

5th INTERNATIONAL CONFERENCE ON RENEWABLE ENERGY GENERATION AND APPLICATIONS, 2018

Monday, February 26

9:30 am-10:30 am	KN 1: <i>Leveraging the energy transition: Opportunities for mobility, grid, and decarbonization</i>		
11:00 am-12:40 pm	S1D1T1A: <i>Green Technology 1</i>	S2D1T3: <i>Bioenergy</i>	S3D1T7A: <i>Energy and Environment 1</i>
2:50 pm-3:50 pm	S1D1T1B: <i>Green Technology 2</i>	S1D1T7B: <i>Energy and Environment 2</i>	S2D1T2A: <i>Biofuels and Gasification 1</i>
4:30 pm-5:30 pm	S1D1T1C: <i>Green Technology 3</i>	S2D1T2B: <i>Biofuels and Gasification 2</i>	S3D1T7C: <i>Energy and Environment 3</i>

Tuesday, February 27

9:00 am-10:00 am	KN 2: <i>Energy Storage for Smart Grid Applications</i>		
11:00 am-12:40 pm	S1D2T1A: <i>Green Technology 1</i>	S2D2T4A: <i>Nano Environmental Technologies 1</i>	S3D2T8: <i>Energy Storage towards Sustainable Cities and Buildings</i>
2:30 pm-3:30 pm	S1D2T1B: <i>Green Technology 2</i>	S2D2T4B: <i>Nano Environmental Technologies 2</i>	S3D2T10A: <i>Green Buildings 1</i>
3:30 pm-3:50 pm			
4:30 pm-5:30 pm	S1D2T1C: <i>Green Technology 3</i>	S2D2T4C: <i>Nano Environmental Technologies 3</i>	S3D2T10B: <i>Green Buildings 2</i>
5:30 pm-5:50 pm			

Wednesday, February 28

10:00 am-12:00 pm	S1D3T5A: <i>Sustainable Energy Policies 1</i>	S2D3T6: <i>Green Economy</i>	S3D3T9A: <i>Smart and Green Grid Technology 1</i>
2:30 pm-3:30 pm	S1D3T5B: <i>Sustainable Energy Policies 2</i>	S3D3T9B: <i>Smart and Green Grid Technology 2</i>	

## Monday, February 26

### Monday, February 26, 09:30 - 10:30

#### **KN 1: Leveraging the energy transition: Opportunities for mobility, grid, and decarbonization**

Elizabeth A. Kócs, P

Room: Auditorium

Chair: Mousa Hussein

### Monday, February 26, 11:00 - 12:40

#### **S1D1T1A: Green Technology 1 Solar, Wind and Electric Vehicles Room: E1-1028**

Wind Farm Performance Forecasting with consideration for wind speed fluctuations

[Mohsen Ziaei](#) and [Sara Kargarnejad](#)

A Low Cost Method to Convert Automotive Alternator for Wind Electricity Generation

[Tuanku Hashfi](#), [Mohd Zamri Che Wanik](#), [Hussain Shareef](#) and [Zahi Omer](#)

Distributed Wind Systems for Moderate Wind Speed Sites

[Razzaqul Ahshan](#), [Muhammad Shafiq](#), [Nasser Hosseinzadeh](#) and [Abdullah Al-Badi](#)

Analysis of the Wind Power Generation in Mongolian Central Power System

[Ankhzaya Baatarbileg](#), [Bayasgalan Dugarjav](#) and [Gae-myoungh Lee](#)

High correlation models for small scale Magnus wind turbines

[Gustavo Richmond-Navarro](#), [Noel Ureña-Sandí](#) and [Giancarlo Rodríguez](#)

#### **S2D1T3: Bioenergy Bioenergy Room: E1-1036**

Numerical model estimation of Biomethane production using an anaerobic CSTR: model formulation, parameter estimation and uncertainty/sensitivity analysis

[Hatem Yazidi](#)

Analysis of Sugarcane-Ethanol As A Renewable Energy Source

[Muhammad Mahmood Ali](#), [Hafeez-ur Rehman](#) and [Adnan Afzal](#)

Fabrication, analysis and characterization of CCTS based device using interdigitated electrodes for Bioenergy applications

[Ali Abu Odeh](#), [Yarub Al-Douri](#) and [Waleed K. Ahmed](#)

Modeling and Optimization of Biodiesel Production from Chlorella Vulgaris in a Batch Reactor

[Shahin Mokhtari](#) and [Mohammad Talaghat](#)

Blue Laser Excitation of Electrons within the Pathway between Photosystem II and I for Growth Enhancement of Chlamydomonas Reinhardtii Algae

[Sadiq Alyasiri](#), [Wamadeva Balachandran](#), [Donald Hooker](#) and [Pascal Craw](#)

### **S3D1T7A: Energy and Environment 1**

#### **Energy and Environment**

**Room: E1-1038**

The impacts of sustainability on society

[Thiago Matheus Martins de Moraes](#), [Lucas de Paula Santos Petri](#), [Felipe Fernandes Jacintho](#), [Rubens Alves Dias](#) and [José Feliciano Adami](#)

DESIGN, CONSTRUCTION AND PERFORMANCE EVALUATION OF A TROMBE WALL POULTRY BROODING HOUSE

[Ifeanyi Okonkwo](#)

Hydro power Harvesting from Small catchments (Khosar Basin -Case Study)

[Kamel Almohseen](#)

Implementing Green solutions to Recycle UAE Domestic Waste: Aircraft Composite Materials

[Ali Hilal-Alnaqbi](#), [Waleed K. Ahmed](#), [Dina Ayman Al Jamal](#), [Farah Genena](#), [Aamna Almazrouei](#) and [Lamia Almarzooqi](#)

A review of tidal current energy resource assessment: Current status and trend

[Roslynn Rosli](#)

### **Monday, February 26, 14:50 - 15:50**

### **S1D1T1B: Green Technology 2**

#### **Solar, Wind and Electric Vehicles**

**Room: E1-1028**

Contribution of large scale PV plants to electric power during winter peak times in Jeju island

[Jae-hee Kim](#), [Hyung-Joon Yang](#), [Suk-young Ko](#), [Ankhzaya Baatarbileg](#), [Hoon Kwon](#), [Seong-Bo Oh](#) and [Gae-myung Lee](#)

A Case Study - Solar Powered Metro in UAE

[Vidhya Koothupalakkal Viswambaran](#), [Arfan Ghani](#), [Vijay Kumar](#) and [Kainat Amjad](#)

Modelling-assisted Solar Pond Design and Development for Masdar City Environment

[Khadije El Kadi](#) and [Isam Janajreh](#)

Regional generation characteristics of MV photovoltaic power plants in Jeju island

[Sae-woong Kang](#), [Hyeon-seong Kim](#), [Ankhzaya Baatarbileg](#), [June Sakong](#), [Gae-myung Lee](#) and [Seung-beom Kim](#)

### **S1D1T7B: Energy and Environment 2**

#### **Energy and Environment**

**Room: E1-1038**

Comparative study of the rheological behavior of palm shell, peanut shell and cashew shell in rotating drum

[Lat Grand Ndiaye](#), [Philippe Bernard Himbane](#), [Ansoumane Diedhiou](#) and [Diouma Kobor](#)

A System Dynamic Based DSS for Ecological Urban Management in Alexandria, Egypt: Urban Metabolism Approach

[Mona Salem](#), [Khalid Al-Hagla](#) and [Hany Ayad](#)

Thermodynamic Analysis of Lithium Bromide Absorption Chiller Driven by Geothermal Energy

[Mamdouh Assad](#), [Muhammad Tawalbeh](#), [Tareq Salameh](#) and [Amani Al-Othman](#)

Abu Dhabi Energy Mix using PLEXOS as optimization tool  
[Moza Salim Al Naimi](#), [Mohamed I Ali](#) and [Gento Mogi](#)

### **S2D1T2A: Biofuels and Gasification 1**

#### **Biofuels and Gasification**

**Room: E1-1036**

**Chair: Emad Elnajjar**

Characterization and Chemical Composition of UAE Date Seeds

[Emad Elnajjar](#), [Shereen Hasan](#), [Sulaiman Al-Zuhair](#), [Ali Hilal-Alnaqbi](#) and [Salah Al Omari](#)

Biodiesel Production from Date Seeds via Microwave Assisted Technique

[Abrar Inayat](#), [Chaouki Ghenai](#), [Farrukh Jamil](#), [Alya Alobaidli](#), [Hiba Bawazir](#) and [Noura Ali](#)

Utilizing Recycled Prepreg Carbon Fiber and Date Pit Powder for Detoxification

[Ameereh Seyedzadeh](#), [Asel Mwafy](#), [Waleed K. Ahmed](#) and [Ali Hilal-Alnaqbi](#)

Thermogravimetric study of the combustion characteristics of diesel and biodiesel

[Manar Almazrouei](#) and [Isam Janajreh](#)

## **Monday, February 26, 16:30 - 17:30**

### **S1D1T1C: Green Technology 3**

#### **Solar, Wind and Electric Vehicles**

**Room: E1-1028**

Optimal Design of Solar PV/Fuel Cell/ Diesel Generator Power System for Cruise Ship

[Chaouki Ghenai](#), [Maamar Bettayeb](#) and [Boris Brjanin](#)

Performance of Concentrated Solar Collectors: Studying the absorber pipe outlet temperature variations

[Mohammed Ziauddin](#), [Fadi Al Naimat](#), [Bobby Mathew](#), [Tariq Darabseh](#) and [Emad Alhseinat](#)

Fractional Nonlinear Synergetic Control for DC-Link Voltage Regulator of Three Phase Inverter Grid-Tied PV System

[Abdelbasset Mehiri](#), [Maamar Bettayeb](#), [Abdul-Kadir Hamid](#) and [Aghiles Ardjal](#)

### **S2D1T2B: Biofuels and Gasification 2**

**Room: E1-1036**

The Effect of Nanoparticles Addition with Biodiesel-Diesel Fuel Blend on a Diesel Engine Performance and Emission Characteristics

[Ahmed I. EL-Seesy](#)

An Investigation on the Thermal Degradation Performance of Crude Glycerol and Date Seeds Blends Using Thermogravimetric Analysis (TGA)

[Salah Al Omari](#), [Mohamed Y. E. Selim](#), [Abdallah Ghazal](#), [Hanaa A. E. Abdelrahim](#), [Mahmmoud Syam](#) and [Rahma Al Najjar](#)

### **S3D1T7C: Energy and Environment 3**

**Room: E1-1038**

Important Solar Parameters in Installing Solar Cells Case study of Zanjan city in Iran

[Amidedin Mousavi](#), [Seyed Rasoul Safavi](#), [Ali Naderloo](#), [Hadi Shahmohammadi](#), [Pezhman Tashakkori](#) and [Rasoul Abdollahi Shamipour](#)

Performance and Feasibility of Using An Integrated Solar Powered Desalination System in United Arab Emirates

[Fadi Ghaith](#) and [Ilaam Mehmood](#)

Power-dependent Photoluminescence in Strained InxGa1-xN/GaN Multiple-Quantum Wells: Simulations of Alloying and Interface Effects

[Nacir Tit](#)

## Tuesday, February 27

### Tuesday, February 27, 09:00 - 10:00

#### **KN 2: Energy Storage for Smart Grid Applications**

Said Al-Hallaj, PhD

Room: Auditorium

Chair: Emad Elnajjar

### Tuesday, February 27, 11:00 - 12:40

#### **S1D2T1A: Green Technology 1**

##### **Solar, Wind and Electric Vehicles**

**Room: E1-1028**

Nonlinear Synergetic Control Approach for dc-link Voltage Regulator of Wind Turbine DFIG Connected to the Grid

[Aghiles Ardjal](#), [Maamar Bettayeb](#), [Rachid Mansouri](#) and [Abdelbasset Mehiri](#)

Maximising Absorbed Energy using Neuro-Adaptive Controller for Heaving Point Absorbers

[Muhammad Saleheen Aftab](#) and [Addy Wahyudie](#)

On Enhancing Power Conversion for Heaving Point Absorbers with Intelligent Neuro-Adaptive Controller

[Muhammad Saleheen Aftab](#) and [Addy Wahyudie](#)

Control Force Limitation in Wave Energy Converter using Neuro-Adaptive Hierarchical Control Scheme

[Muhammad Saleheen Aftab](#) and [Addy Wahyudie](#)

Stability Analysis of Second-Generation High-Temperature Superconductor According to Stabilizer Thickness

[Huu Luong Quach](#), [Ji Hyung Kim](#), [Chang Ju Hyeon](#) and [Ho Min Kim](#)

#### **S2D2T4A: Nano Environmental Technologies 1**

**Room: E1-1036**

Combined Electrochemical/Chemical Bath Deposited Metal Selenide Nano-film Electrodes with High Photo-electrochemical Characteristics

[Hikmat Hilal, D. Sc.](#), [Ahed Zyoud](#), [Khaled Murtada](#), [Nour AbdulRahman](#), [Mohammed Helal](#), [Naser Qamhie](#) and [Abdulrazik Hajimohideen](#)

Comparison between TiO<sub>2</sub> and ZnO catalysts in photo-degrading aqueous paracetamol contaminant with solar simulated light

[Ahed Zyoud](#)

Investigation of optical and structural properties of Cu<sub>2</sub>CdSnS<sub>4</sub> quaternary alloy nanostructures deposited on GaN for solar cell application

[Ali Abu Odeh](#), [Yarub Al-Douri](#) and [Waleed K. Ahmed](#)

Tuning of the optical band-gap of rare earth doped BiFeO<sub>3</sub> submicron particles for solar cell applications

[Chiranjib Nayek](#), [M-Ali AL-Akhras](#) and [Ihab Obaidat](#)

Linear Angstrom model applied to weather data collected for the city of Sharjah

[AbdulHai Alami](#), [Zhang Di](#), [Muhammad Tawalbeh](#), [Kamilia Aokal](#), [Lamiaa Elsherbiny](#), [Zena Yasser](#) and [Areej Abdelghani](#)

### **S3D2T8: Energy Storage towards Sustainable Cities and Buildings**

**Room: E1-1038**

Controlled Active Thermal Storage in Smart PCM Walls for Energy Independent Building Applications

[Richard Wegmueller](#), [Gabriel Magnin](#), [Jacques Robadey](#) and [Elena-Lavinia Niederhäuser](#)

Optimized-GA Fuzzy Logic-based Self-tuning PID Controller in Multi-Source Multi-Area Power Systems for Load Frequency Control

[Davarr Mirabbasi](#)

Effect of the PV Position and Orientation on Energy Consumption in a Facility

[Rania Elghamry](#)

The Effect of Incorporating Microencapsulated Phase Change Materials (PCMs) in Brick Sandwiched Walls in Reducing the Thermal Insulation Thickness for Hot Climates

[Abdallah Ghazal](#), [Fadi Al Naimat](#), [Bobby Mathew](#) and [Yousef Zurigat](#)

Enhancement of Concentrated photovoltaic cooling using Phase change material by adding a bulk over regular configuration

[Ramy Rabie](#), [Hamdy Hassan](#), [Shinichi Ookawara](#) and [Mahmoud Ahmed](#)

## **Tuesday, February 27, 14:30 - 15:50**

### **S1D2T1B: Green Technology 2**

**Solar, Wind and Electric Vehicles**

**Room: E1-1028**

Study on EV charging infrastructure in Jeju island

[Hyung-Joon Yang](#), [Jae-won Jung](#), [Ankhzaya Baatarbileg](#), [Kyu-ho Park](#), [Gae-myung Lee](#) and [Tae-hyung Kim](#)

Effects of Electricity pricing system on EV charging in Jeju island

[Jae-won Jung](#), [Ankhzaya Baatarbileg](#), [Gae-myung Lee](#), [Seong-Bo Oh](#) and [Hyuk-joo Ko](#)

Distributed Maximum Power Point Tracking (MPPT) for Photovoltaic Systems in Mismatching Condition

[Fahad Althobaiti](#) and [Dhafer Al-Makhles](#)

A Plasmonic Nanoantenna Array for Solar Energy Applications

[Mousa Hussein](#), [Syed Jehangir](#), [Tri B. Susilo](#) and [Addy Wahyudie](#)

### **S2D2T4B: Nano Environmental Technologies 2**

**Room: E1-1036**

Efficiency and high-temperature response of dye-sensitized solar cells using natural dyes extracted from Calotropis

[Zhang Di](#), [AbdulHai Alami](#), [Muhammad Tawalbeh](#), [Kamilia Aokal](#), [Alya Alhammadi](#), [Aya Taieb](#) and [Reinad Abu Rabah](#)

Investigating the effect of nanofluid on optimal design of Solar Flat Plate Collector

[Hassan Hajabdollahi](#)

Graphene Oxide - Nafion composite membrane for effective methanol crossover reduction in passive direct methanol fuel cells

[Muhammad Tawalbeh](#), [Amani Al-Othman](#) and [Mamdouh Assad](#)

Thermal Efficiency of a Direct Absorption Solar Collector Using Magnetic Nanofluids

[Sawsan Dagher](#), [Ali Hilal-Alnaqbi](#), [Nacir Tit](#), [Saud Khashan](#), [Fadi Al Naimat](#) and [Bobby Mathew](#)

## **Tuesday, February 27, 14:30 - 15:30**

### **S3D2T10A: Green Buildings 1**

**Room: E1-1038**

Green Building Using Nano Materials for High Performance Cement Mortar Composite

[Wail Al-Rifaie](#), [Omar Mahdi](#) and [Waleed K. Ahmed](#)

Tapping to Geothermal Energy through a High Performance Earth-to-Water Heat Exchanger Design

[Mohammad O. Hamdan](#)

Evaluation of the daylighting performance in UAE traditional buildings turned into museums

[Khaled Al-Sallal](#) and [Amira AbouElhamd](#)

Analysis of Energy Reduction through HVAC Commissioning: A Case Study of a LEED Certified New Building

[Young Ki Kim](#) and [Hasim Altan](#)

## **Tuesday, February 27, 16:30 - 17:30**

### **S1D2T1C: Green Technology 3**

**Solar, Wind and Electric Vehicles**

**Room: E1-1028**

Design of A Laboratory Scale Linear Hydraulic Wave Energy Converter

[Addy Wahyudie](#) and [Tri B. Susilo](#)

Design of A 100 W Mini Permanent Magnet Linear Generator for Wave Energy Converter System

[Addy Wahyudie](#), [Tri B. Susilo](#) and [Syed Jehangir](#)

## **Tuesday, February 27, 16:30 - 17:50**

### **S2D2T4C: Nano Environmental Technologies 3**

**Room: E1-1036**

Experimental and numerical study on heat transfer enhancement of concentric tube heat exchanger using water based nanofluids

[Tareq Salameh](#), [Muhammad Tawalbeh](#) and [Mamdouh Assad](#)

Selective Adsorption of H<sub>2</sub> on N-doped ZnO Nano-ribbons: First-Principle Analysis

[Wael Othman](#), [Alaa Shaheen](#), [Younes Aitladi](#), [Sultan Atatri](#), [Yahya Abdelhadi](#), [Golibjon Berdiyrov](#) and [Nacir Tit](#)

## Tuesday, February 27, 16:30 - 17:30

### **S3D2T10B: Green Buildings 2**

**Room: E1-1038**

Retrofit Evaluation of a Residential Building in UAE: Energy Efficiency and Renewable Energy

[Boshra Akhozheya](#), [Rahma Abdelghani](#), [Kheira Anissa Tabet Aoul](#) and [Monaya Syam](#)

Dynamic Performance of Solar Powered Vapor Absorption Cooling System in Dhahran - Saudi Arabia

[Hamza Mukhtar](#) and [Syed Said](#)

Energy Storage Technologies and Projections of Grid Parity: A Case Study of Singapore

[Dina Azhgaliyeva](#)

## Wednesday, February 28

### Wednesday, February 28, 10:00 - 12:00

### **S1D3T5A: Sustainable Energy Policies 1**

Room: E1-1028

Modeling of solar thermal cooling system in Hatta-Dubai

[Mohammad Almahmood](#) and [Ayman Odeh](#)

Combined heat and power economic dispatch problem using Three different evolutionary algorithms

[Adeleh Ashraf Hesari](#)

A numerical study on the effect of the heat sink as condenser on the performance of passive solar still

[Ayman Refat Abd Elbar](#), [Hamdy Hassan](#) and [Shinichi Ookawara](#)

Clean Energy for Future Energy Policy in Turkey

[Ibrahim Yuksel](#), [Hasan Arman](#) and [Ibrahim Halil Demirel](#)

Correlated Capacity Factor Strategy for Yield Maximization of Wind Turbine Energy

[Ayman Al-Quraan](#)

Differences in Locational Marginal Prices: Deterministic vs. Stochastic Market Formulations

[Yousef Al-Abdullah](#) and [Mostafa Sahraei-ardakani](#)

### **S2D3T6: Green Economy**

**Room: E1-1036**

An overview of people's behavior towards water saving policies at Abu Dhabi Emirate



[Issah M. Alhamad](#)

Renewable Energy Management: Technical and Economic Evaluation of an Optimized Photovoltaic System

[Hamed Allaham](#), [Abdul-Kadir Hamid](#) and [Ali Cheaitou](#)

Optimizing the production of ammonia as an energy carrier in the UAE

[Ola Osman](#) and [Sgouris Sgouridis](#)

The Feasibility of Applying Effluent Taxation in Abu Dhabi Residential Sector

[Issah M. Alhamad](#)

### **S3D3T9A: Smart and Green Grid Technology 1**

**Room: E1-1038**

Re-energizing of single phase by Protective scheme of parallel bi-Transmission Lines Using Fuzzy Logic Technique

[Hafiz Ashraf](#)

Operation of DC Series Connected Offshore Wind Farm by Using Tap Changing Transformer with MMC-HVDC

[Gi Hoon Kim](#), [Mink Hyeok Kang](#), [Jin Hong Ahn](#), [Sang Heon Chae](#) and [Eel-Hwan Kim](#)

Future Load Profiles Under Scenarios of Increasing Renewable Generation and Electric Transport

[Michael Allison](#), [Emmanuel Akakabota](#) and [Gobind Pillai](#)

A study into the efficiency of embedded solar photovoltaic cells in double roman shaped roof tiles

[Raul Ferreira](#), [Andre Nel](#) and [Nickey Janse van Rensburg](#)

Investigation on the Performance of PV-UPQC under distorted current and voltage conditions

[Santanu Kumar Dash](#) and [Pravat Ray](#)

Performance of Virtual Synchronous Machine in Autonomous Mode of Operation

[Tumati Vijay Kumar](#), [Vinu Thomas](#), [Kumaravel S](#) and [Ashok S](#)

### **Wednesday, February 28, 14:30 - 15:30**

### **S1D3T5B: Sustainable Energy Policies 2**

**Room: E1-1028**

Predictive Energy Management in large-Scale Grid Connected PV-Batteries System

[Sumayya Almazrouei](#), [Abdul-Kadir Hamid](#) and [Mohammad Shamsuzzaman](#)

Water Resources Planning Hydropower for Sustainable and Green Energy in Turkey

[Ibrahim Yuksel](#), [Hasan Arman](#) and [Ibrahim Halil Demirel](#)

### **S3D3T9B: Smart and Green Grid Technology 2**

**Room: E1-1038**

parameter optimization of simple PEMFC model using Backtracking Search Algorithm

[Saad Khan](#), [Muhammad Awais Rafiq](#), [Hussain Shareef](#) and [Muhammad Sultan](#)

Review of Real-Time Load of H.A Fibers@ Grid with Distributed Fuel Cells Renewable Generation Unit

[Muhammad Sheikh](#), [Muhammad Ramzan](#), [Saad Khan](#) and [Imad Barhumi](#)

A DQ Droop Control Strategy for Fixed Frequency VSI-Based AC Microgrids

[Mohamed Toub](#), [Wayne Weaver](#), [Rush Robinett](#), [Mohamed Maaroufi](#) and [Ghassane Aniba](#)