



The Energy & Materials Research Conference

PROGRAM OUTLINE

Madrid, Spain / 25 - 27 February 2015

- The conference presentations will start on Wednesday 25 February at 11:00, although there will be a registration period from 9:30 to 11:00 in the morning. The Conference will finish on Friday 27 February around 16:45. In any case, attendees will be able to pick up the conference materials at the registration desk at any time during the conference. The conference/registration desk will be placed at the main Hall on the 1st floor of the central block at the conference venue (Faculty of Medicine- Complutense University of Madrid)
- Oral presentations will take place according to the following general structure in two different halls at the conference venue (Faculty of Medicine- Complutense University of Madrid):
 - Hall 1: "Ramon y Cajal" lecture theatre (Gran Anfiteatro "Ramon y Cajal"). It is on the 2nd floor of the central block at the conference venue
 - Hall 2: "Profesor Botella" room (Sala "Profesor Botella") It is on the 1st floor of the central block at the conference venue

ORAL PRESENTATIONS SCHEDULE			
	WEDNESDAY, 25 FEBRUARY 2015	THURSDAY, 26 FEBRUARY 2015	FRIDAY, 27 FEBRUARY 2015
HALL 1	Nuclear Energy and Materials Materials for Energy Saving and Sustainability - Energy-Efficient Buildings Materials	Solar Energy	Biomass - Biofuels
HALL 2	Fuel Cells	Energy Harvesting Materials - Energy Production from Fossil Fuels – Other topics Hydrogen	Energy Transmission, Distribution and Storage

- There will be 3 poster sessions at Main Hall on the 1st floor of the central block at the conference venue (Faculty of Medicine- Complutense University of Madrid), according the following schedule:

POSTER PRESENTATIONS SCHEDULE		
Day	Time	Sessions
Wednesday, 25 February	From 15:45 to 16:45	<ul style="list-style-type: none"> • Materials for Energy Saving and Sustainability. Energy-Efficient Buildings Materials • Nuclear Energy and Materials • Fuel Cells • Other topics
Thursday, 26 February	From 15:45 to 16:45	<ul style="list-style-type: none"> • Solar Energy • Hydrogen • Energy Harvesting Materials • Energy Production from Fossil Fuels
Friday, 27 February	From 15:45 to 16:45	<ul style="list-style-type: none"> • Biomass – Biofuels • Energy Transmission, Distribution and Storage

Posters are expected to be posted during the whole day assigned from 10:00 AM to 16:45 PM (approximately). Presenters are expected to be available for discussion of their posters during the corresponding sessions.

**The Energy and Materials Research Conference – EMR2015
Madrid (Spain), 25-27 February 2015**

9:30-11:00	WEDNESDAY, 25 FEBRUARY 2015 – MAIN HALL REGISTRATION & COFFEE (Registration can also be done at any time during the Conference)
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ORAL PRESENTATIONS

WEDNESDAY, 25 FEBRUARY 2015 - (HALL 1)

Nuclear Energy and Materials

Chair: Prof. Brendan Kennedy (The University of Sydney, Australia)

11:00-11:15	CONFERENCE OPENING
11:15-11:30	High temperature phase transitions in uranium oxides Brendan Kennedy
11:30-11:45	Hybrid materials designed for selective separation of uranium from acidic solutions Agnes Grandjean and Alexandre Charlot
11:45-12:00	Design of a novel Al-alloyed ODS ferritic steel containing zirconium Andrea Garcia-Junceda
12:00-12:15	Evaluation of the effect of chemical composition and consolidation procedure on the ductility of ODS alloys Marta Serrano
12:15-12:30	Why is radiation embrittlement minimum at 9%Cr in ferritic/martensitic steels? Lorenzo Malerba
12:30-12:45	The Joint Programme for Nuclear Materials of the European Energy Research Alliance: an opportunity for integrated research in Europe on materials for sustainable nuclear energy Lorenzo Malerba
12:45-13:45	LUNCH BREAK (Buffet - Main Hall)

Materials for Energy Saving and Sustainability - Energy-Efficient Buildings Materials

Chair: Prof. Ok Hee Chung (Sunchon National University, Republic of Korea)

13:45-14:00	Electrospinning and It Application for Energy Storage; its application as Anode Material for Lithium Ion Batteries Jun Seo Park and Ok Hee Chung
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14:00-14:15	Looking for the right BANG! for clean chemical energy storage Carlos Miro Sabate
14:15-14:30	Valorising an industrial polymer by-product by chemical modification. The use of grafted atactic polypropylenes as efficient interfacial modifiers in heterogeneous material based on organic polymers Jesús María García Martínez
14:30-14:45	Carbon nanotube/inorganic hybrids for energy applications Juan José Vilatela
14:45-15:00	Ethanol/activated carbons working pair for adsorptive cooling application Andrea Frazzica and Vincenza Brancato
15:00-15:15	Highly Stable Silver Nanowires Transparent Electrode with Plasma Treatment Sunghoon Jung
15:15-15:30	CO₂ for Energy: Cu₂O/Pt/TiO₂ composite materials for photocatalytic valorization of CO₂ Dina Lofficial
15:30-15:45	Withdrawn
15:45-16:45	POSTER SESSION & COFFEE BREAK (Main Hall)
Chair: Prof. Tsugio Sato (Tohoku University, Japan)	
16:45-17:00	Facile Synthesis of Tungsten Bronze Nanoparticles for Smart Windows Application Tsugio Sato
17:00-17:15	Smart temperature control using responsive hydrogels Jonghwi Lee
17:15-17:30	Withdrawn
17:30-17:45	Conceptual design of clean electricity generation units deploying recovery technologies from waste coal-based fuel feedstock Francisco Guerrero
17:45-18:00	Lignocellulosic Biomass for the Preparation of Cellulose-based Hydrogel Maha Ibrahim
18:00-18:15	Lignocellulosic Biomass as a Source for the Preparation of microfibrillated cellulose Waleed El-Zawawy
18:15-18:30	Withdrawn

WEDNESDAY, 25 FEBRUARY 2015 (HALL 2)

12:45-13:45	LUNCH (Buffet - Main Hall)
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Fuel Cells

Chair: Prof. Akira Miyamoto (Tohoku University, Japan)

13:45-14:00	Roles of Ultra-Accelerated Quantum Chemical Molecular Dynamics in Multiscale, Multiphysics Computational Methods for Energy and Materials Research Akira Miyamoto
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14:00-14:15	Biomass based metal-free and noble metal-free nitrogen doped carbons as advanced ORR catalysts Jonas Pampel
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14:15-14:30	Polymer electrolyte fuel cell electrocatalysts based on multiwalled carbon nanotubes support a high durability Mohamed Reda Berber
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14:30-14:45	Synthesis, characterization and properties of polythiophene-titanium dioxide nanocomposites for its use as electrolyte membrane in fuel cell application Ram Bilash Choudhary
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14:45-15:00	Influence of synthetic method on the properties of $\text{La}_{0.5}\text{Ba}_{0.5}\text{FeO}_3$ SOFC cathode Karmele Vidal
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15:00-15:15	Structural and electrical properties of Ca/Sr-doped Gd_3GaO_6 proton conductors Anastasia Iakovleva
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15:15-15:30	Hydrogen and syngas production via ethanol steam reforming over supported ferrites-nikelates Marina Arapova
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15:30-15:45	Photosynthetic alga microbial fuel cell: Bacteria and microalgae as biocatalysts for energy production and by-products valorisation Diogo Sebastião
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15:45-16:45	POSTER SESSION & COFFEE BREAK (Main Hall)
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Chair: Dr. Klaus Wippermann (Jülich Research Centre IEK-3, Germany)

16:45-17:00	Taurine trifluoromethanesulfonate as an ionic liquid for high temperature PEM fuel cells Klaus Wippermann
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17:00-17:15	Development of accelerated stress tests to assess durability of FEP- and carbon nanotubes-based gas diffusion media for PEM fuel cells Saverio Latorrata
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17:15-17:30	Development of PEM Fuel Cell using Low cost, Low weight and optimized Bipolar Plates design Noor Ul Hassan
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17:30-17:45	Preparation of corrosion-resistive carbon for electrocatalyst supports in polymer electrolyte membrane fuel cells using self-assembled monolayer coating Woong Hee Lee
17:45-18:00	Novel hydrophobic treatment for Gas Diffusion Layers (GDL) in Proton Exchange Membrane (PEMFC) Yohann Thomas
18:00-18:15	LiMn_2O_4 and $\text{CaV}_6\text{O}_{16} \cdot 7\text{H}_2\text{O}$ Nanostructures for Aqueous Rechargeable Batteries: a Full Cell Configuration and Study for Large Scale Energy Storage Application Vivek Nair

THURSDAY, 26 FEBRUARY 2015 (HALL 1)

Solar Energy

Chair: Prof. Julie Schoenung (University of California, Davis, United States)

10:00-10:15	Evaluating Safer Chemical Alternatives in Thin Film Photovoltaics Julie Schoenung
10:15-10:30	Application of Diamond Electrode in Dye-Sensitized Solar Cells Ladislav Kavan
10:30-10:45	Electrospun graphene/TiO₂ nanofibers for dye-sensitized solar cells Kin Shing Kenneth Lo
10:45-11:00	Influence of natural dyes in low-cost dye-sensitized solar cell's efficiency Maria Jesus Ariza
11:00-11:15	Copper(I) and Ruthenium(II) sensitizers for Dye-Sensitized Solar Cells applications Evgenia Kolovou
11:15-11:45	COFFEE BREAK (Main Hall)

Chair: Prof. Moonhor Ree (Pohang University of Science and Technology, Republic of Korea)

11:45-12:00	Morphological details of well-defined amphiphilic diblock copolythiophenes and their blends with fullerene derivatives Moonhor Ree
12:00-12:15	Tandem and 4-terminal configurations for an effective light absorption length in polymer cells Jordi Martorell
12:15-12:30	Achieving very high efficiency of bulk heterojunction polymer solar cells through integration of cathode interlayers Joana Margarida Tavares Farinhas
12:30-12:45	Withdrawn
12:45-13:00	Withdrawn
13:00-14:00	LUNCH BREAK (Buffet - Main Hall)

Chair: Prof. Ladislav Kavan (J. Heyrovsky Institute of Physical Chemistry, Czech Republic)

14:00-14:15	Fabrication of thin, hybrid photovoltaic (PV) cell - supercapacitor devices by printing and spraying Richard Fields
14:15-14:30	High power/high energy density supercapacitors in PV-supercapacitor-battery systems for charging electric vehicles Richard Fields

14:30-14:45	A parametric study of innovative light-trapping surface structures to increase solar absorption of high-temperature solar receiver material Fritz Zaversky
14:45-15:00	Thermal evaluation of commercial PCM applied in lightweight construction in northern Chile Paula Marin
15:00-15:15	High Temperature Direct Energy Conversion for Concentrating Solar Power Nerea Díez de los Ríos
15:15-15:30	Zn_{85.8}Al_{8.2}Mg₆ metal alloy as high conductive latent heat storage material for CSP Elena Risueño
15:30-15:45	Nano-composite based on silicon carbide for high temperature application (CSP) Moustapha Coulibaly
15:45-16:45	POSTER SESSION & COFFEE BREAK (Main Hall)
Chair: Dr. Koteeswara Reddy Nandanapalli (Humboldt University of Berlin, Germany)	
16:45-17:00	Sol-Gel SiO₂ Bi-Layers on Soda Lime Glass with Enhanced Antireflective Properties and High Durability Gema San Vicente Domingo
17:00-17:15	Planning PV power plants in sub-Saharan African countries. The case of Fogo Island - Cabo Verde Francesca Poggi and Miguel Amado
17:15-17:30	Spatial Atomic Layer Deposition for New Generation Solar Cells David Muñoz-Rojas
17:30-17:45	Influence of ultrathin ZnO shell thickness on the electrochemical performance of heterogeneous ZnO/TiO₂ nanotube arrays Hua Cai
17:45-18:00	Experimental and theoretical analysis of Tm-doped TiO₂ and rutile-pyrochlore (Tm₂Ti₂O₇) mixture Francisco Javier Navas Pineda
18:00-18:15	Electrodeposited Sb-doped ZnO layers and the effect of Sb-mole fraction Jae Hui Shin
18:15-18:30	Withdrawn
18:30-18:45	A per unit analysis of an autonomous energy Efficiency System operating under maximum power transfer conditions Saida Madi

THURSDAY, 26 FEBRUARY 2015 (HALL 2)	
Energy Harvesting Materials - Energy Production from Fossil Fuels - Other Topics	
Chair: Dr. Nuno Lapa (New University of Lisbon, Portugal)	
10:00-10:15	Bed chars from the co-gasification of rice wastes: chemical and ecotoxic properties Nuno Lapa
10:15-10:30	Effect of nanoparticle surface charge sign on the Seebeck coefficient in ferrofluids for thermocell applications Botao Huang
10:30-10:45	Non-linear electro-mechanical energy conversion in ferroelectric single crystals Aditya Chauhan
10:45-11:00	Withdrawn
11:00-11:15	Parallel wire cables and application in wind energy Chris Craig and Walter Lambert
11:15-11:45	COFFEE BREAK (Main Hall)
Chair: Dr. Ramin Yousefi (Islamic Azad University, Iran)	
11:45-12:00	IR detector fabrication of undoped and doped PbS nanostructures Ramin Yousefi
12:00-12:15	Sonochemical synthesis of ultra-small SnS nanoparticles: Effect of sonication frequency on the optical properties Farid Jamali-Sheini
12:15-12:30	Microstructure characterisation of Ni-base alloys during creep Magdalena Speicher
12:30-12:45	Energy Efficient Synthesis of Mesoporous Carbon Nitride with Rod Shaped Morphology for CO₂ adsorption Kripal Lakhi
12:45-13:00	The Simulation of Nitrides Size and Orientation Effect on Tensile Behavior of Steel Ali Dalirbod
13:00-14:00	LUNCH BREAK (Buffet - Main Hall)
Hydrogen	
Chair: Dr. Enrique Lavernia (University of California, Davis, United States)	
14:00-14:15	Hydrogen storage behavior of a nanostructured palladium alloy Enrique Lavernia

14:15-14:30	Development of active, selective, and stable dehydrogenation catalysts for hydrogen generation from liquid organic hydrides Faisal AlHumaidan
14:30-14:45	Simulation studies on hydrogen charging performance of a combination metal-complex hydrides storage system Maha Bhouri
14:45-15:00	Computational Discovery of new Dual Cation Metal Ammine Borohydrides Samet Demir
15:00-15:15	Computational Screening of Dual Cation Ammine Metal Borohydrides Yusuf Kışlak
15:15-15:30	Enhancement of hydrogen and oxygen evolution rates on nanostructured porous nickel electrodes Adeline Delvaux
15:30-15:45	Catalytic production of hydrogen using alumina supported nano-inclusion nickel Annika Pohl
15:45-16:45	POSTER SESSION & COFFEE BREAK (Main Hall)
Chair: Prof. Jaeyong Kim (Hanyang University, Republic of Korea)	
16:45-17:00	Highly active nickel phosphide catalyst for the water splitting reaction Marc Ledendecker
17:00-17:15	Evaluation of a combined CaO-based sorbent and catalyst on H₂ production, via Sorption Enhanced Methane Steam Reforming Gemma Susana Grasa Adiego
17:15-17:30	Materials for hydrogen production by direct methane conversion - tests in liquid tin at high temperatures Annette Heinzl
17:30-17:45	A new catalyst formulation for hydrogen production from biogas at low temperature Giulia Monteleone
17:45-18:00	Development of high performance CO₂ solid sorbents combined with a reforming catalyst for hydrogen production using Sorption-Enhanced Reforming Georgios Kalantzopoulos
18:00-18:15	Investigation of Transition Metals Based Catalysts for the Hydrogen Evolution in PEM Water Electrolysis Paul Paciok

FRIDAY, 27 FEBRUARY 2015 (HALL 1)

Biomass - Biofuels

Chair: Dr. Kyoung Ro (USDA, Agricultural Research Service, United States)

10:00-10:15	Combustible gas and biochar production from co-pyrolysis of agricultural plastic wastes and animal manures Kyoung Ro
10:15-10:30	Life cycle assessment of bioethanol production using pulp and paper sludge Diogo Sebastião
10:30-10:45	Second generation biofuels: thermodynamic properties of mixtures of renewable oxygenates with hydrocarbons Adil Srhiyer
10:45-11:00	Next Generation Liquid Biofuels Production from Biomass in Korea Jae-Kon Kim
11:00-11:15	Photoelectrochemical Biofuel Cell with the Carbon Dioxide Conversion Function Consisting of Thylakoid Membrane from Algae <i>Spirulina</i> and Biocatalyst Immobilized Electrodes Yutaka Amao
11:15-11:45	COFFEE BREAK (Main Hall)

Chair: Prof. Yutaka Amao (Osaka City University, Japan)

11:45-12:00	Effect of biomass type blended with rice production wastes in syngas produced by co-gasification Filomena Pinto
12:00-12:15	Optimization of H₂S removal from a biogas stream Giulia Monteleone and Paola Gislou
12:15-12:30	Formation of organic acids during bioethanol production from steam exploded floodplain meadow hay Marti Tutt
12:30-12:45	Estimation of cold flow performance and oxidation stability of fatty acid ethyl esters obtained from <i>Escherichia coli</i> David Bolonio
12:45-13:00	Pyrolysis of Different Wood Species Investigated by TGA-GC-MS Stephan Knappe and Ekkehard Post
13:00-14:00	LUNCH BREAK (Buffet - Main Hall)

Chair: Prof. Nelson R. Stradiotto (São Paulo State University, Brazil)

14:00-14:15	Quantification of major carbohydrates in sugarcane biomass per deconvolution of peaks using modified electrode with gold nanoparticles Nelson R. Stradiotto
14:15-14:30	A sensor with graphene oxide decorated with nanoparticles copper for quantification of total reducing sugars Nelson R. Stradiotto
14:30-14:45	Effect of pretreatment and temperature on the drying kinetics of Hass avocado seeds Mangesh Avhad and Jorge Mario Marchetti
14:45-15:00	Possibility of producing bioethanol from <i>Moringa oleifera</i> press cake Eman N. Ali Al Adnani
15:00-15:15	Withdrawn
15:15-15:30	Withdrawn
15:30-15:45	Withdrawn
15:45-16:45	POSTER SESSION & COFFEE BREAK (Main Hall)

FRIDAY, 27 FEBRUARY 2015 (HALL 2)

Energy Transmission, Distribution and Storage

Chair: Dr. Do-Geun Kim (Korea Institute of Materials Science, Republic of Korea)

10:00-10:15	Improving energy storage performance of carbon electrode by plasma treatment for electrochemical capacitors Do-Geun Kim
10:15-10:30	Carbon nanotube-bridged graphene 3D building blocks for ultrafast compact supercapacitors Duy Tho Pham
10:30-10:45	Boosting the performance of supercapacitors by using Redox Ionic Liquid Electrolytes Paula Navalpotro Molina
10:45-11:00	Testing Methods for Electrochemical Energy Storage Systems under Unconventional Standards Enrique García-Quismondo
11:00-11:15	Hierarchically structured carbon materials for electrochemical energy storage and conversion Karina Mees
11:15-11:45	COFFEE BREAK (Main Hall)

Chair: Dr. Marketa Zukalova (J. Heyrovsky Institute of Physical Chemistry, Czech Republic)

11:45-12:00	Mechanism of Li insertion into TiO₂ polymorphs Marketa Zukalova
12:00-12:15	Study of LiCoO₂ nanoparticles by hard x-ray emission and absorption spectroscopies Laura Simonelli
12:15-12:30	Influence of SiO₂ coatings on the kinetic of zinc oxidation Manuela Schmid
12:30-12:45	A propagation behavior of the methane-air premixed flame passing through a local field affected by an ultrasonic standing wave Jeong Soo Kim
12:45-13:00	Withdrawn
13:00-14:00	LUNCH BREAK (Buffet - Main Hall)

Chair: Dr. Simona Bennici (University Lyon 1, France)

14:00-14:15	Zeolite-type materials with high heat capacities for thermal energy storage Simona Bennici
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14:15-14:30	Development of a new material for an interseasonal heat storage process of solar energy Emeline Lefebvre
14:30-14:45	Characterization of organic PCMs for medium temperature storage Rocío Bayón
14:45-15:00	Numerical simulation of the casting defects of open-cell aluminium foam prepared by negative pressure infiltration Feng Zhu
15:00-15:15	An Electrochemical Impedance Spectroscopy study of the corrosion of buried low-alloy steel infrastructure used in energy transportation and storage Ibrahim Gadala
15:15-15:30	Consideration the possibility of utilizing wind energy for optimum using in rural area (agricultural and domestic consumptions) Mohammad Ghahderijani
15:45-16:45	POSTER SESSION & COFFEE BREAK (Main Hall)

POSTER PRESENTATIONS (MAIN HALL)

WEDNESDAY, 25 FEBRUARY 2015		
From 15:45-16:45		
Materials for Energy Saving and Sustainability, Energy-Efficient Buildings Materials		
Code	Title	Presenter(s)
W1	Withdrawn	
W2	Fabrication of Phase Change Composite Nanofibers via Electrospinning	Ok Hee Chung, Jun Seo Park
W3	Microbiological corrosion of stainless steel AISI 304 in fuel and biofuel	Larissa Aparecida Corrêa Matos
W4	Neutralization pseudocapacitors	Fritz Huguenin
W5	Withdrawn	
W6	A facile solution route to tailor MnO ₂ nanosheets in three-dimensional hierarchical heterostructures for high-performance supercapacitors	Dong-Wan Kim
W7	Impact on Laminated Composite as Light-weight Energy-saving Materials	Tae-Woo Kim
W8	Effect of advanced oxidation pre-treatment on membrane filtration parameters of dairy waste water	Zsuzsanna László
W9	Durability of Li ₂ ZrO ₃ /Al ₂ O ₃ ceramic membrane for CO ₂ separation	Kee Sung Lee
W10	Automatic Transmission for Energy-saving Sports Bicycle	Kun Sang Lee
W11	Underwater plasma discharge application for oxidative hydrolysis and solubilization of particulate organics in in sludge waste	Young Haeng Lee
W12	Lighting System based on RTP using Polling Period Control	Lim Jae-Hyun Lim
W13	Modelling hydrate formation conditions for systems containing oxygen in tetrahydrofuran aqueous solution	Qinglan Ma
W14	Study of the energy efficiency of social housing in Algeria	Yassine Maoudj
W15	Development of new mixtures based on bischofite with potential application in thermal control of Li-ion batteries	Paula Marin
W16	Evaluation of the flexibility of carbon nanotube fibers with high Young's modulus	Hikaru Nishizaka
W17	Superhydrophobic and Icephobic Materials for Energy Applications	Michael Nosonovsky
W18	Performance of buildings equipped with an optimised double-skin façade in Europe	Floriane Petipas
W19	Evaluation of the fuel quality in the urban area of Guarapuava (PR) - Brazil	Paulo Rogério Pinto Rodrigues
W20	Power conversion efficiency improvement of P(VP-co-VAc) based quasi-solid polymer electrolytes	Ramesh T. Subramaniam
W21	Modelling of membrane-based micro-absorbers for absorption cooling technology	María Venegas
W22	Micro-absorption chiller components based on membrane technology	María Venegas
W23	A new piezoelectric windmill using magnetic force for low wind speed	Chanho Yang

W24	Experimental study on the separation of CH ₄ and N ₂ on ZIF-8/water slurry	Lanying Yang
Nuclear Energy and Materials		
W25	Silica based ion exchangers for different radionuclides removal from the spent fuel storage basins and the nuclear reactor primary water circuit	Dagmara Chmielewska-Smietanko
W26	Mechanical, thermal and diffusional quantities remapping on an adaptive mesh to model the macroscopic fuel redistribution in pellets with the F.E. code CAST3M.	Caroline Guérin
W27	Microstructural characterization an ODS Fe14Cr Steel	Julio Macías Delgado
W28	Stable Solidification of Porous Silica Gels loaded with Insoluble Nickel Ferrocyanides Adsorbing Cesium by Allophane	Hitoshi Mimura
W29	Study of the Influence of Different Variables of Thermomechanical Treatments in the microstructure of A SS 316 L	Alberto Sáez-Maderuelo
W30	Effects of ion irradiation on oxide dispersion strengthened steels for fusion	Masa Scepanovic
Fuel Cells		
W31	Novel carboxylated poly (glycidyl methacrylate) grafted cellophane for Proton Exchange Membrane Fuel Cell Applications	Mohamed Abu Saied
W32	Components sizing of hybrid electric powertrains with fuel cell for passenger cars	Domenico De Luca
W33	New direct alcohol and hydrogen fuel cells for naval and aeronautical applications. PILCONAER R & D Program 'Tecnologías 2013 Comunidad de Madrid'	Carmen del Río
W34	Single cell performance and electrochemical characterization of photocrosslinked and postsulfonated SEBS/DVB membranes	Enrique Morales
W35	Novel microstructural strategies to enhance the electrochemical performance of La _{0.8} Sr _{0.2} MnO _{3-δ} cathodes	Lucía dos Santos Gómez
W36	Phase Composition and Transport Properties of oxide ion conductors based on Sr _{1-x} K _x GeO _{3-x/2}	Lucía dos Santos Gómez
W37	Behaviour of water generated in PEFC stack using image measurement	Takahito Fujiwara
W38	Fabrication and electrochemical properties of metal-supported solid oxide fuel cell	Jung Hyun Kim
W39	Synthesis and Characterization of Sulfonated Copolymers for Polymer Electrolyte Membrane Fuel Cells	Junpyo Kim
W40	Development of High Functional Direct Carbon Fuel Cell with Molten Carbonate	Rei Nakamoto
W41	Enhanced electrocatalytic performance and durability of cobalt shielded vertically aligned ZnO nanorod structures for oxygen evolution reaction	Koteeswara Reddy Nandanapalli
W42	Development of degradation checker for PEFC stack	Kimihiko Sugiura
W43	Development of alginate fuel cells using functional nanomaterials on anodes	Hitoshi Toake, Thi Huong Vu
W44	Effect of the A cation size disorder and synthesis conditions on the properties of an iron perovskite series	Karmele Vidal

W45	Development of a novel direct fucose fuel cell based on titanium dioxide and gold nanoparticles decorated on f-MWCNTs	Thi Huong Vu
W46	Structural and electrochemical properties of proton conducting BaZr _{0.8} Y _{0.2} O _{3-δ} by addition of NiO	Chung-Yul Yoo
W47	Withdrawn	
Other Topics		
W48	Synthesis and Photophysical Properties of Blue Light-Emitting Hyperbranched Poly(fluorene)	Taek Ahn
W49	New heteroleptic platinum complexes as a single phosphorescence dopant for hybrid white organic light-emitting diodes	Anurach Poloek
W50	Effects of fluxing agents on morphology and luminescent properties of LuAG:Ce phosphors	Mihye Wu
W51	Synthesis, Properties and applications of Thienothiophenes and Dithienothiophenes	Turan Öztürk
W52	Effect of electrode combinations in light of full electrochemical cell operation towards mediated electrocatalytic oxidation/reduction processes for effective air pollutant removal	Il Shik Moon
W53	Barium cathode for enhanced peroxydisulfuric acid formation through undivided electrolysis cell	Il Shik Moon
W54	Underway towards the synthesis of energetic materials for rocket propulsion	Carlos Miro Sabate
W55	Withdrawn	
W56	Friedel–Crafts Acylation of Toluene over Ferric Chloride Supported Silica Nanoparticle	Uhoud Abdullah
W57	The relevance of statistical seasonal rainfall forecast in the Neuquen River Basin in Argentina	Marcela Hebe González
W58	The Energy Absorption Capacity of Steel-Plated and GFRP-Plated Concrete Panels under Blast Loading	Sunghwan Yun
W59	Acidic PEDOT:PSS-free organic solar cells using artificially MoO ₃ graded ITO anode films	Han-Ki Kim
W60	Direct Laser Patterning of Transparent ITO-Ag-ITO Multilayer Anodes for Organic Solar Cells	Hyo-Joong Kim
W61	Nano-scale surface roughness transparent ITO electrodes for organic solar cells	Hyo-Joong Kim
W62	Highly transparent and flexible InTiO/Ag nanowire/InTiO films for flexible organic solar cells	Ki-Won Seo
W63	Self-assembled and thermal transferred silver network electrodes for flexible organic solar cell	Ki-Won Seo
W64	Withdrawn	
W65	Hydrogeochemical study of the thermal springs of the north of Algeria	Mébrouk Benziada

THURSDAY, 26 FEBRUARY 2015		
From 15:45-16:45		
Solar Energy		
Code	Title	Presenter(s)
T1	Photomethanation of Gaseous CO ₂ with Near-Infrared Photons for Broadband Tandem Solar Fuels Reactors	Jelle Abdinoor
T2	Thermal Performance of Thermal Energy Storage prototype by using concrete material in Thailand	Rungrudee Boonsu
T3	Utilization of the system Na ₄ W ₁₀ O ₃₂ ⁴⁻ /UV for the degradation of Triclosan and the reduction of chromium in aqueous solution	Asmae Bouziani
T4	Production of Photovoltaic Solar Cells Modules at a Reduced Cost	Jonas Buddgård
T5	Thin film silicon solar cells on graphite substrates with barrier layer	Hyo Sik Chang
T6	Nucleation, growth, and kinetic studies of cadmium and tellurium	Diana Chaykina, Vivian Matubia
T7	Electrodeposition of cadmium telluride thin films	Vivian Matubia, Diana Chaykina,
T8	Photophysical study of a new triphenylamine oligomer with applications in high open-circuit voltage organic solar cells	Roberto Emir Di Paolo Alvarez
T9	Multijunction Solar Cells Based on Nano-structures of Indium-Gallium Nitride for Concentrating Photovoltaics	Rafael Garcia
T10	Synthesis of CoCuMnO _x pigments for selective enamels for solar collectors	María Celeste Gardey Merino
T11	The Synthesis of An organic dyes based on thioindigo for Dye-sensitized solar cells	Mozhgan Hosseinnzhad
T12	Investigation of photovoltaic properties of dye-sensitized solar cells based on indigo dyes in the presence of an anti-aggregation agent	Mozhgan Hosseinnzhad
T13	Synthesis and photovoltaic properties of pyrrolo[3,4-c] pyrrole-1,3-dione (DPPD)-based polymers incorporating benzodithiophene unit	Myung Ho Hyun
T14	An Organic/Inorganic Hybrid Solar Cell based on Silicon Nanotubes array for Enhanced Light Absorption	Gun-Young Jung
T15	Withdrawn	
T16	Withdrawn	
T17	Thermal hydraulic performance analysis of double flow solar air heater with local flow blockage structures	Jun-Hee Kim
T18	Heat Capacity and Thermal Expansion of Solar Salts Determined by Thermal Analysis Techniques	Stephan Knappe, Ekkehard Post
T19	Solar Cell Manufacturing by avoiding any hazardous chemicals, high vacuum and high frequency equipment	Friedrich Kröner
T20	PVT-Rooftile manufactured with cheap and easily available equipment	Friedrich Kröner
T21	Withdrawn	
T22	Withdrawn	
T23	Crosslinkable oligomers for applications in OPV cells	Pedro Miguel Marques da Costa

T24	Low-cost and less-toxic solar cell devices using ZnO and SnS hybrid structures	Koteeswara Reddy Nandanapalli
T25	Incorporation of Tm ³⁺ onto the surface of TiO ₂ nanoparticles to improve open circuit voltage in Dye Sensitized Solar Cells	Francisco Javier Navas Pineda
T26	Power boost in concentrated photovoltaics using nanostructured coverglasses	Hyun Gi Park
T27	Ru(II) and Ru(II)-Mn(I) Diimine Complexes as Singlet Oxygen Sensitizers	Edjane Rocha dos Santos
T28	Semiconducting properties of thin coatings of rhenium chalcogenides	Dilgam Tagiyev
T29	Synthesis and characterization of new crosslinkable organic materials for photovoltaic applications	Cristiana Isabel Violante da Costa
T30	Inverted Polymer Solar Cells utilizing Multi-functional Quantum-dots Monolayer	Dong Ick Son
Hydrogen		
T31	Withdrawn	
T32	Steam Reforming of Ethanol over Co-Fe Particle Catalysts	Yuji Ando
T33	Chemical and Morphological characterization of Co and Ni ferrites involved in water-splitting thermochemical cycles	Naiara Barredo Goikoetxea
T34	Withdrawn	
T35	Hydrogen adsorption properties of Pd-doped SBA-15	Jaeyong Kim
T36	Developing a cell prototype to produce hydrogen employing 254 stainless steel electrodes	Marilei de Fátima Oliveira
T37	Electrolysis of formic acid to produce hydrogen employing AISI 254 steel	Marilei de Fátima Oliveira
T38	Improvement of water gas shift reaction under high CO ₂ concentration atmosphere	Takeru Omiya
T39	Hydrogen gas production using brass electrode in formic acid	Bianca Vanjura Dias
T40	Evaluation of electrolytic property of porous metal electrode	Kenta Yamaura
Energy Harvesting Materials		
T41	Optimization of Cantilever Form of a Piezoelectric Energy Harvesting System for Application in Wireless Switch	Jaeyong Cho
T42	Aluminum doped ZnO as a thermoelectric oxide material	Sonya Harizanova
T43	Performance improvement of perovskite solar cells by optimizing electron-hole transport	Moon-Sung Kang
T44	Porous substrate based polymeric electrolytes for energy conversion	Jin-Soo Park, Moon-Sung Kang
T45	High temperature stability of thermoelectric tellurides	Yatir Sadia
Energy Production from Fossil Fuels		
T46	Si/TiO ₂ /Pt photocathodes to demonstrate photoelectrochemical CO ₂ conversion	Maria Valnice Boldrin Zanoni

T47	Improvement of coal content in coal-water mixture using polymer additive	Sang Jun Yoon
T48	Transformation Photocatalytic of a Molecule Pesticide in Water Solution	Hakima Azaari
T49	High efficient separation of CH ₄ /H ₂ mixtures using ZIF-8/water slurry	Bei Liu

FRIDAY, 27 FEBRUARY 2015		
From 15:45-16:45		
Biomass – Biofuels		
Code	Title	Presenter(s)
F1	Withdrawn	
F2	The effect of acidic treatment on saccharification of sorghum biomass in ethanol production	Jolanta Batog
F3	Experiences of microwave treatment prior to anaerobic digestion of food industry wastewater sludge	Sándor Beszédes, Gábor Keszthelyi-Szabó
F4	Investigation of the relationship between the dielectric properties and biodegradability of meat processing wastewater sludge	Gábor Keszthelyi-Szabó, Sándor Beszédes
F5	Experimental Study of a Biofuel Engine and its Validation through Mathematical Modeling	Shiker Bhandary
F6	Oxidative stability of high oleic and sunflower oil	Larissa Aparecida Corrêa Matos
F7	Biogas purification: DMS removal	Paola Gislon
F8	Studies on biomass and Antioxidants vitamins production in <i>Spirulina platensis</i> by amending some nutritional requirements	Rasha Mahmoud Sayed Hassan El-Shazoly
F9	Microwave pre-treatment combined saccharification	Cecilia Hodur
F10	Treatment of dairy wastewater using hybrid techniques based on ultrasonic cavitation and membrane filtration	Szabolcs Kertész
F11	PCS Biofilm bioreactor for biofuel production	Mohammad Khiyami
F12	Chemical fixation of CO ₂ into polymers and their applications as environmental friendly, biocompatible materials	Heesoo Kim
F13	Bioconversion of xylan to butyric acid by a newly isolated Clostridium species BX3	Yuen Sean Lam
F14	Novel high-rate thermophilic anaerobic digestion of food wastewater using immobilized digester sludge in polyvinyl alcohol hydrogels	Young Haeng Lee
F15	Esterification of fatty acids in the presence of a heterogeneous catalyst using ethanol, a screen test of variables.	Jorge Mario Marchetti
F16	Acclimation of microbes for improved methane production from brown algae without dilution	Toyokazu Miura
F17	Steam and dry reforming of toluene over Ni/Ru-x/Al ₂ O ₃ catalysts	Kun Woong Oh
F18	Co-gasification of biomass-waste plastic mixture by the two-stage of pre-treatment and thermal plasma system	Jae Hyun Park, Dong Wha Park
F19	Fuel Properties of Fast Pyrolysis Based Bio-oils for Transport in Korea	Jo Yong Park
F20	Effect of rare earth metal promoter in the toluene steam reforming over Ni-based catalysts	Seoyun Park,
F21	Characteristics of sorghum biomass for the production of biofuels	Dominika Pieprzyk-Kokocha
F22	Co-pyrolysis of rice husk blended with different types of plastic wastes	Filomena Pinto
F23	N ₂ explosive decompression pretreatment of biomass for lignocellulosic ethanol production	Merlin Raud

F24	Withdrawn	
F25	Withdrawn	
F26	Study of the Use of Natural Antioxidant to produce Soybean Biofuel	Bianca Vanjura Dias
F27	The efficiency of ethanol fermentation using chemical mutagenesis of distiller's yeast	Aleksandra Wawro
Energy Transmission, Distribution and Storage		
F28	Sodium phospho-olivines as low cost alternative for electrode materials in lithium-ion batteries	Tanya Boyadzhieva
F29	Fabrication of highly porous carbon material for lithium- sulfur batteries based on polymer template approach	Soumyadip Choudhury
F30	Flame spray made lithium titanate (Li ₄ Ti ₅ O ₁₂) as promising anode material for lithium ion batteries	Vasiliki Tsikourkitoudi, Soumyadip Choudhury
F31	Gel polymer electrolytes based on thiazolium-based ionic liquids with oligo(oxyethylene) side chains	Carmen del Río
F32	Identification of Fe ³⁺ corrosion product in passivation of buried X100 pipeline steel using Mott-Schottky & surface analysis	Ibrahim Gadala
F33	Synthesis of nitrogen-containing nanocarbons from cyano-aromatic molecules via solution plasma process for oxygen reduction reaction	Takahiro Ishizaki
F34	Low cost electrode materials for lithium-ion batteries: sodium deficient transition metal oxides	Svetlana Ivanova
F35	Low cost electrodes for lithium-ion batteries: sodium deficient nickel-manganese oxides.	Mariya Kalapsazova
F36	Thickness optimization of LiCoO ₂ cathode for all-solid-state thin film battery with various operating conditions	Joosun Kim
F37	2D Mesoporous Carbon/Graphene Nanocomposites for Supercapacitors	Kwang-Bum Kim
F38	The porous carbon materials with metal hydroxide for composite supercapacitor electrodes – synthesis and electrochemical properties	Alexey Kozlov
F39	Optimization of operating condition for concentration overpotential in Vanadium redox flow battery	Hyo June Lee
F40	Growth kinetics of gas hydrate films involved in oil and gas transportation	Qinglan Ma
F41	Wetting of TiO ₂ mesoporous anodes by aprotic ionic liquids: Toward safe Li-ion batteries operating at high temperature	Enrique Morales
F42	A new strategy for integrating abundant oxygen functional groups into carbon felt electrodes for vanadium redox flow batteries	Min-Sik Park
F43	Anti-fluorite Li ₆ CoO ₄ as an alternative lithium source for lithium ion capacitors: An experimental and first principles study	Min-Sik Park
F44	Using agroindustrial waste to generate energy	Paulo Rogério Pinto Rodrigues
F45	Energy supply-storage models for Rural Net-Zero Communities – An integrated approach	Francesca Poggi, Miguel Amado
F46	Coating of zinc with nanosized silica: preparation and electrochemical oxidation behavior	Ulrich Schadeck
F47	Synthesis of Li[Ni _{0.8} Mn _{0.15} Al _{0.05}]O ₂ high quality crystals for cathode	Ai Serizawa

	material of Lithium-ion batteries by flux method	
F48	Bio-based phase change materials for low temperature energy storage: a literature review of thermal properties	Adil Sriyer
F49	Effect of selective layer on polyelectrolytes films for redox flow battery	Jongok Won

VIRTUAL PRESENTATIONS (ONLINE PLATFORM ON THE CONFERENCE WEBSITE)

Title	Presenter(s)
Parametric investigation of rapid heating fast pyrolysis of Jatropha curcas waste for bio-oil production	Seyed Amirmostafa Jourabchi
Enhancement of the oxygen reduction reaction in nanostructured $\text{La}_{0.6}\text{Sr}_{0.4}\text{Co}_y\text{Fe}_{1-y}\text{O}_3$ and $\text{La}_{0.8}\text{Sr}_{0.2}\text{MnO}_3$ SOFC cathodes	Joaquín Sacanell
Development of a hydrogen-based fuel cell and energy storage system	Gustavo Andreasen
Experimental study on naturally ventilated ceramic tile roof as potential benefits for thermal performance on housing	Rui António Pitarma
Bioenergy in Argentina: the first co-firing essay to national scale	Silvina Magdalena Manrique