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Conference Program

International Exchange and Innovation Conference on Engineering & Sciences IEICES 2021

First Day **Oct. 21st (Thursday)**

9:30 – 09:40	*Welcome Speech*: **Assoc. Prof. Osama Eljamal** IEICES 2021 Chair *Interdisciplinary Graduate School of Engineering Sciences, Kyushu University*
Session 1	
Session Chair **Co-chair**	**Ladan Malehmirchegini** **Hamid Basiri**
09:40 – 10:10	*Keynote Speech*: **Ushering in a new age of urban energy efficiency and low emission societies.** *Assoc. Prof. Hooman Farzaneh, Energy and Environmental Systems (EES) Laboratory, EEE, IGSES, Kyushu University, Japan.*
10:10 – 10:20	**Molecular dynamics simulation for barium zirconate proton conducting oxide energy materials: A review.** *M. Khalid Hossain, M. Ishak Khan, T. S. Akash, Kenichi Hashizume, Kyushu University, Japan.*
10:20 – 10:30	**Fracture Analysis of Resurfaced Femur with Varus Implant Placement.** *Nor Aiman Nor Izmin, Fatin Hazwani, Mitsugu Todo, Abdul Halim Abdullah, Kyushu University, Japan.*
10:30 – 10:40	**Thermoelectric Properties and Microstructure of In- and Ga-doped ZnO fabricated by Spark Plasma sintering.** *Ahrong Jeong, Byung-Koog Jang, Kyushu University, Japan.*
10:40 – 10:50	**Densification Behavior of Transparent Y_2O_3 Ceramic in Two-Step Spark Plasma Sintering.** *Ji-Hwoan Lee, Byung-Koog Jang, Kyushu University, Japan.*
10:50 – 11:00	**High-temperature corrosion behavior of calcia-magnesia-alumina-silica on $Er_2Si_2O_7$ for environmental barrier coatings.** *Seung-Hyeon Kim,Byung-Koog Jang, Kyushu University, Japan.*
11:00 – 11:10	**A Study on Electrical Wire and Floating Tower Interaction for an Offshore Overhead Power Transmission System.** *Ruo Luo, Hongzhong Zhu, Changhong Hu, Kyushu University, Japan.*
11:10 – 11:20	**Digitalization, energy intensity and economic growth: A panel study on South Asian economies.** *Shahadat Hosan, Shamal Chandra Karmaker, Md. Matiar Rahman, Md. Azad Uddin and Bidyut Baran Saha, Kyushu University, Japan.*

11:20 – 11:30	**Air-conditioning loads characteristics and peak reduction potential for demand response in a residential community.** *Jiajun Lyu, Aya Hagishima, Jun Tanimoto, Kyushu University, Japan.*
11:30 – 11:40	**Dynamic linkage between biomass energy consumption and ecologicalfootprint: A panel analysis for BRICS countries.** *Shamal Chandra Karmaker, Shahadat Hosan, Md. Matiar Rahman, Kanchan Kumar Sen, and Bidyut Baran Saha, Kyushu University, Japan.*
11:40 – 11:50	**Surface relaxation of clean Mo (110), optimization of Sn adsorption and ab-initio calculation of the electronic density of states (DoS).** *Dhiman Banik, Shahadat Hossain, Chen Xiaobin and Takeshi Nakagawa, Kyushu University, Japan.*
11:50 – 13:00	**Lunch Break**

Session 2

Session Chair **Co-chair**	**Lama Osman Abdelbaset** **Nor Aiman Nor Izmin**
13:00 – 13:30	*Keynote Speech*: **Applications of Nano-diamond films deposited by coaxialarc plasma deposition method.** *Asst. Prof. Abdelrahman Zkria, Center for Japan-Egypt Cooperation in Science and Technology, Kyushu University, Japan.*
13:30 – 13:40	**Improvement of Airflow Distribution for Precision Air Conditioning Data Centre.** *Mohd Hafiz Bin Mohd Noh, A. S. Rasidi, A. H. A. Hamid, Universiti Teknologi MARA (UiTM), Malaysia.*
13:40 – 13:50	**The influence of magnetic field on muography images: a simulation study.** *Hamid Basiri, Tadahiro Kin, Naoya Okamoto, Kyushu University, Japan.*
13:50 – 14:00	**Finite element analysis of different spinal cage designs for posterior lumbar interbody fusion.** *Kugendran A/L Mahendran, Muhammad Hilmi bin Jalil, Universiti Malaysia Pahang, Malaysia.*
14:00 – 14:10	**Computational data of Gelatin for hybrid biomaterials.** *Nur Nabila Mohd Nazali,Tuan Afif Tuan Afif Fatihah binti Tuan Azza Afif, MuhammadZurhairie Bin Senan , Nor Fazli Adull Manan, Universiti Teknologi Mara (Uitm) Shah Alam, Malaysia.*
14:10 – 14:20	**Computational Study on Femoral Fracture using CT-Image based Finite Element Method.** *Zaw Linn Htun, Mitsugu Todo, Kyushu University, Japan.*

14:20 – 14:30	**CFD Analysis of Rocket Convergent-Divergent Nozzle.** *Ahmad Hussein Abdul Hamid,Nik Muhammad Hafiz Nik Ismail, Zuraidah Salleh, Mohd Hafiz Mohd Noh, Mohammad Juani Sujana, Mohamad Amirul Muhammad, Universiti Teknologi MARA, Malaysia.*
14:30 – 14:40	**The Combustion of a Diesel Oil-Based/Coal/Water Slurry in a Horizontal Cylindrical Furnace: An Experimental Investigation.** *Motaz Mabrouk Salama, Elsaeed Elsihy, Kyushu University, Japan.*
14:40 – 14:50	**Design Evolution of High-Powered Motorcycle Paddock Stand via Engineering Technological Advancement and Ergonomics Consideration.** *Helmi Bin Rashid, Nu Marini Zainal Abidin, Muhammad Faridzul Faisal Mohd Roslan, Muhammad Hazim Azman, Muhammad Iman Amludin, Wan Muhammad Syahmi Wan Fauzi, Universiti Teknologi MARA, Malaysia.*
14:50 – 15:00	**Project on Improving Fast Ejecting System of Targeted Sample (FESTA) and Gas Calibration Before Experiments.** *YUE Qilin, Kazuaki Hanada, Makoto Oya, Makoto Hasegawa, Kyushu University, Japan.*

Session 3

Session Chair **Co-chair**	**Mohd Faizul Idham** **Yue Qiliin**
15:00 – 15:30	*Keynote Speech*: **ASEAN Multination Collaboration Project: Crafting Indigenous Space Programme in Malaysia/ ASEANSAT: A Feasible Model for International Satellite Collaboration Project.** *Prof. Mohamad Huzaimy Jusoh, School of Electrical Engineering, Universiti Teknologi MARA (UiTM), Malaysia.*
15:30 – 15:40	**Numerical Analysis of Crack Propagation in Beam Supported Reinforced Concrete Two-Way Slab.** *Md. Ariful Hasan, Al Amin, Riyadul Hashem Riyad, European University of Bangladesh, Bangladesh.*
15:40 – 15:50	**Relative Study of Flow Properties Between Orifice and Nozzle Plates.** *Md. Ariful Islam Shubho, Towsibur Rahman, Prof. Dr. M.A. Taher Ali, Military Institute of Science and Technology, Bangladesh.*
15:50 – 16:00	**A Simulation-Based Investigation of Cu_2ZnSnS_4 Solar Cells with Graphene as a Window Layer.** *Samira Yasmin, Jannatul Ferdous, Bidyut Baran Saha, Sampad Ghosh, Chittagong University of Engineering and Technology (CUET), Bangladesh.*
16:00 – 16:10	**Performance Evaluation of Microbial Fuel Cell with Food Waste Solution as a Potential Energy Storage Medium.** *Nahian Masud, Al-Mustasin Abir Hossain, Md Jawarul Moresalein and Mohammad Ali, Bangladesh University of Engineering & Technology (BUET), Bangladesh.*

16:10 – 16:20	**Different Machine Learning Techniques for Detecting Diabetes in Human Body.** *Subrata Kumer Paul, Rakhi Rani Paul, S.M. Tahsin Zaman, Bangladesh Army Universityof Engineering & Technology (BAUET), Bangladesh.*
16:20 – 16:30	**An Investigation towards the Effects of Using FRPs in the Enhancement of Shear Strength of RC Beams without Using Stirrups.** *Jarin Tasnim Heia, Md. Mashfiqul Islam, Ariful Islam, Ahsanullah University of Science and Technology, Bangladesh.*
16:30 – 16:40	**Investigating variation of dynamic frictional Effect of different textile fabrics against dry and wet human skin condition at a fixed load.** *Shadman Sakief Hridoy, Md. Jahid Hasan Sagor, Ehsanul Azim, Talaat Abdelhamid, Bangladesh University of Engineering and Technology, Bangladesh.*
16:40 – 16:50	**Encapsulation of industrial cationic pollutants from aqueous solution by nanocrystalline cellulose and its modified forms.** *Hridoy Roy, M. Motiur Rahman, Yeasin A. Tarek, Shakhawat H. Firoz, Bangladesh University of Engineering and Technology, Bangladesh.*
16:50 – 17:00	**Optimization of Solar, Wind and Biomass-Based Hybrid Renewable Energy System in St. Martin's Island, Bangladesh.** *Ankur Das Avi, Tiham Fayaz, Bidyut Baran Saha, Sampad Ghosh, Chittagong University of Engineering and Technology (CUET), Bangladesh.*
17:00 – 17:15	**Break**

Session 4

Session Chair **Co-chair**	**Duha Hammad** **Sagar Saren**
17:15 – 17:45	*Keynote Speech*: **Integrating Climate Change and other Sustainable Development Goals in Cities: Making the Connections.** *Dr. Eric Zusman, Institute for Global Environmental Strategies, Japan.*
17:45 – 17:55	**Profiling and Technical Evaluation of Existing Agricultural Warehouses in the Agusan Provinces, Caraga Region, Philippines.** *Philip Donald C. Sanchez, Kimberly S. Amar, Melody E. Rayoso, Caraga State University, Philippines.*
17:55 – 18:05	**Assessment of Different Screw Types for The Development of Continuous Combined Grater-Presser Machine for Cassava Grates Processing.** *Jack O. Bertulfo, Caraga State University, Philippines.*
18:05 – 18:15	**Development of Cacao Pod Crushing Machine.** *May Rose B. Osoteo, Lois Y. Pajaron, Arfelyn A. Paque, Caraga State University, Philippines.*

18:15 – 18:25	**Biomechanical Analysis of Zinc Hydroxyapatite Parietal-Temporal Implant with Different Pore Sizes.** *Nik Harisha Qistina Nik Hamdi, Wan Nur Fatini Syahirah W. Dagang, Shahrul Hisyam Marwan, Jamaluddin Mahmud, Nor Fazli Adull Manan, Abdul Halim Abdullah, Universiti Teknologi MARA, Malaysia.*
18:25 – 18:35	**Development of ankle-foot orthosis (AFO) with IoT controller.** *Abdul Muqtadir bin Ab Wahid, Abdul Halim Abdullah, Universiti Teknologi MARA (UiTM), Malaysia.*
18:35 – 18:45	**Effects of Material Properties in Developing the 3D Printed Adjustable Headrest Orthosis.** *Mohd Hazwan Mohamed Norli, Madya Mastika Ahmad, Wan Nur Fatini W. Dagang, Mohd Hafiz Mohd Noh, Abdul Halim Abdullah, Politeknik Banting Selangor, Malaysia.*
18:45 – 19:00	**Closing Remark**

Conference Program

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Second Day **Oct. 22nd (Friday)**

Session 1	
Session Chair **Co-chair**	**Zhaosheng Yang** **Duha Hammad**
09:00 – 09:30	*Keynote Speech*: **Global Challenges with Ageing Water Storage Infrastructure.** *Dr. Duminda Parera, United Nations University – Institute for Water Environment and Health (UNU-INWEH), ON, Canada.*
09:30 – 09:40	**Exploring attitudes and household culture to encourage water conservation behavior.** Bipasha Singha, Osama Eljamal, Kyushu University, Japan.
09:40 –09:50	**Effects of Initial Conditions and Parameters on the Prediction of SARS-CoV-2 Viral Load in the Upper Respiratory Tract Based on Host-Cell Dynamics.** Hanyu Li, Kazuki Kuga, Nguyen Dang Khoa, Kazuhide Ito, Kyushu University, Japan.
09:50 – 10:00	**Mini review on recent applications of nanotechnology in nutrient and heavy metals removal from contaminated water.** Omar Falyouna, Ibrahim Maamoun, Khaoula Bensaida, Mohd Faizul Idham, Yuji Sugihara, Osama Eljamal, Kyushu University, Japan.
10:00 – 10:10	**Radionuclides removal from aqueous solutions: A mini review on using different sorbents.** Ibrahim Maamoun, Ramadan Eljamal, Omar Falyouna, Khaoula Bensaida, Mohd Faizul Idham, Yuji Sugihara, and Osama Eljamal, Kyushu University, Japan.
10:10 – 10:20	**Understanding the Effect of Fe (II) and Fe (III) in Generating Electricity from Real Waste Sludge in Microbial Fuel Cells.** Khaoula Bensaida, Omar Falyouna, Ibrahim Maamoun, Osama Eljamal Kyushu University, Japan.
10:20 – 10:30	**Investigating the Effect of Commercial and Synthesized Fe^0 particles on Methane Production Through the Anaerobic Digestion of Waste Sludge.** Ramadan M. M. Eljamal, Ibrahim Maamoun, Khaoula Bensaida, Yuji Sugihara, Osama Eljamal, Kyushu University, Japan.
10:30 – 10:40	**Structural and physical characterization of nano diamond composite thinfilms synthesized by pulsed-laser ablation method (a review).** Lama Osman, Abdelrahman Zkria, Tsuyoshi Yoshitake, Kyushu University, Japan.

10:40 – 10:50	**The link between renewable energy use and energy poverty: Panel estimation for South Asian region.** *Md. Matiar Rahman, Shahadat Hosan, Shamal Chandra Karmaker, Abu Zar Md. Shafiullah and Bidyut Baran Saha, Kyushu University, Japan.*
10:50 – 11:00	**Mechanics of Unicompartmental Knee Arthroplasty (UKA): A Finite Element Study.** *Mohd Afzan Mohd Anuar, Abdul Raazak Sabi, Universiti Teknologi MARA, Malaysia.*
11:00 – 11:10	**Field measurement of indoor thermal environment of a retrofitted ger in Ulaanbaatar, Mongolia.** Uelun-Ujin Purev, Aya Hagishima, Kyushu Kugendran University, Japan.
11:10 – 13:00	**Lunch Break**

Session 2

Session Chair **Co-chair**	**Motaz Mabrouk Mohamed** **Dhiman Banik**
13:00 – 13:30	*Keynote Speech*: **Geothermal Exploration Using the Magnetotelluric Technique.** *Prof. Hakim Saibi, Geo-physical science, College of Science, United Arab Emirates University, UAE.*
13:30 – 13:40	**Socio-economic Impact of COVID-19 till Second Wave in India: A case study.** Sagar Saren, Kyaw Thu, Takahiko Miyazaki, Kyushu University, Japan.
13:40 – 13:50	**Biosorption of arsenic from contaminated water: composite of algae and Fe-nanoparticles.** Islam Mir Shariful, Ibrahim Maamoun, Omar Falyouna, Elsayed B. Belal, Osama Eljamal, Bidyut Baran Saha, Kyushu University, Japan.
13:50 – 14:00	**Modeling and Prioritizing Price – Based Demand Response Programs in The Wholesale Market in Japan.** Ladan Malehmirchegini, Hooman Farzaneh, Kyushu University, Japan.
14:00 – 14:10	**Effect of Graphene Oxide Synthesis Method on The Adsorption Performance of Pharmaceutical Contaminants.** Mohd Faizul Idham, Omar Falyouna, Osama Eljamal, Kyushu University, Japan.
14:10 – 14:20	**A review on development of heat and mass transfer enhancement in adsorption heat exchangers.** Zhaosheng Yang, František Mikšík, Kyaw Thu, Takahiko Miyazaki, Kyushu University, Japan.

14:20 – 14:30	**Integrating titanium nanowires supported nanoscale zero-valent iron in microbial fuel cells (MFCs) for electricity bio-generation.** Duha Hammad, Khaoula Bensaida, Omar Falyouna, Osama Eljamal, Kyushu University, Japan.
14:30 – 14:40	**Analyzing the Impacts of a Deep-learning based Day-ahead residential demand response model on the Jordanian Power Sector in Winter Season.** *Ayas Shaqour, Hooman Farzaneh, Kyushu University, Japan.*
14:40 – 15:00	**Break**

Session 3

Session Chair **Co-chair**	**Li Hanyu** **Mohd Faizul Idham**
15:00 – 15:30	*Keynote Speech*: **Energy-Harvesting-Based Wireless Sensor Nodes for Inaccessible Environments.** *Dr. Kawsar Ali, Electrical Engineering, Power Electronics Group, Department of Engineering Science, University of Oxford, UK.*
15:30 – 15:40	**Study of Tip Deflection on a Copper-Steel bimetallic Strip by Fuzzy Logic and ANSYS Static Structural.** Muhammad Talha Khan, Muhammad Javaid Afzal, Farah Javaid, Shahzadi Tayyaba, Muhammad Waseem Ashraf, Md. Khalid Hossain, Government Islamia College Civil Lines, Pakistan.
15:40 – 15:50	**Investigation of adsorption and desorption characteristics of Metal-Organic Frameworks for the development of desalination systems.** Nadia Riaz, Muhammad Sultan, Bahauddin Zakariya University, Pakistan.
15:50 – 16:00	**Wet-bulb and dew-point evaporative cooling options for poultry sheds.** Hafiz M.U. Raza, Muhammad Sultan, Muhammad Aleem, Bahauddin Zakariya University, Pakistan.
16:00 – 16:10	**An introductory study on adsorption isotherms for atmosphere water harvesting.** Muhammad Aleem, Muhammad Sultan, Hafiz M. Asfahan, Muhammad Bilal, Hafiz M.U. Raza, Bahauddin Zakariya University, Pakistan.
16:10 – 16:20	**Investigating combined effect of air temperature, humidity, and velocity on the thermal comfort of poultry birds.** Khawar Shahzad, Muhammad Sultan, Bahauddin Zakariya University, Pakistan.
16:20 – 16:30	**Studying the chemistry of metal and covalent organic frameworks for adsorption-based atmospheric water harvesting technology.** Muhammad Bilal, Muhammad Sultan, Muhammad Aleem, Bahauddin Zakariya University, Pakistan.
16:30 – 16:40	**An introductory study on the performance prediction of membrane-based energy recovery ventilators.**

	Muhammad Asif, Hadeed Ashraf, Muhammad Sultan, Zahid M. Khan, Bahauddin Zakariya University, Pakistan.
16:40 – 16:50	**Study on Solid Desiccant Dehumidification Cooling System for the Storageof Fruits and Vegetables.** Ghulam Hussain, Muhammad Sultan, Muhammad Aleem, Bahauddin Zakariya University, Pakistan.
16:50 – 17:00	**An Overview of Thermal Comfort for Operators in Tractor Cabin.** Mahmood Riaz, Muhammad H. Mahmood, Bahauddin Zakariya University, Pakistan.
17:00 – 17:10	**Design Guidelines for Therapeutic Gardens.** Erdi Ekren, Kahramanmaras Sutcu Imam University, Turkey.
17:10 – 17:20	**Smart Control System of Solar Panels.** *Eman Nasser, Mona Younis, Amal Nasser, Higher Technological Institute, Egypt.*
17:20 – 17:30	**Twin-Rotor Wind Turbine Power Performance Compared to a Single-Rotorof the Same Tip-to-Tip Spacing.** *Mohamed Adel, Khalid Hisham, Mahmoud Osama, Adel Awwad, Abdelrahman Mohamed, Amira Elkodama, Amr Ismaiel, Future University in Egypt, Egypt.*
17:30 – 17:40	**A Methodology for the Design of 6D Robotic Arm.** *Mona Younis, Eman Nasser, Amal Nasser, Higher Technological Institute, Egypt.*
17:40-18:00	**Closing remarks & best presenter award**

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13 - 18	**A Study on Electrical Wire and Floating Tower Interaction for an Offshore Overhead Power Transmission System.** Ruo Luo, Hongzhong Zhu, Changhong Hu, Kyushu University, Japan.
19 - 25	**Digitalization, energy intensity and economic growth: A panel study on South Asian economies.** Shahadat Hosan, Shamal Chandra Karmaker, Md. Matiar Rahman, Md. Azad Uddin and Bidyut Baran Saha, Kyushu University, Japan.
26 - 31	**Air-conditioning load characteristics and peak reduction potential for demand response in a residential community.** Jiajun Lyu, Aya Hagishima, Jun Tanimoto, Kyushu University, Japan.
32 - 38	**Dynamic linkage between biomass energy consumption and ecological footprint: A panel analysis for BRICS countries.** Shamal Chandra Karmaker, Shahadat Hosan, Md. Matiar Rahman, Kanchan Kumar Sen, and Bidyut Baran Saha, Kyushu University, Japan.
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329 - 335	**A Methodology for the Design of 6D Robotic Arm.** Mona Younis, Eman Nasser, Amal Nasser, Higher Technological Institute, Egypt.