

**3rd International Conference on
Nanotechnology, Nanomaterials &
Thin Films for Energy Applications**

27-29 July 2016

Programme Booklet

University of Liverpool, UK

CHAIRS:

Peter Lund (Finland) | Jawwad Darr (UK) | Vin Dhanak (UK)

Welcome to NANOENERGY 2016:

It is our great pleasure to welcome delegates from all around the world (25 countries) to the 3rd NANOENERGY 2016 Conference held here at the University of Liverpool in United Kingdom.

Nanomaterials and nanotechnologies open up fascinating new opportunities for improving energy technologies, not only increasing their performance and reducing costs, but also creating totally new avenues for novel energy devices. The application of nanotechnology is becoming a standard tool in next generation solar cells, batteries, hydrogen technologies, and energy harvesting devices, amongst others.

NANOENERGY 2016 covers all key areas on nanomaterials and nanotechnology for energy applications. Materials issues both from theoretical and experimental view-points will be discussed applied to different technologies where nanotechnology could provide a major impact. Device engineering, scaling-up and manufacturing of nanoenergy applications are also covered.

We received some 200 abstracts, which were submitted to NANOENERGY 2016 for presentation as either oral talks or posters. The first day will hold invited talks in one session, whereas, during days 2 and 3 the oral talks will be conducted in 2 parallel sessions. The posters will be presented during the refreshment breaks and lunch on day 2 of the conference (28 July).

Selected papers will be published in a Special Issue in the International Journal of Hydrogen Energy (Elsevier) and in the International Journal of Energy Research (Wiley). Furthermore, the delegates can submit papers to “Nano Energy Systems” journal, which is an open access journal published by One Central Press (UK).

There will be tours of the labs in the Stephenson Research Institute on day 3 (29 July).

The NANOENERGY 2016 Conference would not have been possible without the support of the organizing and local organising committee, which consisted of world-leading experts. We would like to extend our warmest thanks to our invited speakers, sponsors and all people involved with the organisation for their valuable work in making the conference successful.

Welcome to NANOENERGY 2016!

Conference Chairs:

Professor Peter Lund (Aalto University, Finland)

Professor Jawwad Darr (UCL, UK)

Dr Vin Dhanak (University of Liverpool, UK)

27 July

08:00	Registration
09:00 - 09:30	Welcome by the Conference Chairs Room: LTC Professor Jawwad Darr , University College London, UK Professor Peter Lund , Aalto University, Finland Dr Vin Dhanak , University of Liverpool, UK Dr Nasar Ali , The NANOSMAT Society, UK
09:30 - 10:15	Plenary Lecture: Chairs: Jawwad Darr (UK) and Peter Lund (Finland) Professor Peter P Edwards , University of Oxford, UK <i>"The continuing role of hydrocarbon fuels and materials in any transition to a sustainable energy future"</i>
10:15 - 10:45	INV-9: Dr Andriy Zakutayev , National Renewable Energy Laboratory, USA <i>"New Semiconductors and Photovoltaic Devices for Solar Energy Conversion"</i>
10:45 - 11:05	Refreshment break
11:05 - 11:35	INV-15: Dr Paul Warren , NSG European Technology Centre Ormskirk, UK <i>"Transparent Conducting Coatings for Energy Applications – a Flat-Glass Industry View"</i>
11:35 - 12:05	INV-20: Professor Jawwad Darr , University College London, UK <i>"Nanomaterials scale-up in energy storage applications"</i>
12:05 - 12:35	INV-23: Dr Pola Oppenheimer , University of Birmingham, UK <i>"Hierarchical Orientation of Semiconducting Block-Copolymer Crystallinity via Electrohydrodynamic Patterning for Improved Photovoltaic Efficiency"</i>
12.30 - 13.30	Lunch
13:30 - 14:00	INV-21: Dr Chris Blackman , University College London, UK <i>"Understanding the activity of tungsten oxide nanostructures for photon-driven applications"</i>
14:00 - 14:30	INV-8: Professor Harri Lipsanen , Micronova Aalto University, Finland <i>"1D and 2D nanomaterials for energy applications"</i>
14:30 - 15:00	INV-7: Professor Fernando Marques , University of Aveiro, Portugal <i>"Size effects in ceria-based composite electrolytes"</i>
15:00 - 15:30	INV-6: Professor Suddhasatwa Basu , IIT-Dehli, India <i>"Centrifugation Based Novel Method for Deposition of Composite Thin Film of Graphitic Carbon Nitride - Graphene on Glassy Substrates"</i>
15:30 - 16:00	Refreshment break
16:00 - 16:30	INV-19: Dr Charles W. Dunnill , Swansea University, UK <i>"Bi-phasic Janus like particles for photo-catalytic water splitting"</i>
16:30 - 17:00	INV-18: Professor V.A. Yartys , Institute for Energy Technology and NTNU, Norway <i>"Nanostructured Magnesium-Based Hydrides for Hydrogen Based Energy Storage"</i>
17:00 - 17:30	INV-24: Professor Wang Lianjun , Donghua University, China <i>"Spark Plasma Sintering of Mesoporous Materials"</i>
17:30 - 18:00	INV-5: Professor H. Wang , Hubei University, China <i>"Quasi-one dimensional nanostructures for nanoenergy devices"</i>

28 July

09:00 - 09:30	INVITED SESSION: Chair: Tim Veal (UK) (Room: LTC)	
	INV-11: Professor Aron Walsh , University of Bath, UK <i>"What makes perovskite solar cells so efficient?"</i>	
09:30 - 10:00	INV-16: Dr Talia Gershon , IBM TJ Watson Research Centre, USA <i>"Silver-alloying for improved photovoltaic properties of CZTSSe"</i>	
Session: Hydrogen production, technology/Photocatalysis Chair(s): Alessandro Baraldi (Italy) Room: LTC		Thin films & Nano-scale materials Chair(s): Peter Lund (Finland), Jawwad Darr (UK) Room: LTD
10:00 - 10:15	ENR-8: Stephen McCord , University of Sheffield, UK <i>"Membrane Separation of the products of Gasification"</i>	10:00 - 10:15 ENR-31: Amir Sa'ar , Hebrew University of Jerusalem, Israel <i>"Size effects in Perovskite Nanowires grown using Silicon Nanotube Templates"</i>
10:15 - 10:30	ENR-60: VEMU ANIL KUMAR , Toyo University, Japan <i>"Green synthesis of silver with silver chloride nanoparticles for a plasmonic photo catalyst"</i>	10:15 - 10:30 ENR-49: C.M. Lawrence Wu , City University of Hong Kong, Hong Kong <i>"Enhanced Hydrogen Adsorption on Graphene with Vacancy Defects, Nitrogen-Doping and Titanium Decoration: A DFT Study"</i>
10:30 - 10:45	ENR-76: Jaroslaw Polanski , University of Silesia, Poland <i>"New Nanobimetallic Materials with Silica Debris as Potential DeNOx catalysts"</i>	10:30 - 10:45 ENR-118: Jiangning Li , University of Liverpool, UK <i>"Ultrashort pulse laser patterning of indium tin oxide thin films on glass by shaped diffractive multi-beam patterns"</i>
10:45 - 11:00	ENR-90: R. Sebastian Sprick , University of Liverpool, UK <i>"Planarized Conjugated Polymers for Photocatalytic Hydrogen Evolution"</i>	10:45 - 11:00 ENR-119: A. Mohamed , Swansea University, UK <i>"Effective and Channel Mobility Extraction for ZnO Thin-Film Transistors"</i>
11:00 - 11:30	Refreshment break (with Poster Displays)	
11:30 - 11:45	ENR-124: Yunhan Ling , Tsinghua University, China <i>"Efficient photoelectrochemical water splitting and impedance analysis of WO_{3-x} nanoflake electrodes"</i>	11:30 - 11:45 ENR-142: Amit Chakraborty , National Institute of Technology Durgapur, India <i>"Carbon Nanostructure-Nickel Sulphide Nanohybrids As Electrodes In Supercapacitors And Solar Cells"</i>
11:45 - 12:00	ENR-156: Kowit Lertwittayanon , Prince of Songkla University, Thailand <i>"Steam-Methane Reforming over CaZrO₃-Modified Ni/α-Al₂O₃ catalyst: Effects of CaZrO₃ loading percentages and S/C ratios"</i>	11:45 - 12:00 ENR-165: Rajat Arora , IIT (BHU), India <i>"A comparative study on synthesis of nickel nanoparticles by microwave and thermally assisted hydrazine reduction"</i>

12:00 - 12:15	ENR-152: Sang-Hsuan Lu , National Cheng Kung University, Taiwan <i>"Synthesis of V₂O₅ nanowire with surface HfO₂ nanoparticles for photodegradation under UV and visible light irradiations"</i>	12:00 - 12:15	ENR-172: Erdogan Guk , Loughborough University, UK <i>"Thin Film Thermocouple Array for Temperature Gradient and flow distribution of SOFC Cathode"</i>
12:15 - 12:30	ENR-145: Meladia Elok , National Cheng Kung University, Taiwan <i>"Photocatalytic activity of TiO₂ mesoporous beads doped CoPi for hydrogen generation in photoelectrochemical cell"</i>	12:15 - 12:30	ENR-40: J. C. Tarafdar , Central Arid Zone Research Institute, India <i>"Synthesis of agriculturally important monodispersed nano-nutrients for commercialization"</i>
12.30 - 13.30	Lunch (with Poster Displays)		
Fuel Cells Chair(s): Amit Chakrobarty (India) Room: LTC		Energy Storage, Batteries & Supercapacitors Chair(s): Laurence Hardwick (UK) Room: LTD	
13.30 - 14.00	INV-12: Professor Geoff Thornton , University College London, UK <i>"Hydroxyl-localised photoexcitation of TiO₂"</i>	13.30 - 14.00	INV-13: Professor Yuri G. Andreev , University of St Andrews, UK <i>"Establishing nanostructures using Debye refinement"</i>
14.00 - 14.15	ENR-94: Muhammad Imran Asghar , Aalto University, Finland <i>"Analysis of high performance ceramic-carbonate nanocomposite fuel cells using an NLK-SDC electrolyte"</i>	14.00 - 14.15	ENR-110: Petar Radjenovic , University of Liverpool, UK <i>"Electrochemistry of Dioxygen in Novel Ionic Liquid and Solvent Blend Systems for Non-Aqueous Li-O₂ Batteries"</i>
14.15- 14.30	ENR-38: P.A. Brooksby , University of Canterbury, New Zealand <i>"The Electrical Double Layer of Aqueous Electrolyte Solutions at Bare and Chemically Modified Few-Layer Graphene Electrodes"</i>	14.15- 14.30	ENR-101: Clara Pereira , Porto University, Portugal <i>"Novel Smart Textiles for Energy Storage: Flexible Supercapacitor Fabrics based on Carbon Black/MFe₂O₄ Nanoparticles"</i>
14.30 - 14.45	ENR-96: Sónia Gonçalves Patrício , University of Aveiro, Portugal <i>"Effect of the ceramic particle size on the electrochemical performance of ceria-based composite electrolytes"</i>	14.30 - 14.45	ENR-42: Jimmy Romanos , Lebanese American University, Lebanon <i>"Pore Morphology in Activated Carbon and its Effect on Hydrogen Storage"</i>
14.45 - 15.00	ENR-129: E.E. Abdel-Hady , Minia University, Egypt <i>"Preparation and Characterization of PVA/TiO₂ Nanocomposite Membrane for Fuel Cell Applications"</i>	14.45 - 15.00	ENR-64: Niraj Kumar , Defence Institute of Advanced Technology, India <i>"Carbon Nanoparticles Embedded 3-D Nickel-Cobalt Hierarchical Nanosheet Array Composite and their Synergistic Effect for High Performance Supercapacitors"</i>
15.00 - 15.15	ENR-6: Rizwan Raza , COMSATS Institute of Information Technology, Pakistan <i>"The Study of Mixed-conducting Properties of Nanocomposite Single Layer Fuel Cell"</i>	15.00 - 15.15	ENR-166: Muhammad Munir , National University of Science and Technology, Pakistan <i>"Facile horizontal alignment of CNTs followed by deposition of PTFE by CVD"</i>
15.15 - 15.45	Refreshment break (with Poster Displays)		

Photovoltaics I Chair(s): Tim Veal (UK) Room: LTC		Thermoelectrics Chair(s): Naser Sedghi (UK) Room: LTD	
15.45 - 16.15	INV-17: Dr David Scanlon , University College London, UK <i>"Computational Screening of Next Generation Solar Absorbers"</i>	15.45 - 16.15	INV-10: Professor C. H. Kees De Groot , University of Southampton, UK <i>"Selective chemical vapour deposition of the thermoelectric chalcogenides Bi₂Te₃ and Sb₂Te₃"</i>
16.15 - 16.30	ENR-167: Sukanya DATTA , University of Cambridge, UK <i>"Tailoring the photocurrent in BaTiO₃/Nb:SrTiO₃ photoanodes by manipulating the ferroelectric polarization state of BaTiO₃ films"</i>	16.15 - 16.30	ENR-136: Byung-Koog Jang , National Institute for Materials Science (NIMS), Japan <i>"Thermal Behavior and Mechanical Properties of Y₂SiO₅ Coatings on SiC"</i>
16.30 - 16.45	ENR-115(2): Alessandro Baraldi , Elettra Sincrotrone Trieste, Italy <i>"Growth and characterization of novel graphene-oxide interfaces for energy and electronic applications"</i>	16.30 - 16.45	ENR-16: Shivangi Sharma , University of Exeter, UK <i>"Nanomaterial Enhanced Phase Change Material for Micro-Finned Thermal Management Applications: An Experimental Investigation"</i>
16.45 - 17.00	ENR-139: Giray KARTOPU , Swansea University, UK <i>"Synthesis and Characterization of ZnO Nanorods"</i>	16.45 - 17.00	ENR-18: Jet-Sing Lee , University of Liverpool, UK <i>"Porosity-Engineered Carbons for Supercapacitive Energy Storage using Conjugated Microporous Polymer Precursors"</i>
17.00 - 17.15	ENR-47: Saatviki Gupta , Indian Institute of Technology Delhi, India <i>"A sulfurization free, low-cost technique to control the band structure of CZTS films"</i>	17.00 - 17.15	ENR-35: Akshay Kumar , Sri Guru Granth Sahib World University, India <i>"Nanostructured Boron Carbide For Blue Light Emitting Diodes (LEDs)"</i>
17.15 - 17.30	ENR-115: Davide Curcio , University of Trieste, Italy <i>"Molecular Lifting, Twisting, and Curling during Metal-Assisted Polycyclic Hydrocarbon Dehydrogenation"</i>	17.15 - 17.30	ENR-33: Guangming Chen , Chinese Academy of Sciences, China <i>"Conducting Polymer/Carbon Nanotube or Graphene Composites with Thermoelectric Function"</i>
17.30 - 17.45	ENR-116: Ibrahim Nemr Nouredine , University of Liverpool, UK <i>"High speed rectifiers for coupling efficiency enhancement in THz rectenna scavengers"</i>		
18:15 – 19:00	Dinner Reception (Venue: Liverpool Cathedral - www.liverpoolcathedral.org.uk)		
19:00	Conference Dinner (Liverpool Cathedral) Featuring a talk by Professor Ken Durose , Director of the <i>Stephenson Institute for Renewable Energy</i> , University of Liverpool (UK)		

29 July

09:00 - 09:30	[INVITED SESSION] Chair: Ivona Mitrovic (UK) (Room: LTC) INV-14: Professor Jenny Nelson , Imperial College London, UK <i>"Relating structure to function in molecular and nanostructured materials for solar cells"</i>	
09:30 - 10:00	INV-22: Professor John F. Conley, Jr , Oregon State University, USA <i>"MIM Diodes for Rectenna Energy Harvesting"</i>	
Session: Energy harvesting Chair(s): Ivona Mitrovic (UK) Room: LTC		Session: Photovoltaics II Chair(s): Vin Dhanak (UK) Room: LTD
10:00 - 10:15	ENR-34: Giuseppe Melilli , Ecole Polytechnique, France <i>"E-beam irradiation beneficial effect on PVDF piezoelectricity"</i>	10:00 - 10:15 ENR-45: James T. Gibbon , University of Liverpool, UK <i>"The effect of sulfurization on the surface properties of CZTS"</i>
10:15 - 10:30	ENR-53: Zhenhua Luo , University of Southampton, UK <i>"Novel Thick Foam Ferroelectret for Energy Harvesting"</i>	10:15 - 10:30 ENR-93: Ming Liu , University of Liverpool, UK <i>"3-D Protonic Conductivity in Porous Organic Cage Solids"</i>
10:30 - 10:45	ENR-99: YANG Xiya , City University of Hong Kong, Hong Kong <i>"Optimization of design parameters towards enhancing the output performance in combined triboelectric and piezoelectric generator"</i>	10:30 - 10:45 ENR-105: Md. Akhtaruzzaman , Universiti Kebangsaan Malaysia, Malaysia <i>"Properties of CdTe Thin Films Grown by Close Spaced Sublimation (CSS) Technique for Photovoltaic Application"</i>
10:45 - 11:00	ENR-78: Filipe Braga , University of Liverpool, UK <i>"Potassium superoxide batteries using practical carbon supports"</i>	10:45 - 11:00 ENR-106: Nowshad Amin , The National University of Malaysia, Malaysia <i>"Deposition and Characterization of MoS2 as an Alternative Absorber Layer for High Efficiency Solar Cells by PVD Technique"</i>
11:00 - 11:30	Refreshment break	
11:30 - 11:45	ENR-52: Siti N. Supardan , University of Liverpool, UK <i>"Rare-earth oxide interfacial layer for sub-nm EOT CMOS technology"</i>	11:30 - 11:45 ENR-117: Vincent Barrioz , Northumbria University, UK <i>"Investigation of Hydrothermal ZnO Nanorod Array Growth for Extremely Thin Absorber Solar Cells"</i>
11:45 - 12:00	ENR-73: Ayendra Weerakkody , University of Liverpool, UK <i>"Experimental tunnel-barrier rectifiers for IR energy harvesting"</i>	11:45 - 12:00 ENR-123: Md. Akhtaruzzaman , Universiti Kebangsaan Malaysia, Malaysia <i>"An Investigation of Molecular Planarity of Organic Dyes for Efficient Dye-Sensitized Solar cells to Harvest Light upto Near Infrared Solar Spectrum"</i>

12:00 - 12:15	ENR-55: Naser Sedghi , University of Liverpool, UK <i>"Low Voltage Rectification in Resonant Tunneling Diodes for Use in THz Energy Harvesting"</i>	12:00 - 12:15	ENR-133: G. Kartopu , Swansea University, UK <i>"Fabrication of ZnO/CdS/CdTe core-shell nanorod arrays for extremely thin absorber (eta) CdTe solar cells"</i>
12:15 - 12:30	ENR-23: Mohammed Althobaiti , University of Liverpool, UK <i>"Band Alignment of Ta2O5 /Al2O3 on Si Substrate by X-ray Photoelectron Spectroscopy"</i>	12:15 - 12:30	ENR-29: Nema Abdelazim , City University of Hong Kong, Hong Kong <i>"Radiative and non-radiative recombination rates throughout the exchange process of CdHgTe quantum dots"</i>
12:30 - 12:45	ENR-165: Rajat Arora , IIT (BHU), India <i>"A comparative study on synthesis of nickel nanoparticles by microwave and thermally assisted hydrazine reduction"</i>	12:30 - 12:45	ENR-162: C.M. Hsueh , National Cheng Kung University, Taiwan <i>"Structure and optical properties of HfO2-x/W/HfO2-x/W multilayer solar absorber for high temperature application"</i>
12:45 - 13:00	ENR-25: Mark Forster , University of Liverpool, UK <i>"Mechanistic Studies of Charge Carriers in Photoanodes for Water Splitting Using Transient Absorption Spectroscopy"</i>	12:45 - 13:00	ENR-87: Yang Xu , Hubei University, China <i>"Performance improvement of Cl doped perovskite solar cell based on modified ZnO nanorod"</i>
13:00 - 14:00	Lunch		
14:00	Concluding remarks Room LTC		
14:15	Tours of the "Stephenson Institute for Renewable Energy"		

Posters: [For display in Room GFLEX, Central Teaching Laboratories, on 28th July during refreshment breaks and lunch]

ENR-5: Hiroyuki Kagami, Fujita Health University, Japan

"The Influence of Partial Heating of a Polymer Solution Film Coated on Three-Dimensional Structure the Drying Process to the Thickness Profile of the Polymer Thin Film after Drying"

ENR-17: Jose Antonio Coca Clemente, University of Liverpool, UK

"An investigation into electrochemical and surface properties of lithium manganese mixed metal oxides"

ENR-19: Holly Edwards, University of Liverpool, UK

"Chemical Bath Deposition and Characterisation of CZTS Thin Films for PV"

ENR-22: Zoe Henderson, University of Central Lancashire, UK

"The Observation of Water-Cation Interaction in Ionic Liquid Multilayers using Near-Ambient Pressure X-ray Photoelectron Spectroscopy"

ENR-24: Govinder Powar, University of Exeter, UK

"Nanocomposite TaFeO4 as a Semiconductor Material for Photoelectrochemical Water Splitting"

ENR-27: Sabrina Naama, Research Center in Semiconductors Technology for Energetic (CRTSE), Algeria
"Kinetics of tartrazine photodegradation by Cu modified silicon nanowires"

ENR-28: Yang Chuan Ke, China University of Petroleum, China
"High-performance polymer nanocomposite materials for oil and gas engineering"

ENR-37: Mein Jin, Institute of Materials Research and Engineering, A-STAR, Singapore
"Free-standing alkaline gel electrolyte for flexible Zn-Air batteries"

ENR-39: Jin Hyun Nam, Daegu University, Korea
"The Effectiveness Model for Electrochemical Reaction in SOFCs and Explanation of Its Physical Implication"

ENR-41: Anna K. Farquhar, University of Canterbury, New Zealand
"New Reagents for Monolayer Formation on Few-Layer Graphene and Other Graphitic Carbons"

ENR-50: Yang Ruoxi, University of Bath, UK
"Lattice Dynamics of Halide Perovskites for Photovoltaic Application"

ENR-56: Naser Sedghi, University of Liverpool, UK
"Design of an All-Dielectric Double Barrier Resonant Tunneling Diode for THz Energy Harvesting"

ENR-65: S. C. Chen, Ming Chi University of Technology, Taiwan
"The influence of indium doping on the optoelectronic properties of ZnO thin films and their stability"

ENR-66: S. C. Chen, Ming Chi University of Technology, Taiwan
"Microstructures and optoelectronic properties of Cu_xO films deposited by HiPIMS"

ENR-67: A. Boukezzata, (C.R.T.S.E), Algeria
"Investigation of porous thin hydrogenated amorphous silicon carbide films ($a-Si_{0.72}C_{0.28}H$) and study of their spectral response"

ENR-71: Amina LARABI, CRTSE, Algeria
"Optimized CZTS solar cell by the band offsets control"

ENR-79: Arturo Fernandez, University of Bio-Bio., Chile
"Physical properties of chemically deposited Al doped CdS thin films with post-deposition thermal annealing"

ENR-81: S.C. Jung, Suncheon National University, Korea
"Precipitation of tin oxide on graphene sheet using liquid phase plasma process for lithium-ion batteries application"

ENR-82: K.H. Chung, Suncheon National University, Korea
"Characteristics of hydrogen produced by liquid phase plasma in ethanol solution"

ENR-84: Y.H. Ling, Tsinghua University, China
"Permeation behavior and mechanism of Cr_2O_3/Al_2O_3 bipolar oxide film under hydrogen discharging plasma environment"

ENR-85: Y.H. Ling, Tsinghua University, China
"Passive films formation and hydrogen permeation characteristic on iron-nickel based stainless steel via selective oxidation"

ENR-89: Jingshu Wan, Hubei University, China
"Hydrothermal Etching Treatment to the Single-crystalline rutile TiO_2 nanorod arrays for high efficiency dye-sensitized solar cell"

ENR-91: Jiyoung Park, Chonbuk National University, Korea

"Electrocatalytic Performance of Flexible Metal/Nanocarbon/Cellulose Acetate Nanostructured Films Prepared by Hydrolytic Hydrogenation"

ENR-92: Tae-hoon Ko, Chonbuk National University, Korea

"Novel NiCo₂O₄-Decorated Nanocarbons for High Performance Electrocatalyst and Supercapacitor Applications"

ENR-95: Muhammad Imran Asghar, Aalto University, Finland

"Characterization of ceramic-carbonate nanocomposite fuel cells using eutectic mixture of Na₂CO₃ and Li₂CO₃"

ENR-97: Sang Yong Nam, Gyeongsang National University, Korea

"Synthesis of novel polyether ether ketone based polymer membrane containing di-imidazole moiety for anion exchange membrane fuel cells"

ENR-103: Atsushi Suzuki, The University of Shiga Prefecture, Japan

"Effective hole-transporting of MPC-doped spiro-OMeTAD for perovskite solar cells"

ENR-104: Atsushi Suzuki, The University of Shiga Prefecture, Japan

"Fabrication, microstructures and photovoltaic properties of CH₃NH₃PbI₃-based perovskite-type solar cells"

ENR-106(2): Nowshad Amin, The National University of Malaysia, Malaysia

"Deposition of Ta₂O₅ Thin Films on Textured Silicon Substrates by Magnetron Sputtering for Oxygen (O₂) Reduction Reaction"

ENR-109: Young-Kwang Jung, Yonsei University, Korea

"Atomic and Electronic Structure of the Lead Sulfide / Halide Perovskite Epitaxial Interface"

ENR-110: Petar Radjenovic, University of Liverpool, UK

"Electrochemistry of Dioxygen in Novel Ionic Liquid and Solvent Blend Systems for Non-Aqueous Li-O₂ Batteries"

ENR-111 Chi Hoon Park Gyeongnam, National University of Science and Technology, Korea

"Hydroxyl functional groups effect on polymer electrolyte membranes for fuel cells"

ENR-112: Chi Hoon Park Gyeongnam, National University of Science and Technology, Korea

"Atomistic simulation on chemical stability of anion exchange membranes (AEMs)"

ENR-121: Simon William Smalley, University of Central Lancashire, UK

"STM study of the adsorption and polymerisation of DBBA towards GNR production on incommensurate surfaces"

ENR-122: KOUADRI BOUDJELTHIA Ahmed, University of CHLEF, Algeria

"Experimental Study of Behavior of Composite SMC Under Coupled Tension-Compression"

ENR-125: Dong S. Han, Texas A&M University at Qatar, Qatar

"How Much Does Membrane Separator Affect Overall Performance of Microbial Desalination Cell?"

ENR-126: Sun Hee Yoon, Texas A&M University at Qatar, Qatar

"Binary Cu-Fe Oxide Photocathode for Application to Energy and Environment"

ENR-127: Jack Swallow, University of Liverpool, UK

"Combinatorial study of Nb doped ZnO"

ENR-67(2): L. TALBI, (C.R.T.S.E), Algeria

"Elaboration and characterization of Polyaniline (PANI) - Au - SiC structure prepared by electrochemical method for chemical sensing"

ENR-132: Young-A Son, Chungnam National University, Korea

"Thermochromic Functional Materials: Design, Synthesis, Properties"

ENR-141: E.E. Abdel-Hady, Minia University, Egypt

"Characterization of Nafion HP As a Proton Exchange Membrane For Fuel Cell Applications"

ENR-146: Tom Baines, University of Liverpool, UK

"Influence of annealing and chloride activation on junction position in substrate CdTe thin film solar cells"

ENR-151: G. Chen, National Tsing Hua University, Taiwan

"Metal Oxide Protective Thin Films with Molecular Homogeneity for Energy and Environmental Applications"

ENR-160: Nicolae Calin POPA, Romanian Academy – Timisoara Branch, Romania

"Structural Investigation of Magnetic Nano-Fluids Used in Gravitational Generator"

ENR-161: Jarot Raharjo, Agency for the Assessment and Application of Technology (BPPT), Indonesia

"Effect of Rare Earth Impurities on The Properties of Ce_{1-y}Gd_{1-x}O₂₋₁ (GDC) Composite Electrolyte for IT-SOFC Application"

ENR-164: Steven MAN Ho Wing, The Hong Kong Polytechnic University, Hong Kong

"Novel nickel iron phosphide (NIP) nanoparticles for photocatalytic hydrogen generation"

ENR-168: Muhammad Imran Asghar, Aalto University, Finland

"Comparative analysis of LT-SOFC using composite GDC/ NLC electrolyte with different perovskite structured cathode materials"

ENR-169: Wilson, L.S. HU, The Hong Kong Polytechnic University, Hong Kong

"Synthesis of Sandwich-structured Au/Polydopamine/Cu₂O Nanoparticles for Photocatalytic Hydrogen Evolution"

ENR-173: Diana C. Teixeira G., University College London, UK

"Investigation of the relationship between the solution pH and the morphology and production of a new phase of VO₂"

ENR-174: Coates, Samuel, University of Liverpool, UK

"Growth of organic molecules on complex Al-based intermetallic compounds: role of order of surface structural complexity"

ENR-142(2): Amit Chakraborty, National Institute of Technology Durgapur, India

"Graphene-Cobalt Sulphide Nanohybrids As Electrodes For Supercapacitor"
