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Proceedings of

2nd International Conference on

Renewable Energy & Resources

&

Energy Materials & Fuel Cell Research

August 27-28, 2018 | Boston, USA







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Day 1 August 27, 2018

Conference Hall: Charles Ballroom A

08:00-09:00 Registrations

08:30-08:50 Opening Ceremony & Introduction

Keynote Forum

08:50-09:20 **Title: Recent advances in wind turbine technologies and sensing for structural health monitoring**
Christopher Niezrecki, University of Massachusetts Lowell, USA

09:20-10:00 **Title: PV as a major contributor to the 100% renewably powered world**
Winfried Hoffmann, Applied Solar Expertise – ASE, Germany

10:00-10:30 **Title: Carbon nanofiber aggregate sensors for sustaining resilience of nuclear power plants to multi-hazards**
Yi-Lung Mo, University of Houston, USA

Panel Discussions & Group Photo 10:30-10:40

Networking & Refreshment Break 10:40-11:00 @ Foyer

Sessions 1: Waste to Energy | Energy Storage and Conservation |Bioenergy and Biotechnology | Green Energy and Economy | Advanced Nanomaterials | Solar Energy | Renewable Energy | Geothermal Energy

Session Chair: Winfried Hoffmann, Applied Solar Expertise – ASE, Germany
Session Co-chair: Kuldip Kumar, Metropolitan Water Reclamation District of Greater Chicago, USA

Session Introduction

11:00-11:25 **Title: Food and food processing waste to energy: Sustainable energy for Western NY**
Jeff Lodge, Rochester Institute of Technology, USA

11:25-11:50 **Title: Landscape design strategies for sustainable biomass feedstock supplies**
Douglas L Karlen, USDA-Agricultural Research Service, USA

11:50-12:15 **Title: Renewable Revolution: Geothermal Heat Pumps are substantially changing the renewable landscape with thermal energy**
Willem Lange, WaterFront International, USA

12:15-12:40 **Title: Novel hybrid-powered standalone autonomous unmanned aerial vehicle (UAV) ground base station**
Evangelos I Gkanas, Coventry University, UK

12:40-13:05 **Title: Community driven initiative to reduce fossil fuel consumption for environmental protection and associated economic benefits**
Sardar Ahsan Younus, USAID-Pakistan Energy Office, Pakistan

Lunch Break 13:05-14:00 @ Foyer

Round table Core Discussion 14:00-14:25

14:25-14:50 **Title: Viscosity modeling and flow properties of non-edible oils as feed-stocks in biodiesel production**
Kenneth Okafor, South Carolina State University, USA

14:50-15:15 **Title: Pt nanoparticles onto carbon base substrates as anodic materials for direct alcohol fuel cells**
Beatriz Ruiz Camacho, Guanajuato University, Mexico

15:15-15:40 **Title: Controlled selectivity via kinetic resolution with transient operation**
Javier Fernandez-Garcia, University of Leeds, UK

Networking & Refreshment Break 15:40-16:00 @ Foyer

16:00-16:25 **Title: Thermal performance of the latent heat storage units with aluminium porous structures**
Krzysztof Naplocha, Wroclaw University of Science and Technology, Poland

16:25-16:50 **Title: From waste treatment to resource recovery: A Chicago Sustainability story**
Kuldip Kumar, Metropolitan Water Reclamation District of Greater Chicago, USA

16:50-17:15 **Title: Effect of storage time on the properties of seeds, oil and biodiesel from *Reutealis trisperma***
M Yusuf Abduh, Bandung Institute of Technology, Indonesia

Panel Discussion 17:15-17:30

Day 2 August 28, 2018

Conference Hall: Charles Ballroom A

Keynote Forum

09:00-09:30	**Title: Microstructural design in hydrogen fuel generation and storage** **Jerzy A Szpunar,** University of Saskatchewan, Canada
09:30-10:00	**Title: Enabling cost effective hydrogen at low temperatures** **Sanjeev Mukerjee,** Northeastern University, USA
10:00-10:30	**Title: U S Department of Energy Hydrogen and Fuel Cell Technology perspectives** **Eric L Miller,** U.S. Department of Energy, USA

Panel Discussion 10:30-10:40

Networking and Refreshment Break 10:40-11:00 @ Foyer

Young Research Forum

Sessions: Energy Storage & Conservation | Advances in Materials Science and Engineering | Wind Energy | Fuel Cell Materials, Methods & Manufacture | Renewable Energy | Advanced Materials for Energy | Bioenergy & Biotechnology

Session Chair: Jerzy A Szpunar, University of Saskatchewan, Canada

Session Introduction

11:00-11:20	**Title: Selection and stability investigations of polymers for latent heat storages** **Helena Weingrill,** Montanuniversitaet Leoben, Austria
11:20-11:40	**Title: Nano-structural design of 0D,1D, 2D, 3D nanoparticles for energy storage devices: Supercapacitor applications** **Hasi Rani Barai,** Yeungnam University, South Korea
11:40-12:00	**Title: Analysis of wind energy potential: A case study of Kocaeli University Campus** **Ipek Caglayan,** Kocaeli University, Turkey
12:00-12:20	**Title: The development of Sorghum bran based bio-refinery process** **Oyenike Makanjuola,** University of Huddersfield, UK
12:20-12:40	**Title: The effect of different catalyst layer porosity on proton exchange membrane fuel cells** **Anil Can Turkmen,** Kocaeli University, Turkey
12:40-13:00	**Title: Thermal properties improvement of column structures formed by nickel nano-materials in paraffin wax** **Che-Fu Su,** University of Massachusetts Lowell, USA

Lunch Break 13:00-14:00 @ Foyer

14:00-14:20	**Title: Spatial agent-based modeling for dedicated energy crop adoption and cellulosic biofuel commercialization** **Enze Jin,** Purdue University, USA
14:20-14:40	**Title: Biogas a viable untapped alternative energy for abattoirs of Dar es Salaam** **Ahmed Lubwama,** The Open University of Tanzania, Tanzania

Panel Discussion 14:40-14:50

Sessions II: Renewable Energy | Bioenergy and Biotechnology | Waste to Energy | Solar Energy| Advanced Materials for Energy

Session Chair: Eric L Miller, U.S. Department of Energy, USA

Session Introduction

14:50-15:15	**Title: Overall solar water splitting reactor and plant design towards mass production of H_2 and O_2** **Taro Yamada,** The University of Tokyo and ARPChem, Japan
15:15-15:40	**Title: Production of hydrogen rich gas from tea waste** **Nezihe Ayas,** Anadolu University, Turkey
15:40-16:05	**Title: Challenges and opportunities facing by China's renewable energy development** **Xiaoli Zhao,** China University of Petroleum-Beijing, China

Networking and Refreshment Break 16:05- 16:20 @ Foyer

16:20-16:45	**Title: Earth-abundant nanostructured materials for efficient solar fuel production** **Nageh K Allam,** The American University in Cairo, Egypt
16:45-17:10	**Title: Investigations of non-edible seeds oils in comparison with soybean benchmark for production of biodiesel** **Musa B Danjaji,** South Carolina State University, USA

Panel Discussion 17:10-17:20

Poster Presentations 14:00-16:30 @ Foyer

Poster Judges:
Jeff Lodge, Rochester Institute of Technology, USA
Beatriz Ruiz Camacho, Guanajuato University, Mexico

RER 01	**Title: Evaluating onshore and offshore wind energy feasibility for State of Texas** **Miyako Nakayama,** University of Idaho, USA
RER 02	**Title: Photoelectrochemical materials for sunlight-driven water splitting devices** **Hiroshi Nishiyama,** The University of Tokyo, Japan
RER 03	**Title: Hydrocarbon source potential of tertiary carbonaceous shale, shale and siltstone of eastern Chenor, Penyu basins, Pahang, Malaysia** **Yousif M Makeen,** University of Malaya, Malaysia
RER 04	**Title: Study of structure and electro-optical characteristics of indium tin oxide thin films** **Najla Khusayfan,** University of Jeddah, Saudi Arabia
RER 05	**Title: Thermal, structural and optical investigation of the effect of gamma irradiation in PM-355 nuclear track detector** **Mymona Abutalib,** University of Jeddah, Saudi Arabia
EMFC 06	**Title: K-doped mixed-phase 1D TiO_2 nanofibers on Ti foil for electrochemical super capacitor: annealing-free synthesis** **Hasi Rani Barai,** Yeungnam University, South Korea
EMFC 07	**Title: Highly efficient Nano composite electrolyte for quasi-solid-state dye-sensitized solar cells under room light conditions** **Shanmuganathan Venkatesan,** National Cheng Kung University, Taiwan
EMFC 08	**Title: Low cost membrane for efficient microbial fuel cell: power generation and petroleum refinery wastewater treatment** **Shrok Allami,** Ministry of Science and Technology, Iraq
EMFC 09	**Title: Giant Seebeck coefficient in the microwave sythesised β-$Co(OH)_2$ nanoplatelets for thermoelectric power generators** **Ahmed Alshahrie,** King Abdulaziz University, Saudi Arabia
EMFC 10	**Title: Highly flexible and scalable photo-rechargeable power unit based on symmetrical nanotube arrays** **Fayin Zhang,** Donghua University, China
EMFC 11	**Title: Detection and application of heavy metal ions in environment and biological cell imaging based on fluorescence probe testing technology** **Gang Zhao,** Donghua University, China
EMFC 12	**Title: Synthesis of amphiphilic fluorescent probe and follow-up imaging of Hg^{2+} in living cells** **Wei Gang,** Donghua University, China
EMFC 13	**Title: Development of new bifunctional dense ceramic-carbonate membrane reactors for CO oxidation and subsequent CO_2 permeation** **Pedro Sánchez-Camacho,** Universidad Nacional Autónoma de México (UNAM), Mexico
EMFC 14	**Title: Diagnosis of membrane chemical degradation for a health management system of polymer electrolyte fuel cells** **Derek Low,** Loughborough University, United Kingdom
RER 15	**Title: Enhancement of biocatalytic conversion of carbon dioxide using methyl-functionalized silica nanoparticles** **Byung-Keun Oh,** Sogang University, South Korea

Award Function & Closing Cermony

