



European Materials Research Society

2023 Spring Meeting May 29 | June 2

40<sup>th</sup> Anniversary

Congress & Exhibition Centre, Strasbourg, France

## SYMPOSIUM D

Advanced sustainable materials for energy applications

*Symposium Organizers:*

Daniel SALAZAR JARAMILLO, BCMaterials, Spain

Benoit P. PICHON, IPCMS, Strasbourg, France

Pier Carlo RICCI, University of Cagliari, Italy

Svetlana NERETINA, University of Notre Dame, USA

**Monday May 29**

## **D1\_01 Batteries 1**

**Chairperson(s) : SALAZAR Daniel**

**Cassin (Ground floor)**

<b>09:00</b>	<b>1160</b>	<b>INV</b>	Developing polymer nanoparticles as high-capacity charge carriers in low-cost, aqueous redox flow systems	<b>CARRETERO GONZALEZ Javier</b>
<b>09:30</b>	<b>158</b>		Porous Carbon Textile Decorated with VC/V2O3-X Hybrid Nanoparticles: Dual-Functional Host for Flexible Li-S Full Batteries	<b>LEE Seung-Mo</b>
<b>09:45</b>	<b>1854</b>		Bio-waste derived hard carbon for sodium ion batteries: a Small Angle Scattering study	<b>GRECO Giorgia</b>

**Monday May 29**

## **D2\_01 Metal Halide Perovskites**

**Chairperson(s) : DESCHLER Felix - RICCI Pier Carlo**

**Boston (1st floor)**

<b>09:00</b>	<b>1941</b>	<b>INV</b>	Halide Perovskite and Perovskite-Related Nanocrystals: Synthesis, Optical Properties, Heterostructures	<b>MANNA Liberato</b>
<b>09:30</b>	<b>1430</b>		Exsolution of metal nanoparticles from perovskite oxides nanoparticles	<b>FEZAI Emna</b>
<b>09:45</b>	<b>2060</b>		Encapsulation of lead halide perovskite emitters in resonant silica spheres	<b>RIGTER Susan A.</b>

**Monday May 29**

## **D1\_02 Batteries 2**

**Chairperson(s) : OKHAY Olena**

**Cassin (Ground floor)**

<b>10:30</b>	<b>965</b>	<b>INV</b>	Challenges in the synthesis of sustainable electrode materials for sodium-ion batteries: controlling the oxidation state of iron or the side effects of carbon-based additives	<b>VERTRUYEN Benedicte</b>
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11:00	599	Highly Crystalline Ordered Macroporous Metal Organic Framework for Aqueous Aluminum Ion Battery: Effect of Redox Additives in Charge Storage	CHANDRA Amreesh
11:15	670	Sulfur-rich carbons as sustainable cathode material for room-temperature sodium-sulfur batteries: from optimal structure towards maximum sulfur utilisation.	SENOKOS Evgeny
11:30	501	Comparative study of kapok-based self supported composites with TiO <sub>2</sub> or SiO <sub>2</sub> usable in Li-ion batteries	WAGNER Julia
11:45	38	A novel close-loop method for recycling spent lithium-ion batteries using alginate hydrogel and deep eutectic solvent	WANG Yifeng

**Monday May 29**

**D2\_02**

## **Metal Halide Perovskites and optical materials**

**Chairperson(s) : MANNA Liberato**

**Boston (1st floor)**

10:30	1087	INV	Bright Circularly-Polarized Photoluminescence in Chiral Layered Hybrid Lead-Halide Perovskites	DESCHLER Felix
11:00	1389		Progress in SrTi <sub>0.7</sub> Fe <sub>0.3</sub> O <sub>3-d</sub> as Interlayer in Perovskite-based Optoelectronic Devices	YILDIRIM Ceren
11:15	1115		Holographic Imaging of Spin Dynamics in 3D Perovskites	GESSNER Julia Anthea
11:30	484		Development of noble metal-based MEA/HEA nanofilms by ALD-EJH method for water splitting	ZOU Yiming
11:45	1571		Thermally and electrically responsive single organic molecule: a new strategy in visible-to-near-infrared light trapping energy saving windows	PUGUAN John Marc

**Monday May 29**

**D1\_03**

## **Batteries 3**

**Chairperson(s) : RICCI Pier Carlo - VERTRUYEN Benedicte**

**Cassin (Ground floor)**

13:30	813		Edible Triboelectric Nanogenerators and Supercapacitors	LAMANNA Leonardo
14:00	180		Effect of doping on Ni-rich layered cathode materials for low-Cobalt Li-ion batteries	BANO Amreen
14:30	5		Polyrotaxane-based networks as electrolytes and catholytes for all solid state lithium battery	YAN Shanshan
14:45	573		New water-soluble binder for commercially relevant mass loadings of cobalt-free LiNi <sub>0.5</sub> Mn <sub>1.5</sub> O <sub>4</sub> lithium-ion cathodes	LI Qi

**Monday May 29**

**D2\_03**

**Thermoelectric and optical materials 1**

Chairperson(s) : TAE HYUN Park

**Boston (1st floor)**

13:30	2589	INV	Novel high-performance organic thermoelectric materials	ANGUITA Jose
14:00	222		Triplet-triplet Annihilation: for Photon Upconversion and Triplet Fusion-enhanced LEDs (FuLEDs)	YANG Le
14:15	1400		Piezo-luminescence characteristic of Manganese doped ZnS microcrystals embedded inside PVDF matrix	SHARMA Pallavi
14:30	1438		Investigation of the thermomechanical and elastocaloric properties of NiMnTi shape memory alloy for solid-state cooling applications	VILLA Francesca
14:45	1920		3D Printed Thermoelectret with Giant Piezoelectric Coefficient as Self-Powered Wearable Pressure Sensor and Futuristic Implementation for On-spot Bone Injury	SAINI Dalip

**Monday May 29**

**D1\_04**

**Batteries 4**

Chairperson(s) : HALANKAR Kruti

**Cassin (Ground floor)**

15:00	1208	INV	Aerogel materials for capacitive electrodes in energy storage devices	OKHAY Olena
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15:30	856		Impact of Lithiation on Si-anode/binder interfaces for next generation Lithium ion batteries	MAJI Rita
15:45	2077		Investigation of Volatile Electrolyte Decomposition Products with Operando GCMS for Lithium-Ion Batteries	KAHR Juergen

**Monday May 29**

**D2\_04**

## Thermoelectric and optical materials 2

Chairperson(s) : ANGUITA Jose

**Boston (1st floor)**

15:00	1038	INV	Stretchable polymer ionic thermoelectric supercapacitors	TAE HYUN Park
15:30	667		Effective control of thermal transport with light in molecular materials.	RIVADULLA Francisco
15:45	2412		Structural Evolution and Nanostructure of Thermoelectric Materials	NEMES Norbert Marcel

**Monday May 29**

**D1\_05**

## Batteries 5

Chairperson(s) : LA CARBONARA Giampaolo

**Cassin (Ground floor)**

16:30	2705	INV	A prospective toward next generation lithium sulphur batteries	HALANKAR Kruti
17:00	2651		Vitrimer-like, self-healing solid polymer electrolytes, facilitated by disulfide metathesis at room temperature, for lithium-ion batteries	BARAKAT Carla
17:15	1550		The improved lithium storage performance of low-temperature grown LiCoO <sub>2</sub> cathode by dual-function modification	ZHANG Yan
17:30	1123		Developing Highly Stable Solid-State Organic Batteries Employing a Single-Ion Polymer Electrolyte	SHAO Yunfan
17:45	1517		Nanocomposite Carbon/TiO <sub>2</sub> Inverse Opals as Lithium-Ion Battery with High Capacity Retention	CARROLL Aoife

18:00 2419 Lithium-sulfur battery operational at high C-rate achieved by an interlayer of 3D crumpled MoS<sub>2</sub> nanosheets **PASTE Rohan**

**Monday May 29**

**D2\_05**

**Magnetic Materials**

**Chairperson(s) : PICHON Benoit - SALAZAR Daniel**

**Boston (1st floor)**

16:30	2070	INV	Fabrication of rare-earth free permanent magnets for energy harvesting : magnetophoresis assembly of Co nanorods	<b>LACROIX Lise-Marie</b>
17:00	2783	INV	Magnetic anisotropy engineering in onion-structured, doubly exchange-coupled, rare earth-free nanoparticles	<b>DE TORO José A.</b>
17:30	2693		Energy efficiency and economic comparison of different methods for recycling NdFeB permanent magnets	<b>GARCÍA-FRANCO Andrés</b>
17:45	1832		Oxygen vacancy-driven polarization imprint in ferroelectric BFCO thin films	<b>HENNING Xavier</b>
18:00	1694		Magnetic ordering through itinerant ferromagnetism in a metal-organic framework	<b>PARK Jesse Gaehyun</b>
18:15	34		Hydrogen Storage in Mg-CuNiCoFeV composite for hydrogen storage	<b>GUPTA Anshul</b>

**Tuesday May 30**

## **D1\_06** **Batteries 6**

**Chairperson(s) : RICCI Pier Carlo**

**Cassin (Ground floor)**

<b>10:00</b>	<b>1734</b>	Effect of ammonium and tetraalkylammonium hexafluorophosphates additives on Lithium metal-electrolyte interphase	<b>LA CARBONARA Giampaolo</b>
<b>10:45</b>	<b>1562</b>	High-Capacity Inverse Opal Tin Oxide Electrodes for Lithium-Ion and Sodium-Ion Energy Storage	<b>GRANT Alex</b>
<b>11:00</b>	<b>225</b>	Smart Design for Sustainable High Mass Loading Organic Battery Electrodes	<b>SHI Kai</b>
<b>11:15</b>	<b>1157</b>	High-Performance Li-S Batteries Through Advanced ZIF-Derived Carbon Decorated with 2D MXene	<b>YUKSEL Recep</b>
<b>11:30</b>	<b>1469</b>	The Effect of Ge-Substitution on Electronic and Lattice Vibration Properties of the Thermoelectric Semiconductor FeGa <sub>3</sub>	<b>MARTIN Catalin</b>

**Tuesday May 30**

## **D2\_06** **Photocatalysis and photocatalytic materials 1**

**Chairperson(s) : PORCU Stefania**

**Boston (1st floor)**

<b>10:00</b>	<b>562</b>	<b>INV</b> Developing extended visible light responsive polymeric carbon nitrides for photocatalytic and photoelectrocatalytic applications	<b>MONDAL Sanjit</b>
<b>10:30</b>	<b>196</b>	Recovered transition metal phosphates as functional materials for electrocatalysis	<b>KARAFILUDIS Stephanos</b>
<b>10:45</b>	<b>418</b>	Tandem Photocatalysis for Non-oxidative Coupling of CH <sub>4</sub> to C <sub>2</sub> H <sub>4</sub>	<b>HUANG Haowei</b>
<b>11:00</b>	<b>943</b>	Organic pi-conjugated donor-acceptor-based oligomers for photocatalytic H <sub>2</sub> production	<b>CLOUTET Eric</b>
<b>11:15</b>	<b>742</b>	Enhanced Photocatalytic water-splitting of C-based TiO <sub>2</sub> nanocomposites for H <sub>2</sub> production	<b>SHARMA Sanjeev K.</b>

11:30	2076		High Stability Molybdenum Sulfide Catalysts for the Hydrogen Evolution Reaction	JOHNSON Hannah
11:45	531		Two-dimensional Semiconductive Ni <sub>3</sub> TeO <sub>6</sub> for H <sub>2</sub> production applications	FERNÁNDEZ CATALÁ Javier
12:00	872		Unconventional photocatalysts for the H <sub>2</sub> production by solar photoreforming	FIORENZA Roberto

**Tuesday May 30**

**D1\_07  
Batteries 7**

Chairperson(s) : LAMANNA Leonardo

**Cassin (Ground floor)**

13:30	1432	INV	Potassium salts of Schiff Bases as anodes in Potassium ion based batteries	CASTILLO-MARTINEZ Elizabeth
14:00	1739		Flexible and binder-free efficient supercapacitor electrode using vertical array of MoS <sub>2</sub> with transition metals	SASEENDRAN Swathy
14:15	266		Polyaniline/VS <sub>2</sub> Composite with Nano-wired Morphology for All-solid-state Supercapacitor and Zinc-ion Battery Applications	ZAFAR Saad
14:30	781		Poly(2-ethyl-2-oxazoline) binder for low-cost and high heat resistant lithium rechargeable battery applications	PARK Young-Sam
14:45	1066		Triflate anions enabled good rate capability and long-term stability of aqueous aluminum ion batteries	LI Xiaoya

**Tuesday May 30**

**D2\_07  
Photocatalysis and photocatalytic materials 2**

Chairperson(s) : MONDAL Sanjit

**Boston (1st floor)**

13:30	852	INV	Metal based transparent electrodes for energy applications: a brief overview	BELLET Daniel
14:00	541		Theoretical and Experimental Investigation on Solar driven Hydrogen production Capacity of new Janus Coupled Photocatalyst	EDATHIRINJI SUDHEER Anjana



14:15	419	Visible-light-driven photocatalytic hydrogen production using intercalative hybrid composite of CdS nanoparticles and N-doped TiO <sub>2</sub> nanosheets	KIM Tae Woo
14:30	1776	Low-cost and high throughput synthesis of ZnO nanostars for Energy Storage applications.	DI MARI Gisella Maria
14:45	1727	SrTiO <sub>3</sub> thin films photoanodes deposited by a combinatorial chemical beam vapor deposition: study of the mono- and co-doping with nitrogen and tantalum to enhance the visible light activity	ROGÉ Vincent

**Tuesday May 30**

**D1\_08**

**Batteries 8**

**Chairperson(s) : RICCI Pier Carlo**

**Cassin (Ground floor)**

15:00	2518	INV	Aqueous Eutectic Electrolytes for Zinc Metal Batteries	BOUCHAL Roza
15:45	1977		Effect of precursor concentration on the electrochemical properties of carbon composite nanofibers of zinc phosphide as anode materials for lithium-ion batteries	SAGYNBAYEVA Yryskul

**Tuesday May 30**

**D2\_08**

**Photocatalysis and photocatalytic materials 3**

**Chairperson(s) : BELLET Daniel**

**Boston (1st floor)**

15:00	1932	INV	Post-annealing treatment of Cu <sub>2</sub> ZnSnS <sub>4</sub> -based multilayer photocathodes for enhancing photocurrent stability during photoelectrochemical water reduction	WIBOWO Rachmat Adhi
15:30	151		Study of Enhanced Catalytic Properties of Multi Component Alloy and Stabilized Oxide Composites	PARK Dahee
15:45	840		Combinatorial deposition of mono- and co-doped sodium tantalate: material characterization and photoelectrochemical properties	GARLISI Corrado

**Tuesday May 30**  
**D\_P01**  
**Poster session 1**

**Etoile (1st floor) - 4.30 p.m to 6.30 p.m**

<b>01_114</b>	One-step Electrochemical Synthesis of Ni-Fe-S/Nickel foam for Efficient Electrocatalysts of Water Splitting	<b>CHOI Daegeon</b>
<b>02_329</b>	3D characterization of nanocatalysts for energy conversion application	<b>KIM Taekyung</b>
<b>03_538</b>	Electrical properties of inorganic hybrid PP-based ternary blends for power cable	<b>SE WON Han</b>
<b>04_633</b>	Oxidation and hot corrosion properties of Rene-N4 and FSX-414 superalloys used for turbine applications	<b>AHMAD Mairaj</b>
<b>05_1016</b>	The heterojunction strategy with work function-tunable graphene for efficient photoelectrochemical water-splitting in WO <sub>3</sub> -based photoelectrode	<b>CHO A. Young</b>
<b>06_1407</b>	Time resolved photo-driven charge transfer of BiVO <sub>4</sub> thin films for photoelectrochemical water splitting	<b>OTTINGER Natalie</b>
<b>07_2046</b>	Excited state calculations of two-dimensional nanostructured transition metal dichalcogenides for water-splitting applications	<b>ISAKOVICA Inta</b>
<b>08_507</b>	Study of earth abundant and non-toxic transparent conductive oxides for solar cell applications	<b>KHEMIRI Naoufel</b>
<b>09_2691</b>	Ionogels as promising anti-icing surfaces	<b>BAHAL Simrandeep</b>
<b>10_2714</b>	Development of sustainable high energy density lithium-sulfur batteries	<b>HALANKAR Kruti</b>
<b>11_2566</b>	Architecture design of Two-Dimensional/ Three-Dimensional MoS <sub>2</sub> -PbS Hybrid Material for High-Performance Supercapacitor Electrode Material	<b>CHAUDHARY Nahid</b>
<b>12_2061</b>	Green Supercapacitors Based on Electrodes Fabricated by Single-step Visible Direct Laser Writing of Chitosan film	<b>ISLAM Jahidul</b>
<b>13_2516</b>	Lattice Engineering of Noble Metal-based Nanomaterials through Inserting Light Elements towards Enhanced Catalytic Applications	<b>HAN Peng</b>

14_2430	Flexible and stretchable Li ion battery using origami scale based structure	<b>HYUN Seungmin</b>
15_2422	Electrophoretically deposited 2D V <sub>2</sub> C/Carbon fiber composite as an efficient potential anode material for flexible asymmetric supercapacitors	<b>RAFIQUE Amjid</b>
16_2145	Phloroglucinol as a Promising Precursor for Carbon Dots: Synthesis and Characterization for LED Applications	<b>OLLA Chiara</b>
17_2376	Raman Spectroscopy for Monitoring Residues in Copper-based Redox Flow Batteries	<b>PORCU Stefania</b>
18_2318	Thin Films Quaternary materials for photovoltaic applications	<b>BEN RABEH Mohamed</b>
19_2317	Nanostructured iron oxides for efficient H <sub>2</sub> production via thermochemical water splitting	<b>MATTHEWS Jayden</b>
20_2303	Optimization of Solid Electrolyte Interphase in Diatom Derived Silica Anodes	<b>HUA Weicheng</b>
21_906	Study and characterization of non-fullerene nanostructured films for application in photovoltaic devices	<b>MEDINA Maria Eduarda</b>
22_1249	Investigation of the charge dynamics of BiVO <sub>4</sub> for water splitting by absorption spectroscopy techniques	<b>LI Sirui</b>
23_2159	New film scintillator based on 8-hydroxyquinolate lithium	<b>AVETISOV Igor</b>
24_2130	Novel BGO/PVA composite material for gamma-scintillation	<b>AVETISOV Igor</b>
25_2121	Effect of solvents polarity on quantum yield of the fluoralkylated carbon nanodots	<b>NAZAROV Alexei</b>
26_2072	WS <sub>2</sub> nanosheets/vertically aligned Fe <sub>2</sub> O <sub>3</sub> nanoflakes as a 2D heterojunction for efficient photoelectrochemical water splitting.	<b>BEHERA Govinda Chandra</b>
27_2073	Synthesis of cadmium sulfide nanowires in an ion track template	<b>AKILBEKOV Abdirash</b>
29_1643	Novel Recycling Method of Spent Li-Ion Batteries for the Synthesis of Spinel Co <sub>3</sub> O <sub>4</sub> Nanoparticle	<b>KIM Hyun-Su</b>
30_1981	Environmentally sustainable direct recycling of spent lithium-ion batteries	<b>KIM Kwang</b>
31_1817	Sodium transition metals sulfates as modish electrode materials with electrochemical properties in hybrid metal-ion batteries	<b>MARINOVA Delyana</b>

<a href="#">32_1958</a>	Zinc-manganese dioxide battery with immobilized pH gradient electrolyte	<b>ZUKULS Anzelms</b>
<a href="#">33_1956</a>	2.4 V Open-Circuit Potential Aqueous Zn-MnO <sub>2</sub> Rechargeable Battery with pH gradient electrolyte	<b>DURENA Ramona</b>
<a href="#">34_1937</a>	Fabrication of 2D MoS <sub>2</sub> nanosheets based binder-free electrodes for electrochemical applications	<b>MANNAYIL Jasna</b>
<a href="#">35_1904</a>	Oxygen Redox Reaction at Elevated Temperature for Layered Na <sub>2</sub> /3Mg <sub>1</sub> /3Mn <sub>2</sub> /3O <sub>2</sub> Oxides with three and two-layer stacking	<b>KUKEVA Rositsa</b>
<a href="#">36_1893</a>	Formation of metal oxide-polyaniline nanohybrids by plasma-driven electrolysis for efficient energy storage devices	<b>RADOMTSEU Anton</b>
<a href="#">37_1346</a>	Synthesis and Characterization of Magnetron Sputtered SnO <sub>2</sub> and its application as Electron Transport Layer	<b>ZAKARIA Yahya</b>
<a href="#">38_1867</a>	Extensive ex-situ infrared and Raman studies of low-temperature electrochromic vanadium oxide films in different states	<b>SURCA Angelja Kjara</b>
<a href="#">39_1866</a>	First Principle investigation of multi-interstitial defects in germanium	<b>ABDURRAZAK Abdulgaffar</b>
<a href="#">40_1828</a>	Fabrication and characterization of oxysulfide Y <sub>2</sub> Ti <sub>2</sub> O <sub>5</sub> S <sub>2</sub> photoelectrode thin film for solar water splitting	<b>FUKATANI Naoto</b>
<a href="#">41_1795</a>	Zinc Oxide/Carbon Hierarchical Nanostructures Fabricated by Liquid Mediated Laser Ablation in Applied Electric Field as Material for Electrodes of Supercapacitors	<b>TARASENKA Natalie</b>
<a href="#">42_994</a>	A new method to produce redox active porous carbons for electrochemical energy storage	<b>PETSAGKOURAKIS Ioannis</b>
<a href="#">43_1758</a>	Electrochemical properties of sodium iron phosphate cathodes using pyrrolidinium-based ionic liquid electrolyte	<b>TUSHEV Trajche</b>
<a href="#">44_1762</a>	Boron Nitride Nanotube-ZnO QDs core-shell composites for transparent flexible piezoelectric nanogenerator	<b>DONG ICK Son</b>
<a href="#">45_1637</a>	Green Synthesis of SnO <sub>2</sub> microspheres and their excellent performance as an active anode material in low temperature lithium-ion batteries	<b>ISSATAYEV Nurbolat</b>

46_1732	Unraveling multiple active sites and band engineering of 1T-2H phase MoSe <sub>2</sub> /MoO <sub>3</sub> with pH universal HER catalysis	ROY Dipayan
47_1717	Synergetic effect of bulk and surface modification of layered Na <sub>2</sub> /3Ni <sub>1</sub> /2Mn <sub>1</sub> /2O <sub>2</sub> oxide for enhancing the electrochemical performance	KALAPSAZOVA Mariya
48_1724	Enhanced Stability of Organo-Metallic Electrocatalysts By Intercalation between Clay Materials	YOO Hye Yeon
49_1696	Synthesis of High-Performance Aramid Polymers for Energy Applications	SONG Wonseong
50_527	Towards oxygen evolution reaction catalyst activity descriptors using model hydroxide perovskites.	CROSSLEY Kenneth
51_1662	Room Temperature Argon/Hydrogen Plasma Post-treatment of AZO-Ag-AZO Transparent Conductive Multilayers	SERGEEV Oleg
52_1676	Leveraging Reduced Graphene Oxide as a Charge Reservoir of Manganese Oxide to Enhance the Charge Storage Property of MnOx-Based Micro-Supercapacitors Through Interfacial Interaction	YOO Jungjoon
53_1618	Effect of Li-Doping on Micro-Supercapacitor Performances of ZnO/rGO	LEE In Sik
54_1616	FeOOH-Decorated Nickel Selenides on Ni Foam for Efficient Overall Water splitting	KIM Sun Mi
55_1573	Improved Cycle Stability of Nickel-rich Single-Crystal Cathode Materials for Lithium-ion Batteries	JONG-TAE Son
56_1064	Facile fabrication of large-scale BiVO <sub>4</sub> photoelectrodes for solar water splitting	HWANG Hyojung
57_1454	Environmental transmission electron microscopy study of doped ZnO films	TANNERT Tobias
58_1536	Influence of electrode design on the electrochemical performance of heteroatom-doped carbon anodes in sodium ion batteries	YILMAZ Elif Begum
59_1504	Luminescent hybrid materials in SrF <sub>2</sub> -Liq, SrF <sub>2</sub> -LaF <sub>3</sub> -Liq systems obtained by co-precipitation	AVETISOV Igor
60_1278	Microstructural characterization of thin films based on HfNbTaTiZr high-entropy alloy	HRUSKA Petr

**Tuesday May 30**

**D1\_09**

**Electrochemical**

**Chairperson(s) : SCALESE Silvia**

**Cassin (Ground floor)**

<b>10:00</b>	<b>2378</b>	<b>INV</b>	The Mg electrode cycling mechanism in simple salt glyme electrolytes	<b>JOHNSON Lee</b>
<b>10:30</b>	<b>2555</b>		Electrodes Based on Selenium Anchored on NiCoP and Carbon Nanofibers for Flexible Energy Storage Devices	<b>AFSHAN Mohd</b>
<b>10:45</b>	<b>226</b>		Sputtered ternary transition metal oxide-based electrodes for micro-supercapacitors applications: approach, challenges and prospects	<b>JOLAYEMI Bukola</b>
<b>11:00</b>	<b>1545</b>		The Exploration of Electrochemical Sodium Storage Performance using TiO <sub>2</sub> Inverse Opal scaffolds with Controlled Pore Sizes	<b>ZHANG Yan</b>
<b>11:15</b>	<b>1185</b>		Semitransparent aligned and spaced titania nanotubes materials formed out of TiAg alloys with unique electrochemical activities.	<b>KOUAO Dujearic-Stephane</b>
<b>11:30</b>	<b>1245</b>		Exploring the recycling chemistry of layered lithiated transition metal oxide positive electrodes with molten salts	<b>DAMBOURNET Damien</b>
<b>11:45</b>	<b>2117</b>		Fabrication of Novel 3D Structured Electrode for Electrocatalytic Hydrogen Generation Applications using Additive Manufacturing	<b>MEETHALE PALAKKOOL Nadira</b>

**Tuesday May 30**

**D2\_09**

**Photocatalysis and photocatalytic materials 4**

**Chairperson(s) : BERESTOK Taisiia**

**Boston (1st floor)**

<b>10:00</b>	<b>1284</b>	<b>INV</b>	Design of multi-functional photocatalysts on the basis of titania and heteropolyacids for methane activation and conversion to valuable products at room temperature	<b>KHODAKOV Andrei</b>
<b>10:30</b>	<b>1132</b>		Enhanced electrochemical performance of treated graphite felt for AORFB	<b>BASSIL Patricia</b>

10:45	2122		Covalente Organic Frameworks Based on BODIPY and BOPHY Dyes for Artificial Photosynthesis	NARANJO Teresa
11:00	2085		Single atom doped 2D nanosheets of layered niobate for photocatalytic CO <sub>2</sub> reduction	YILMAZ Bengisu
11:15	707		CuOx/N-GDY as electrocatalysts for efficient ammonia production via nitrate reduction	LI Jian
11:30	2261		Co <sub>3</sub> O <sub>4</sub> nanopetals layers for photoelectrochemical degradation of organophosphate pesticides	RAGONESE Paola
11:45	1532		Evaluation of the catalytic potential of melt-spun and chemical-treated aluminium-based intermetallic alloys	ZIEBA Amelia

**Tuesday May 30**

**D1\_10**

**Water splitting/HER OER 1**

**Chairperson(s) : MANWAR Nilesh R.**

**Cassin (Ground floor)**

13:30	2044	INV	Growth of MoO <sub>3</sub> NWs by thermal evaporation for OER application	SCALESE Silvia
14:00	2371		Conception of a heterostructured bismuth vanadate based photoanode for solar-driven water oxidation in acidic conditions	BLOT Adeline
14:15	620		Mechanism of Alkaline Water Splitting by Pt, Pd, Pt <sub>80</sub> Pd <sub>20</sub> and Cu(OH) <sub>2</sub> Nanoparticles Obtained by PLAL	SCANDURRA Antonino
14:30	565		Enhancing Broadband Light Absorption in Ultrathin Film Absorbers for Solar Fuel Generation	SHOR PELED Saar
14:45	212		Structure-Induced Catalytic Activity of Ni- and Co-substituted Layered MoB <sub>2</sub> toward Hydrogen Evolution	PEIGHAMBARDOUST Naeimeh Sadat

**Tuesday May 30**

**D2\_10**

**Photocatalytic and photovoltaic materials**

**Chairperson(s) : KHODAKOV Andrei**

**Boston (1st floor)**

<b>13:30</b>	<b>1803</b>	<b>INV</b>	Metastable Ni(I)-TiO <sub>2</sub> -x Photocatalyst: Self-Amplifying H <sub>2</sub> Evolution from Plain Water without Noble Metal Co-Catalyst and Sacrificial Agent	<b>ALTOMARE Marco</b>
<b>14:00</b>	<b>1755</b>		Improved specific capacitance of WO <sub>3</sub> nanostructures obtained by hydrothermal synthesis for energy storage applications.	<b>MINEO Giacometta</b>
<b>14:15</b>	<b>740</b>		Precious Metal-Free N-rGO-based ORR electrocatalyst for Graphene Oxide-Hydrogen Membrane Fuel Cells (GOHMFCs)	<b>CHOWDURY Md Shahjahan Kabir</b>
<b>14:30</b>	<b>479</b>		Photocatalytic Partial Oxidation of Methane to Carbon Monoxide and Hydrogen over CIGS Solar Cell	<b>ORDOMSKY Vitaly</b>

**Tuesday May 30**

**D1\_11**

**Water splitting/HER OER 2**

**Chairperson(s) : JOHNSON Lee**

**Cassin (Ground floor)**

<b>15:00</b>	<b>551</b>	<b>INV</b>	Plasmon-induced 2D supported atomic site catalysts for thermo-photocatalytic simultaneous conversions of CO <sub>2</sub> into fuels and biomass Valorization	<b>MANWAR Nilesh R.</b>
<b>15:30</b>	<b>48</b>		Novel Substrate-Agnostic Fabrication of High-Performance Regenerative Water Splitting (Photo)electrodes	<b>SOO Joshua Zheyuan</b>
<b>15:45</b>	<b>603</b>		Is Fe <sub>3</sub> C can alone improve the oxygen reduction reaction kinetics in fuel cell cathodes?	<b>ARYAGOPAL S</b>



**Tuesday May 30**

**D2\_11**

**Photovoltaics 1**

**Chairperson(s) : RICCI Pier Carlo**

**Boston (1st floor)**

<b>15:00</b>	<b>1997</b>	<b>INV</b>	Development of monolithically integrated photosupercapacitors based on different photovoltaic technologies	<b>BERESTOK Taisiia</b>
<b>15:30</b>	<b>2732</b>		Multifunctional powder feedstock as a sustainable key enabling technology in additive manufacturing	<b>ROSERO ROMO James Janderson</b>
<b>15:45</b>	<b>1728</b>		Trade-Off between Photovoltaics Parameters and Thermal Annealing in Non-Fullerene Acceptors Organic Solar Cells	<b>ALAM Shahidul</b>

**Tuesday May 30**

**D\_P02**

**Poster session 2**

**Etoile (1st floor) - 4.30 p.m to 6.30 p.m**

<b>01_1335</b>	Scalable Fabrication of High-performance Perovskite Solar Modules and their Application to Photo-rechargeable Batteries	<b>KIM Young Yun</b>
<b>02_1207</b>	Sodium titanates with controlled morphology as effective anode materials for lithium- and sodium-ion batteries	<b>STANCHOVSKA Silva</b>
<b>03_1307</b>	Electrochemical Suzuki-Miyaura cross-coupling using peptide bolaamphiphile hydrogel supported Pd NPs as heterogeneous electrocatalyst	<b>KORI Deepak K. K.</b>
<b>04_1274</b>	The effect of Sn doping on the optical properties of polycrystalline Sb <sub>2</sub> Se <sub>3</sub>	<b>USLU Mehmet Ender</b>
<b>05_1256</b>	A water-based flowless energy-dense Zinc-ion Bromine Battery	<b>ZHU Jiaxiong</b>
<b>06_1184</b>	Studying the Membrane Electrode Assembly (MEA) for a Hydrogen-Manganese Redox Flow Battery (RFB)	<b>ZHANG Haoyu</b>
<b>07_1195</b>	Heat Activated Nb-Doped Vanadium Dioxide Cathodes for Zinc Ion Batteries	<b>AYDIN Selay</b>

08_1194	Molybdenum Doped Vanadium Dioxide as High-Performance Aqueous Zinc-Ion Battery	AYDOGDU Busra
09_1050	RF Energy Harvesting with Vertical Pt/MoSe <sub>2</sub> Schottky Diode-Based Crystal Radio	HONG Sungjae
10_987	Fabrication, photovoltaic characterization, and study of degradation mechanisms of a dye-sensitized solar cell based on sustainable tetrapyrrole-dyes extracted from Baltic microalgae	SIEBERT Liv
11_1067	Synthesis of PdRhalloy@ZnO-CeO <sub>2</sub> core-shell nanoparticles with different shell composition for photocatalyst	OH Geun-Jae
12_1006	Development of Si-organic-based Binder for High-performance Li-ion batteries	YOON Jihee
13_1002	Improvement of the physical properties of nanostructured Ag <sub>x</sub> O thin films grown by Glancing Angle Deposition (GLAD) method	CHAFFAR AKKARI Ferid
14_997	Materials for the conversion of solar energy with photovoltaic applications	CHILIBON Irinela
15_274	Electrochemical Influence of Aqueous Binders on LiFePO <sub>4</sub> Cathodes	PARMENTER Ryan
16_973	Constructing MWCNT/ZIS nanocomposite to enhance photoelectrochemical water splitting performance	MOHIT Mohit
17_942	Computational analysis of the enhancement of photoelectrolysis using transition metal dichalcogenide heterostructures	BAKER Edward
18_554	Modification of Aluminum Alloy Anode using Iron for Enhancing Rechargeable Aluminum Battery Operation	RAZAZ Ghadir
19_787	The Investigation of Carbon Coating on Iron-Oxide Actives for Lithium-ion Batteries	SU Wei-Chun
20_857	Investigation of the order-disorder transition in (Cu,Ag) <sub>2</sub> ZnSn(S,Se) <sub>4</sub> monograin powders	MENGÜ Idil
21_841	Transition metal dichalcogenides for photovoltaics	BOZHEYEV Farabi
22_403	The Effect of Zinc-based-oxide Coating on Iron-oxide Actives for Lithium-Ion Batteries	LIU Wei-Chen
23_800	Porous network carbon structure on Si-C composite for lithium ion battery	CHUNG Hee-Suk
24_783	Improvement of Li metal compatibility in all solid state batteries via SSZ-13 zeolite filler	KIM Jae Hyeon

25_792	Evaluation of characteristics according to cathode material particle size in PEO/LLZO-based all-solid-state battery	<b>SONG Young-Woong</b>
26_764	Lithium-ion battery with the carbon nanofibers applied carbon nanowalls	<b>KIM Kangmin</b>
27_738	Enhanced Proton-conducting Nanohybrid Membranes with Graphene Oxide and (3-mercaptopropyl)trimethoxysilane for PEMFCs	<b>CHOWDURY Md Shahjahan Kabir</b>
28_576	Manganese-Based Tunnel & Layered oxide Cathode Materials for Secondary Metal-Ion Batteries	<b>YADAV Jaya</b>
29_718	The Impact of Different Spin Coating speed on the Properties of Cu <sub>2</sub> ZnSnS <sub>4</sub> Nanocrystal Thin Films	<b>ALLUHAYBI Asaad</b>
30_673	Design of conductive and ultrathin iridium catalyst layers for highly efficient and stable PEM-water electrolysis	<b>LIM Ahyoun</b>
31_251	Reconstruction of Cobalt Molybdenum Oxide Pre-catalyst for Boosted Hydrogen Production: Structure Evolution and Performance Enhancement Mechanism Insight	<b>ZHU Anquan</b>
32_613	Interface engineering for organic and perovskite solar cells introducing simple non-conjugated polymer	<b>HONG Soonil</b>
33_612	Fabrication of Hydrogen Permeation Leak Element using Atomic Layer Deposition on Anodic Aluminum Oxide	<b>CHUNG Nak-Kwan</b>
34_598	N-doped carbon framework encapsulated Pt-Ni dual-site single atoms and alloy nanoparticles for ORR/HER bifunctional electrocatalyst	<b>LE Thanh Duc</b>
35_577	Insights into Controlled Multiphasic Growth of Zinc Tungstate Hierarchical Nanostructures for Improved Electrochemical Energy Storage	<b>TIWARI Pranjala</b>
36_569	Self-activated porous carbon template for lithium ion battery anode	<b>CHUNG Hee-Suk</b>
38_423	Fabrication of Nickel Antimony Oxide-Carbon Black Composite Anode for Alkali-ion Batteries by Electrophoretic Deposition Technique	<b>RAY Unmesha</b>
39_505	Investigations on Na-doped Cu <sub>2</sub> ZnSnS <sub>4</sub> thin films as a critical raw material-free for photovoltaic applications	<b>KHEMIRI Naoufel</b>

<a href="#">40_371</a>	A novel synthesis method of sulfide-based solid electrolytes for the high energy density all-solid-state batteries.	<b>PARK Jun Woo</b>
<a href="#">41_420</a>	Microwave-Induced Surface Defects in Lithium Titanate Oxide over the Wide Voltage Window for High Energy Li-Ion Hybrid Capacitors	<b>BYUN Segi</b>
<a href="#">42_415</a>	Synthesis of garnet LLZO by aliovalent co-doping, and electrochemical behavior of composite solid electrolyte for all-solid lithium batteries	<b>KIM Min-Young</b>
<a href="#">43_392</a>	Effect of Charge Transport Layers and applied potential on the impedance spectra in CH <sub>3</sub> NH <sub>3</sub> PbI <sub>3</sub> perovskite solar cells	<b>KHALIFA Marouan</b>
<a href="#">44_331</a>	Practical Solid-State Synthesis of Supported Pt-Co Nanoparticles for Proton Exchange Membrane Fuel Cells	<b>YOO Tae Yong</b>
<a href="#">45_335</a>	The solution-based synthesis of Li <sub>6</sub> PS <sub>5</sub> Cl solid electrolyte for effective lithium ion conduction in the cathode electrode of all-solid-state batteries	<b>PARK Jun-Ho</b>
<a href="#">46_303</a>	TiO <sub>2</sub> nanograss tubes as hybrid membrane in Li-S Battery	<b>DOOHUN Kim</b>
<a href="#">47_301</a>	Electroplated Nickel-phosphorous HER catalysts with the enhanced performance and stability via electrochemical surface-treatment	<b>EOM Kwangsup</b>
<a href="#">48_299</a>	Plasma-induced Heterojunction Material as Cathode Additive to Adjust Polysulfides Conversion of Lithium-sulfur Battery	<b>LEI Yechen</b>
<a href="#">49_279</a>	Characteristics of VO <sub>x</sub> thin films fabricated by closed-field unbalanced magnetron sputtering system for thermochromic devices	<b>LEE Jaehyeong</b>
<a href="#">50_264</a>	An interfacial wetting water based hydrogel electrolyte for high-voltage flexible quasi solid-state supercapacitors	<b>LIU Ta-Chung</b>
<a href="#">51_245</a>	Interface chemistry engineering for advanced aqueous Zn metal batteries	<b>HAN Weiwei</b>
<a href="#">53_182</a>	Hydrogen Spillover and Storage on Graphene with Single-Site Ti Catalysts	<b>WU Chung-Lin</b>
<a href="#">54_203</a>	Unassisted Solar water splitting via Organometal Halide Perovskite-Based dual Photoelectrodes	<b>LEE Sanghan</b>
<a href="#">55_183</a>	Electrolyte Engineering Enables Stable Zn-Ion Deposition for Long-Cycling Life Aqueous Zn-ion Batteries	<b>WU Yan</b>

<a href="#">56_155</a>	Effect of doping on Ni-rich layered cathode materials for low-Cobalt Li-ion batteries	<b>BANO Amreen</b>
<a href="#">57_154</a>	Enhanced performances of lithium metal batteries by synergistic effect of low concentration bisalt electrolyte	<b>PHAM Thuy Duong</b>
<a href="#">58_133</a>	Direct and in situ growth of 1T' TMDs on electrochemically synthesized MXene as an electrocatalyst for hydrogen generation	<b>PANG Sin Yi</b>
<a href="#">59_117</a>	Modified MXene for Regulating Sulfur Evolution Reactions in High-Volumetric-Energy-Density Lithium-Sulfur Batteries	<b>NGUYEN Viet Phuong</b>
<a href="#">60_1648</a>	The important role of thermal stability for the design of Cu <sub>3</sub> N films by RF sputtering as solar absorbers	<b>RODRIGUEZ Maria Isabel</b>

Thursday June 1

D1\_12

## Water splitting/HER OER 3

Chairperson(s) : SURCA Angelja Kjara

Cassin (Ground floor)

10:00	743	INV	Nanoporous Cubic Silicon Carbide for Hydrogen Production from Solar Water Splitting	SUN Jianwu
10:30	2030		Low-cost synthesis of MoS <sub>2</sub> /MoO <sub>3</sub> nanostructures from recycled metallic powder for water splitting applications	URSINO Federico
10:45	746		ZnO/BiOI Heterojunction with Enhanced Photoelectrochemical Activity Fabricated via Aerosol-assisted Chemical Vapour Deposition	WANG Mingyue
11:00	1576		Development of N-GQDs@NF as highly efficient and stable electrocatalyst for the oxygen evolution reaction.	IM Min Ji
11:15	2075		Composition-controlled chemical bath deposition of Fe-doped NiO microflowers for boosting oxygen evolution reaction	BATTIATO Sergio
11:30	566		Guidance to Sustainable Materials Processing by Early-Stage Screening Life Cycle Assessment	WIDENMEYER Marc
11:45	556		Neutral Overall Water Splitting Microreactor of Bifunctional Monolayer WSe <sub>2</sub> /Graphene Self-Stitching Heterojunction	CHIANG Chun-Hao

Thursday June 1

D2\_12

## Photovoltaics 2

Chairperson(s) : MULA Guido

Boston (1st floor)

10:00	2309	INV	High performance transparent silver grid electrodes for organic photovoltaics fabricated by selective metal condensation	HATTON Ross
10:30	2574		Optimisation of performance and reliability of Electron Transport Layer (ETL) in Organic Solar Cells : for a sustainable and low carbon technology	CHADAIGNE Arthur

10:45	553	Solution processed Na-doped and Ag-alloyed Cu <sub>2</sub> ZnSnS <sub>4</sub> thin film based photovoltaic devices	KUMARI Neha
11:00	701	Low-cost Synthesis of Silicon Quantum Dots and their Applications on Luminescent Solar Concentrators	ZHOU Jingjian
11:15	1328	New Earth-Abundant Thin Film Solar Cells Based on Cu-doped Antimony Selenide	JAKOMIN Roberto
11:30	475	Sprayed quaternary chalcogenides for superstrate solar cells	PAYNO David
11:45	1520	Manganese-substituted Kesterite thin-films for Earth-abundant Photovoltaic applications	TRIFILETTI Vanira

**Thursday June 1**

**D1\_13**

**Water splitting/HER OER 4**

**Chairperson(s) : SUN Jianwu**

**Cassin (Ground floor)**

13:30	1074	INV	Porphyrins that ROCKs: Meeting rational design rules for OER catalysis at lower overpotentials.	CARDENAS-MORCOSO Dryalis
14:00	247		Designing In-situ Grown Ternary Oxide / 2D Ni- $\eta$ BDC MOF Nanocomposites on Nickel Foam as $\eta$ Efficient Electrocatalysts for Electrochemical Water $\eta$ Splitting	SADEGHI Ebrahim
14:15	59		Interfacial interaction of Metal-Organic Framework-Derived Zn-Co-Fe LDH on Ultrathin Mxene Nanosheet for Electrocatalytic HER/OER Evolution	BEHERA Arjun
14:30	1062		Exploring the Role of Mo and Mn in Improving the OER and HER Performance of CoCuFeNi-based High-Entropy Alloys	UNAL Ugur
14:45	73		Cobalt Copper sulphide /Tungsten Disulphide Nanowire Heterostructure as an Excellent Bifunctional Electrocatalyst for Overall Water Splitting	GAUTAM Jagadis

**Thursday June 1**  
**D2\_13**  
**Photovoltaics 3**

**Chairperson(s) : TSEBERLIDIS Giorgio**

**Boston (1st floor)**

<b>13:30</b>	<b>948</b>	<b>INV</b>	The interplay of chemical structure, physical properties, and structural design as a tool to modulate the properties of melanins within mesopores	<b>MULA Guido</b>
<b>14:00</b>	<b>571</b>		First-principles calculations of defects in CsPbX <sub>3</sub> (X = Br, I) crystals for photovoltaic applications	<b>KOTOMIN Eugene</b>
<b>14:15</b>	<b>464</b>		(Sb,Bi) <sub>2</sub> Se <sub>3</sub> thin films for short wavelength infrared region solar cell applications	<b>KUMAR Jitendra</b>
<b>14:30</b>	<b>1901</b>		Understanding the role of organic hole transport layers in Sb <sub>2</sub> Se <sub>3</sub> solar cells	<b>SHALVEY Thomas</b>
<b>14:45</b>	<b>820</b>		Germanium Substrate Manifold Reusability: A Cost-effective and Sustainable Manufacturing Path for III-V Solar Cells	<b>CHAPOTOT Alexandre</b>

**Thursday June 1**  
**D1\_14**  
**Water splitting/HER OER 5**

**Chairperson(s) : CARDENAS-MORCOSO Dryalis**

**Cassin (Ground floor)**

<b>15:00</b>	<b>1706</b>	<b>INV</b>	Comparative study of IrO <sub>2</sub> and Ir metal nanoparticles: Raman spectroscopy and activity for oxygen evolution reaction	<b>SURCA Angelja Kjara</b>
<b>15:30</b>	<b>128</b>		Liquid metal catalysts for the production of ammonia	<b>DAENEKE Torben</b>
<b>15:45</b>	<b>989</b>		Manipulating Spin Exchange Interactions of Two-dimensional Metal Phosphosulfide Crystals for Water Oxidation	<b>HUANG Chih-Ying</b>



Thursday June 1

D2\_14

## Photovoltaics 4

Chairperson(s) : HATTON Ross

Boston (1st floor)

15:00	653	INV	Cd-free kesterite solar cells featuring titania as buffer layer	TSEBERLIDIS Giorgio
15:30	618		Highly improved photocurrent density and power conversion efficiency of perovskite solar cell by plasma-polymerized-fluorocarbon antireflection coating	CHO Eunmi
15:45	2572		Sustainable Zinc tin oxide artificial synapses towards energy-efficient in-memory computation architecture	KIAZADEH Asal

Thursday June 1

D\_P03

## Poster session 3

Etoile (1st floor) - 4.30 p.m to 6.30 p.m

01_119			Materials and Printed processes for Flexible Smart window films	KIM Haekyoung
02_112			Manipulating nucleation and hydrogen evolution by N-methylthiourea additive for highly reversible Zn anode	YOON Sukeun
03_102			Deep Eutectic Solvents for Rice Husk Treatment for Sustainable Battery Material	PADWAL Chinmayee
04_36			A novel process to isolate pure rare earth oxides (REOs) from rare earth-bearing waste streams (with a focus on waste permanent magnets and Ni-MH batteries)	KHAYYAM NEKOU EI Rasoul
05_25			Self-reconstruction of sulfate-containing high entropy sulfide for exceptionally high-performance oxygen evolution reaction electrocatalyst	NGUYEN Thi Xuyen
06_26			Design of flame-retardant hybrid polymer/inorganic electrolytes with enhanced ionic conductivities	ZHANG Yinghui
07_41			Adsorption of H <sub>2</sub> on metal-organic frameworks at 20 K for the mitigation of boil-off losses of liquid hydrogen tanks	OH Hyunchul

08_81	Tantalum Pentoxide/MXene Hybrid Composite as Bi-functional Electrocatalyst for Highly Efficient and Stable Overall Water Splitting	KANNAN Karthik
09_139	PTMPM@SiO <sub>2</sub> functional fillers to improve the performance of commercial PEO as solid electrolyte	CHEN Zehan
10_168	Synthesis of crystalline NiO/NiAl <sub>2</sub> O <sub>4</sub> catalysts for coking free low temperature partial oxidation of methane	ABBAS Muzafar
11_171	Insights into the electronic structure of PEDOT with AlCl <sub>4</sub> <sup>-</sup> and its use as an electrode material in batteries and supercapacitors	CRAIG Ben
14_302	Bismuth-Carbon Anodes with Hierarchical Structure for Fast-Charging Sodium-Ion Battery	PARK Byeongho
15_383	Nanostructured Thermoelectric Materials Fabricated Using Chemically-Synthesized Tin Diselenide Nanosheets	MOORE Simon
16_407	Bridge percolation: electrical connectivity of discontinued conducting slabs by metallic nanowires	BARET Amaury
17_1390	Near-Infrared Organic photodiodes	OH Sang Hee
18_486	Chromium Tetrphosphide (CrP <sub>4</sub> ): A New and High-performance Anode for Li-ion and Na-ion batteries	LEE Jongwon
20_648	A facile blow spinning technique for green cellulose acetate/polystyrene composite separator for flexible energy storage devices	RAFIQUE Amjid
24_773	Electronic structure modification and N-doped carbon shell nanoarchitectonics of Ni <sub>3</sub> FeN@NC for overall water splitting performance evaluation	JEONG Dong In
25_794	Intercalation-type TiNb <sub>24</sub> O <sub>62</sub> anode for sodium-ion and potassium-ion batteries enabled via a synergetic strategy of oxygen vacancy and carbon incorporation	VIJAYA KUMAR SAROJA Ajay Piriya
26_826	Co <sub>4</sub> N nanoparticles encapsulated in Fe/N-doped carbon nanoboxes as superior trifunctional electrocatalysts for zinc-air battery and water electrolysis	CHOI Hyung Wook
27_831	Ni-d orbital modulation via the in situ 2D core-shell formation of Ni(CN) <sub>2</sub> @Ni <sub>2</sub> P upon Hofmann-type MOF nanoplate for highly efficient oxygen evolution reaction	KIM Jiwon

<a href="#">29_862</a>	Dense/porous bilayer structured BiVO <sub>4</sub> photoanode for efficient PEC water splitting performance	<b>SUNG Hansang</b>
<a href="#">30_979</a>	Synthesis of Fractal-like Structure of Fe <sub>2</sub> O <sub>3</sub> : A Study of Negative Electrode for Supercapacitor Applications	<b>JAISWAL Rishabh</b>
<a href="#">31_1010</a>	Facile In Situ Preparation of NiCoFe LDH Films as Oxygen- Evolving Catalysts with Self-Healing Capability	<b>BAMBA Jaira Neibel</b>
<a href="#">32_1011</a>	Cobalt Oxide Synthesis thru Thermal Decomposition with Various Solvents for the Development of High-Performance Electrocatalysts for Oxygen Evolution Reaction	<b>MATIENZO Dj Donn</b>
<a href="#">33_1093</a>	Strain engineering of the optoelectronic properties of epitaxial BiVO <sub>4</sub> thin films	<b>FERNANDEZ Erwin</b>
<a href="#">34_1166</a>	Elastocaloric properties of polycrystalline NiMnGa produced by open die pressing	<b>VILLA Elena</b>
<a href="#">35_1198</a>	Charge Transfer Induced Geometric Distortion of Ni(HCO <sub>3</sub> ) <sub>2</sub> @CNT and its Effect on the Catalytic Performance Enhancement for Oxygen Evolution and Reduction Reaction	<b>JEONG Jea Ryeol</b>
<a href="#">36_1352</a>	Nanotechnology application for the human energy problem solution	<b>EGOROV Vladimir</b>
<a href="#">37_1408</a>	Non-unity photogeneration yield of mobile charge carriers in open d-shell transition metal oxide photoelectrodes	<b>GRAVE Daniel</b>
<a href="#">38_1409</a>	Encapsulated BN nanocages and capped nanotubes as anode materials for Magnesium-Ion Batteries: A DFT Study	<b>CORONA Domenico</b>
<a href="#">39_1425</a>	Exsolved bimetallic Ni-Fe catalysts for CO <sub>2</sub> conversion applications	<b>COLOMBO Filippo</b>
<a href="#">40_1565</a>	Ultrafine-grained and nanocrystalline steels with enhanced properties for nuclear energy applications	<b>WEN Haiming</b>
<a href="#">41_1593</a>	Compacted Laser-Induced Graphene with Bamboo-like CNTs for Flexible Energy Storage Electrodes	<b>HYEONG Seok-Ki</b>
<a href="#">42_1628</a>	Nanostructure characterization by transmission electron microscope for energy conversion application	<b>BAIK Hion Suck</b>
<a href="#">43_1638</a>	WO <sub>3</sub> /Ag <sub>2</sub> S type-II hierarchical heterojunction for improved charge carrier separation and photoelectrochemical water splitting performance	<b>YADAV Jyoti</b>

44_1639	Zigzag Ag <sub>2</sub> Se nanorod arrays with ultrahigh room temperature thermoelectric performance	<b>KHAN Jamal</b>
45_1644	Optimizing Concentration-dependent Thermal and Structural Behaviors of Water-in-salt Electrolytes for Wide-temperature-range Electric Double-layer Capacitors	<b>PARK Jaeil</b>
46_1660	Raman analysis of CD/Ti <sub>3</sub> C <sub>2</sub> T <sub>x</sub> MXene hybrid for supercapacitor application	<b>ASHOK Anamika</b>
47_1669	Revealing chemistry and structure of dual salt-plastic crystals blended with polymer electrolytes affecting the solid-electrolyte interface for high-performance Li metal batteries.	<b>BAE Junho</b>
48_1720	Molecular Engineering to develop 3d and 3d-4f metal based Molecular Ferroelectric complexes and their potential applications in Piezoelectric Energy Harvesting	<b>HALDAR Rajashi</b>
50_1733	High Figure of Merit p-Type Copper(I) Iodide Films with Sulphur Incorporation	<b>MIRZA Adeem Saeed</b>
51_1816	Copper mediated NiFe double-layered hydroxide electrocatalyst for oxygen evolution reaction in photovoltaic-coupled electrochemical cell	<b>CHANDA Debabrata</b>
52_1887	Nanostructured spinel ferrite films in solar energy conversion systems	<b>BOMBACI Matteo</b>
53_2087	Enhancing Thermoelectric and Mechanical Properties of p-type (Bi, Sb) <sub>2</sub> Te <sub>3</sub> through Rickardite Mineral Incorporation	<b>YAHYA OGLU Müjde</b>
54_2127	Synthesis of Pt Double-Walled Nanoframes with Controllable Facets and Their Catalytic Performance toward the Methanol Oxidation Reactions	<b>HADDADNEZHAD Mohammadnavid</b>
55_2184	Engineering of solid-solid interface in Si-Transition Metal Oxide photoanodes	<b>MAURIZIO Chiara</b>
56_2216	Low Temperature Based V <sub>2</sub> O <sub>5</sub> Nano-Spheres for High-Yield Electrodes in Supercapacitor Application	<b>SINGH Arun</b>
57_2225	Microwave-Assisted Reduction of Bimetal/ Graphene Aerogel for Efficient Oxygen Evolution Reaction	<b>KANAT Gizem Hasibe</b>
58_2236	Investigation of Thermal ALD deposited AlO <sub>x</sub> and HfO <sub>x</sub> bilayer films for Silicon Surface Passivation	<b>DEVI Meenakshi</b>

<a href="#">59_2266</a>	Elucidating Molecular-level Charge Storage Mechanisms in Flexible and Organic Nanocellulose/Graphite Battery Electrodes	<b>FOUNTA Evangelia</b>
<a href="#">60_2290</a>	Fabrication of $\beta$ -Ga <sub>2</sub> O <sub>3</sub> nanowires via aerosol-assisted chemical vapor deposition	<b>CHEN Ruizhe</b>
<a href="#">61_2329</a>	Nanostructured 3D mesoporous $\alpha$ -Fe <sub>2</sub> O <sub>3</sub> Nano-cubes as a high-performance electrode for supercapacitors.	<b>SINGH Umisha</b>
<a href="#">62_2374</a>	Phase equilibria and solubility limits in the B-Ce-Fe-Nd system	<b>DE VILLOUTREYS Eloi</b>
<a href="#">63_2534</a>	Structural Analysis for Maximum Energy Yield of Soundproof Photovoltaics	<b>JANG Hongjun</b>
<a href="#">64_2559</a>	Nano-hierarchical Metal-Organic Frameworks for Enhanced Dew Harvesting Efficiency	<b>KABI Prasenjit</b>
<a href="#">65_2573</a>	Process-structure-property relationships of pulse-laser-deposited ZnFe <sub>2</sub> O <sub>4</sub> thin film photoelectrodes for solar water splitting	<b>SHRIQUI Yarden</b>
<a href="#">66_2621</a>	Mechanically enhanced performance of textile triboelectric nanogenerators; a sustainable way forward.	<b>HUMAYOUN Usama Bin</b>
<a href="#">67_377</a>	Transition Metal Dopants on Graphitic Carbon Nitride (g-C <sub>3</sub> N <sub>4</sub> ) for Electrocatalytic Carbon Dioxide Reduction Reaction	<b>HSU Yao-Jane</b>
<a href="#">68_2718</a>	Novel materials for Metal Additive Manufacturing (MAM) technologies	<b>ROSE RO ROMO James Janderson</b>
<a href="#">69_570</a>	The Perovskite Band Gap Engineering For Photostimulated Water Splitting	<b>KOTOMIN Eugene</b>
<a href="#">70_1304</a>	Eco-friendly Solvents for Organic Photovoltaics	<b>CHEUNG Aidan</b>

Friday June 2

D1\_15

## Water splitting/HER OER 6

Chairperson(s) : RICCI Pier Carlo

Cassin (Ground floor)

08:45	319	INV	Tailoring oxygen evolution performances of carbon nitride systems fabricated by electrophoresis through Ag and Au plasma functionalization	RIZZI Gian Andrea
09:15	17		Facile Electron Transfer in Atomically Coupled Heterointerface for Accelerated Oxygen Evolution	IBRAHIM Kassa Belay
09:30	572		Hydrogen and Oxygen Evolution Reactions on stepped SrTiO <sub>3</sub> surface.	MASTRIKOV Yuri A.
09:45	548		Boosting the Hydrogen Evolution Reaction Kinetics of CdS Nanorods via Integration of ZIF-67 Derived Co-C Nanostructures and 2D WS <sub>2</sub> Nanosheets	VARMA Pooja

Friday June 2

D2\_15

## Transparent Materials 1

Chairperson(s) : DOLCET SADURNÍ Marc

Boston (1st floor)

08:45	1987	INV	Chemical Control of Correlated Metals as Transparent Conductors	ALARIA Jonathan
09:15	1697		Transparent conductive n-ZnO polycrystalline layers fabricated by RF magnetron sputtering in methane ambient	NAZAROV Alexei
09:30	1799		Tuning Graphene Oxide electrical properties through low-temperature thermal annealing	VALENTINI Cataldo
09:45	699		Development of a two-step process based on ultrasonic spray pyrolysis to optimize optical and electrical properties of ZnMgAlO	EL BERJALI Wafae

Friday June 2

D1\_16

## Water splitting/HER OER 7

Chairperson(s) : RIZZI Gian Andrea

Cassin (Ground floor)

10:30	1872	INV	Transition metal oxide core-shell nanoparticles as a new approach to design efficient OER electrocatalysts for the H <sub>2</sub> production by water electrolysis	MAKARCHUK Iryna
11:00	855		Highly N doped carbon shell-encapsulated Cobalt iron nano cube as efficient for hydrogen evolution reaction	LEE Ui Young
11:15	1850		Efficient oxygen evolution reaction catalyzed by Ni/NiO nanoparticles produced by pulsed laser ablation in liquid environment	IACONO Valentina
11:45	2086		Optimized electroless deposition of NiCoP electrocatalysts for enhanced water splitting	BATTIATO Sergio

Friday June 2

D2\_16

## Transparent Materials 2

Chairperson(s) : ALARIA Jonathan

Boston (1st floor)

10:30	2094	INV	Preparation and characterization of SbSeI thin films	DOLCET SADURNÍ Marc
11:00	2142		Wafer-scale tunable porous Ge: Emerging engineered substrate for epitaxial growth of freestanding membranes	HANUS Tadeas
11:15	2243		Fast switching kinetics of silver nanowires-based transparent electrode films: A comparison of various electrochromic materials	AMBREEN Ambreen
11:30	1652		ALD of conformal, transparent conducting BaSnO <sub>3</sub> passivation layers on textured Si	MANDOL Bireswar
11:45	2521		Hydrogel based stretchable and self-healing triboelectric nanogenerator	BAGCHI Biswajoy

