|---|
|   | Emergency Response and Disaster Management in Africa –<br>A Case study in Ghana   |
| Owusu Elvis Agyemang (Author)  Naagee Automobile Enterprise | Abstract:  Emergency response and disaster management in the transport sector are critical for ensuring the safety and resilience of transportation systems, particularly in Africa where infrastructural challenges often exacerbate the impact of disasters. This study examines the case of Ghana to assess its emergency response and disaster management strategies within the transport sector. |



| Name and Affiliation                                    | Title & Abstract  |
|---|---|
|   | Application of Deconvolution Analysis in Conjunction with PLT-PTA to Evaluate Stimulation Job Performance: A case study on a Gas Condensate Reservoir located in the Middle East  |
| Roya Geravand (Author)  Pars Oil and Gas Company (POGC) | Abstract: Deconvolution is a process in which unit-rate pressure response could be estimated from the observed variable rate and pressure drop data, therefore more data will be available for well testing analysis compared to pressure-derivative, in which only constant rate/ shut-in periods could be interpreted. This study presents application of deconvolution analysis in conjunction with two sets of diagnosing data including pressure transient analysis (PTA), surface well testing and production logging (before and after acidizing job) in a gas condensate carbonate reservoir to evaluate the efficiency of stimulation and well deliverability improvement. This evaluation would help us to optimize the treatment job design and operation in offset wells. In addition, it could be very useful in fully understanding the well test behaviours of individual reservoir layers; and in identifying hydraulic flow units, fluid segregation and possible cross flow between layers. Pressure transient analysis was performed using both pressure derivative and variable-rate deconvolution methods. The deconvolved derivatives were beneficial in identifying infinite acting redial flows and boundary effects detection. The results show the improvement of total productivity index and wellhead flowing pressure after stimulation job. However, the treatment job mostly affects the reservoir layer with higher pressure, hence a non-uniform skin removal.  Keywords: Deconvolution, Pressure Transient Analysis, Production Logging, Gas-Condensate |



| Name and Affiliation   | Title & Abstract  |  |
|--|---|--|
|  | Hindrances to the Adoption of Prefabrication in the Ghanaian Construction Industry.  Abstract   |  |
| Bonsu Franklina Boakyewaa (Author)  Kwame Nkrumah University of Science and Technology | Purpose: The construction sector suffers significant challenges which are intertwined with processes and products of the traditional onsite construction approach. The quest for a lasting solution to these problems is heralding the change towards offsite construction. The primary success parameters of every project are time, cost and quality. The need to control large quantities of waste is also an issue of great concern in the construction industry. The adoption of new technological advancement in the construction sector is seen as the way forward to achieving project success. Prefabrication has been adopted for construction project by many countries across the world. The aim of this study was to investigate the hindrances faced by the Ghanaian construction industry in adopting prefabricated construction.  Methodology: This was achieved by meeting the following objectives: To examine the state and extent to which prefabrication is used in Ghana; To identify the strategies to enhance the adoption of prefabricated construction in Ghana; To explore the barriers to adopting prefabricated construction in the Ghanaian construction industry. The research made use of literature review of existing work. One hundred and twenty (120) questionnaires were designed and administered to respondents as a quantitative research method. The purposive and the snow ball techniques were employed in attaining our sample size and the data gathered were analyzed using the Statistical Packages for Social Science (SPSS) software. Mean score ranking was the statistical tool used in the analysis. Findings: Findings of the study indicated that the current level of prefabricated construction in Ghana is low. Some of the barriers identified were disapproval by the market, lack of skilled personnel to carry on with prefabricated components to site, low investment into prefabrication, high employee training cost, monotone aesthetics issues, lack of necessary technical expertise, high cost due to discordant scale, lack of relative policies, laws |  |



personal preference), lack of governmental incentives. The results also indicated that, in spite of the difficulties in the adoption of prefabrication, stakeholders in the Ghanaian construction industry believe that Government, Contractors, Developers and Users can help in the adoption of prefabrication if the following measures are successfully observed; Train workers by offering appropriate technical guidance, Encourage stakeholders to adopt prefabrication, Filling gaps in industry standards, Effectively reduce upfront cost, Government to vigorously cultivate professional talents, Government incentives, Increase research input and Government to implement policies to remove the economic barriers

**Implications:** The adoption of prefabrication will contribute to reducing the huge housing deficit and facilitate the industrialization of the construction industry. Prefabrication has the capacity to offer alternative choice of solutions and to further improve quality and value for money for construction projects. The findings will contribute to the adoption of prefabrication for construction projects and has provided a broad view of the essence for the use of prefabrication in construction.

**Originality:** This study provides valid points on the state of prefabrication in Ghana and the hindrances to its adoption in the Ghanaian construction industry.

**Keywords:** Prefabrication, Construction industry, Ghana, Hindrances

| Name and Affiliation |            | Title & Abstract   |  |
|----------------------|------------|--|--|
|                      |            | Energy System Management in Historic Cities, Yazd World Heritage Area. |  |
| Masud Hatami         | i (Author) | The emergence of the smart city concept has successfully               |  |
| Istanbul             | Technical  | influenced various dimensions of urban space. In this context, it      |  |
| University           |            | is crucial to re-evaluate urban area management systems in the         |  |
|                      |            | context of smart concepts. Energy management systems have              |  |
| Taraneh              | Saadati    | become one of the most affected areas of urban management              |  |
| (Co-Author)          |            | systems. Energy management systems include a set of                    |  |
| Ìstanbul             | Technical  | technologies and processes aimed at monitoring, controlling and        |  |
| University           |            | optimizing energy consumption. These systems are used to               |  |
|                      |            | increase energy efficiency, reduce costs, promote sustainable          |  |
|                      |            | energy use, and minimize environmental impacts.                        |  |
|                      |            | The energy management systems of historic cities that are World        |  |



Heritage Sites are of particular importance in achieving sustainable development goals and in preserving, revitalizing, and improving the quality of life. In addition, energy management systems should be integrated in historic cities to reduce environmental impacts and lower energy costs. The application of these systems should be diverse and take into account the unique characteristics of different climates.

This article focuses on the energy management system of the historic city of Yazd, a UNESCO World Heritage Site. The aim is to rethink Yazd's energy management system within the framework of the smart energy concept and propose a new framework. The use of smart methods and advanced technologies will play a crucial role in increasing the city's sustainable energy potential. The integrated analysis, monitoring and use of data collected through the proposed methods within the energy management system aim to increase the city's energy efficiency. The research addresses the question of how to increase energy efficiency and enhance the quality of life in historic cities, specifically focusing on the case of the Yazd World Heritage Site. It aims to explore the potential benefits of integrating smart methods and advanced technologies in the city's energy management system. The study employs a mixed-method research methodology, combining experimental research, survey research, and case study research. This approach allows for a comprehensive analysis of the current energy management system in Yazd and the potential improvements that can be made.

The aim of the article is to examine the increase in energy efficiency in world heritage sites. In this context, a new energy management system is proposed for the Yazd World Heritage Site by reviewing the framework and elements of the smart city concept. It is aimed to positively impact the dimensions of preservation, revitalization, and improvement of the quality of life through the integrated management of the city's energy system within the framework of sustainable energy.

**Keywords:** Sustainable Energy, World Heritage Area, Energy Efficiency, Energy Management, Yazd



| Name and Affiliation   | Title & Abstract   |
|--|--|
| Hailu Yifru Mengesha   | Safety and Security Evaluation of Three-Wheeler Taxis as a Public Transport in Kombolcha City, Ethiopia.  Abstract  Motorized three-wheeler taxis provide an important means of transportation in Ethiopia. Although these motor vehicles have been designed for the purpose of public transportation, there is a lack of sufficient studies on their safety and security. Therefore, this study aimed to evaluate the safety and security status of these three-wheeler taxis as a public transport in Kombolcha city. To do that, questionnaire data from 395 respondents (passengers and drivers) and police-recorded crime as well as crash data were collected and analyzed. From the analysis, it was found that pedestrian collisions, overturning or topping, and passengers jumping and falling while the vehicle was in motion |
| Hailu Yifru Mengesha (Author)  Abnet Woube Building Construction | 1  |





| Name and Affiliation  | Title & Abstract   |
|---|--|
|   | Experimental and simulation analysis of biogas production from beverage wastewater sludge for electricity generation.  |
|   | Abstract   |
| Anteneh Admasu Belay<br>(Author)<br>East Africa Bottling share<br>Company | This study assessed the biogas and methane production potential of wastewater sludge generated from the beverage industry. The optimization of the biogas production potential of a single fed-batch anaerobic digester was operated at different temperatures (25, 35, and 45 °C), pH (5.5, 6.5, 7.5, 8.5, and 9.5), and organic feeding ratio (1:3, 1:4, 1:5, and 1:6) with a hydraulic retention time of 30 days. The methane and biogas productivity of beverage wastewater sludge in terms of volatile solid (VS) and volume was determined. The maximum production of biogas (15.4 m3/g VS, 9.3 m3) and methane content (6.3 m3/g VS, 3.8 m3) were obtained in terms of VS and volume at 8.5, 35 |
| Yedilfana Setarge<br>Mekonnen (Author)                                    | °C, 1:3 of optimal pH, temperature, and organic loading ratio, respectively. Furthermore, the maximum methane content (7.4)  |
| Addis Ababa University  | m3/g VS, 4.4 m3) and biogas production potential (17.9 m3/g VS, 10.8 m3) were achieved per day at room temperature. The  |
| Wondwossen Bogale (Author) Addis Ababa University                         | total biogas and methane at 35 °C (30 days) are 44.3 and 10.8 m3/g VS, respectively, while at 25 °C (48 days) increased to 67.3 and 16.1 m3/g VS, respectively. Furthermore, the electricity-generating potential of biogas produced at room temperature (22.1 kWh at 24 days) and optimum temperature (18.9 kWh) at 40 days was estimated. The model simulated optimal HRT (25 days) in terms of biogas and methane production at optimum temperature was in good agreement with the experimental results. Thus, we can conclude that the beverage industrial wastewater sludge has a huge potential for biogas production and electrification.   |
|   | <b>Keywords:</b> Anaerobic digestion, Methane, Biogas, Beverage industry wastewater sludge, Volatile solids, Simulation  |



#### Name and Affiliation Title Numerical Simulation of Biomass Pyrolysis for Increasing Bio-Oil Yield: Insights for Renewable Biofuels from Solid Wastes in a **Biomass Pyrolysis Process.** Abstract Pyrolysis process of biomass materials, wherein the feedstock is heated in the absence of oxygen, is an attractive method for producing bio-oil. providing a sustainable substitute for fossil fuels. In this study, the pyrolysis of an individual Saeid Hejri (Author) biomass particle has been simulated under Centre for Infrastructure Engineering, various conditions, examining the effects of Western Sydney University parameters such as particle density, moisture content, and reactor wall temperature on tar vield Seved Alireza Mostafavi (Co-Author) mass fraction and time to reach 95% conversion. Department of Mechanical Engineering, It was observed that at higher temperatures, the Arak University tar yield mass fraction increases, and porous particles with smaller size and lower density Reza Dorosti (Co-Author) exhibit potential for achieving higher tar yields. Sharif Engineering and Process Design Additionally, regarding the application, the Consulting Company (SEPDCO) virgin biomass decomposes into tar (liquid phase) and gas (gas phase), along with char Bijan Samali (Co-Author) (solid phase); the tar and liquefied gas, with Centre for Infrastructure Engineering, minor refining, could serve as a liquid fuel akin Western Sydney University to diesel, while the char or ash could be utilized as a base for new applications, primarily in green concrete applications. Finally, the model has been validated against experimental results, showing good agreement. **Keywords:** Biomass Pyrolysis, Bio-oil, Tar yield, Mass fraction, Moisture content, Particle density, Numerical simulation, biofuels, biodiesel, waste management, renewable energy, Green concrete, environmental sustainability.





| Name and Affiliation                                  | Title   |
|---|---|
|   | Dynamic Environmental Efficiency Assessment and determinants; Evidence from Asia Pacific Countries.   |
| Dr. Florence Appiah-Twum (Author)  Jiangsu University | Abstract:  The pursuit of socio-economic growth has come at a cost and at the expense of eco-protection. Globally, countries are experiencing alarming climate change due to the excessive use of energy inputs, resulting in the indiscriminate release of gaseous pollutants, hazardous to human survival. It is, therefore, essential to identify the convergence point of economic growth and eco-performance today. Whiles past researches have mostly focused on the use of static efficiency, the dynamic connectors of the crossover factors in productivity have seriously been neglected, especially in studies of the Asia Pacific countries. Moreover, eco-efficiency trends and patterns over time have also been ignored, giving need for this study. This study employs the dynamic slack-based measurement (DSBM) within the Data Envelopment Analysis (DEA) model to evaluate dynamic environmental efficiency of 15 Asia pacific countries from the period 2010 to 2018, applying energy stock as the crossover variable factor. Moreover, this research examines the inputs, output and crossover factors inefficiency within the model to point out likely areas of inefficiencies. The findings show that the selected Asia Pacific countries are environmentally inefficient and seriously need to consider adjustments and projections on their use of inputs, output as well as crossover factors in order to enhance eco-efficiency. Policy makers need to keenly strengthen and enforce measures such as the adoption of clean and green technologies, enforcement of carbon and pollution taxes on dirty industries.  Keywords: Socio-economic growth, eco-protection, gaseous pollutants, climate change, eco-performance, environmental efficiency, Asia Pacific countries, eco-efficiency trends and patterns |



| Name and Affiliation                           | Title  |
|--|--|
|  | Analyzing Material Efficiency in Sub-Saharan Africa:<br>Does Technology Transfer Matter? |
| Bless Kofi Edziah (Author)  Jiangsu University | , , ,  |
|  | transfer, productivity, stochastic frontier analysis                                     |



| <u>Note</u> |   |
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