E-MRS
European Materials Research Society
2023 Spring Meeting May 29 | June 2
40th Anniversary
Congress & Exhibition Centre, Strasbourg, France

SYMPOSIUM B

Materials for energy conversion systems: fundamentals, designs, and applications

Symposium Organizers:

Maria Rita CICCONI, FAU Erlangen, Germany

Brahim DKHIL, Centrale SUPELEC, Paris, France

Marin ALEXE, University of Warwick, U.K.

Tomokatsu HAYAKAWA, Nagoya Institute of Technology, Japan

Applied Physics Letters

Monday May 29

B1_01
Smart Conversion Materials and Technology 1

Chairperson(s) : KUPFER Christian - PLANTEVIN Olivier

Schweitzer (Ground floor)

08:45	887	INV	Effect of 1,3-disubstituted urea derivatives as additives on the efficiency and stability of perovskite solar cells	**KRUSZYNSKA Joanna**
09:15	1870		Piezo-phototronic and Piezoelectric Energy Harvesting Using a Tin Halide Double Perovskite Nanocomposite	**MALLICK Zinnia**
09:30	2000		Efficiency Potential and Voltage Loss of Inorganic CsPbI2Br Perovskite Solar Cells	**GRISCHEK Max**
09:45	2579		Diverging expressions of anharmonicity in halide perovskites	**COHEN Adi**

Monday May 29

B1_02
Smart Conversion Materials and Technology 1

Schweitzer (Ground floor)

10:30	516		Evolution with temperature of mixed cation mixed halide perovskite solar cells with two different architectures	**ROMERO Beatriz**
10:45	2082		Understanding the photophysical processes at interfaces between perovskites and hole-transporting self-assembled monolayers	**MATIASH Oleksandr**
11:00	1528		Towards an improved understanding of the reverse bias stability of perovskite solar cells	**MOHAMMADI Mahdi**
11:15	1361		A lateral heterojunction device as a tool to study perovskite-based solar cells	**REGALDO Davide**
11:30	1048		Investigation of the hysteresis effect in printed and flexible perovskite solar cells with SnO2 quantum dot-based electron transport layers	**JUMABEKOV Askhat n.**
11:45	1235		Spectrum on Demand Light Source (SOLS) for Advanced Photovoltaic Characterization	**CASADEMONT-VIÑAS Miquel**

Monday May 29

B1_03
Smart Conversion Materials and Technology 2

Chairperson(s) : KATO Masashi - KIRCHNER Jens

Schweitzer (Ground floor)

13:30	82	INV	Influence of morphologies in electrochemical performance	**QURESHI Mohammad**
14:00	78		Nickel Molybdenum Phosphide Nanosheets Engineered with Ruthenium Doping Supported on Nickel Foam as Bifunctional Electrocatalyst for Efficient Alkaline Sea Water Splitting	**GUPTA Akanksha**
14:15	2556		Ni-Foam-Graphene-CNTs-SnSe-P: An Efficient Electrocatalyst covering universal pH range and tap water splitting for Hydrogen evolution reaction	**PAHUJA Mansi**
14:30	2246		Hybrid electrode materials containing carbon and perovskite-like oxides as effective and highly stable catalysts for water splitting	**ILNICKA Anna**
15:00	121		Functional Materials for Triboelectric Nanogenerator based Self-powered Applications	**KHANDELWAL Gaurav**
15:15	2535		Beads-on-string Structured Nanofibers for Enhancing Output Performance of Triboelectric Nanogenerators	**YANQIN Huang**
15:30	1085		High performance triboelectric nanogenerator via film capacitor-based charge carrier	**CHUNG Seh-hoon**
15:45	1060		Ultrahigh performance flutter triboelectric nanogenerator	**HEO Deokjae**

Monday May 29

B_P01
Poster session 1

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

01_1398	In-situ Grazing-Incidence X-ray Scattering and Photoluminescence Study of Cubic FAMAPbI3 During Vacuum co-Deposition	**HELD Vladimir**
02_766	Solar hydrogen generation and successive battery power generation using iodine molecule encapsulation of single-walled carbon nanotubes	**UMAKOSHI Midori**
03_2664	Optoelectronic, and Magnetic Properties of High-Purity Hematite/Magnetite Nanoparticles for Optoelectronics	**AKRAM Muhammad aftab**
04_2628	Effect of Inserting Intrinsic Polysilicon Layer between Tunnel Oxide and Doped Polysilicon Layer in TOPCon Solar Cell	**LEE Haejung**
05_1807	Single phase “Cr” rich CrxIr1-xO2 alloy architectures with the boosted electron transfer kinetics for water splitting reaction	**KIM Myung hwa**
06_679	CuxNiCo Layered Double Hydroxide heterostructure nanosheets as an efficient and cost-effective electrocatalyst for overall water splitting	**KANSAL Sakshi**
07_2727	Experimental identification of structural and interface defects controlling the conduction through the ZnO/Si interface	**CHABANE Lamia**
08_2665	ZnSnN2 thin films: Physical properties vs. technology	**VATAVU Sergiu**
09_2558	An electrochemical-thermal multiphysics model for a nickel-iron battery	**DEL ROSARIO Julie anne**
10_2532	Design of thin films of polymers derived from poly-EDOT by the spin-coating method for photovoltaic applications	**RODRIGUEZ Maria isabel**
11_2494	Performance analysis of Lead-Free Perovskite-SnS Tandem solar cell using alternative hole transport and buffer layers	**DJEFFAL Faycal**
12_2285	Molybdenum sulfide modified with nickel nanoparticles as an effective catalyst for hydrogen evolution reaction	**ILNICKA Anna**
13_1475	Fast thinning of germanium wafers for photo and thermopohotovoltaic applications	**SANCHEZ-PEREZ Clara**

14_2102	Self-Assembled All Inorganic Metal Halide Perovskite on 2-Dimensional Bi2O2CO3 Petals for Efficient Photocatalytic CO2 Reduction	**CHO Won seok**
15_2078	Study of the Effect of Ambient Temperature on the Output Performances of Triboelectric Nanogenerator	**MONDAL Arun**
16_2079	Improved Thermoelectric Performance of Polyaniline by Incorporating Liquid Phase Exfoliated Tungsten Disulfide Nanosheets	**SINGH Manoj**
17_2012	Spectral Splitting Geometries for High Efficiency Multijunction Organic Solar Cells	**CASADEMONT-VIÑAS Miquel**
18_1969	Investigation of cross-linkable hole transporting material as a donor in binary and ternary bulk heterojunction photovoltaic cells	**CEPAS Romualdas**
19_1952	Elastic, thin film thermolectric generator (TEG) produced by multisource magnetron sputtering for energy harvesting from heat exchanger waste heat.	**LEWANDOWSKI Ariel**
20_1938	Hierarchically structured quantum-dot films for highly efficient photovoltaics	**KO Doo-hyun**
21_1824	Controlling the surface morphology and localized surface plasmon resonance of Au, Ag, and Pt, via solid state thermal dewetting process	**SINOPOLI Alessandro**
22_1785	Modelling excitonic effects in kesterite solar cells for improvement in solar cell technology	**GRECENKOV Jurij**
23_1730	Synthesis of Ruddlesden-Popper manganites for hot polaron photovoltaics	**HAUSMANN Christopher**
24_1770	Copper–Cobalt Bimetallic Phosphides as efficient electrocatalysts for Overall Water Splitting and methanol oxidation reaction	**BANDYOPADHYAY Dyuti**
25_1658	Solid-state Hydrogen Energy Storage Properties in Porous Silicon	**KALE Paresh**
26_1364	Floatable photocatalytic platform for practical solar hydrogen production	**LEE Wang hee**
27_1209	Flexible Nanogenerators based on Enhanced Flexoelectricity in Hausmannite Membranes	**CHOWDE GOWDA Chinmayee**
28_952	Effect of the heating temperature profile of monocrystalline FZ silicon seeds on dislocation dynamics studied in-situ by X-ray diffraction imaging	**REGULA Gabrielle**

29_928	Synthesis and Characterization of LaMnO3 Perovskite Epitaxial Thin Films Using Sputtering to Find the Possibility for Solar Cell Applications	**SEO Hyunwoo**
30_660	Nanostructured and porous antimony-doped tin oxide films as electrodes in thermo-electrochemical cells for the heat-to-electricity energy conversion	**CASTRO-RUIZ Sergio**
31_782	Hierarchical Wrinkled Architecture with Ultrathin Plasma Polymer Fluorocarbon Film for Transparent/Conformal Triboelectric Nanogenerators	**CHO Eunmi**
33_685	Combining doping by anion exchange and orientation by high temperature rubbing affords stable and efficient thermoelectric polymer films	**GUCHAIT Shubhradip**
34_656	Structural and electrochemical investigation of Co-doped NiFe2O4 for use in high performing supercapacitors	**HALDER Joyanti**
35_640	Investigation of the unique capped carbon structures for high performing supercapacitors electrode material	**ANSHU Satvik**
36_450	Ultralow platinum loading for hydrogen bromine redox flow battery	**SAADI Kobby**
37_601	Electrolyte Design on Thermally Regenerative Electrochemical Cycle for Low-grade Thermal Energy Harvesting	**WU Angyin**
38_107	TiO2 additive improving the performance of the sulfur composite cathode in Li-sulfur batteries	**ZUKALOVA Marketa**
39_219	Organic Polymer Dots in Bio-hybrid Systems for Photocatalysis	**TIAN Haining**
40_85	Boosted Output Voltage of BiSbTe-Based Thermoelectric Generators via Coupled Effect between Thermoelectric Carriers and Triboelectric Charges	**BAIK Jeong min**
41_2598	In-plane oriented AlN(0001)/Al(111)/Si(111) seed layers for Al0.7Sc0.3N(0001) thin films prepared by magnetron sputter epitaxy	**RAGHUWANSHI Mohit**
42_2217	Energy Harvesting from Mechanical Strain of Electrostrictive Polymeric Nanocomposites	**PATRINI Maddalena**
43_1583	Aging Mechanisms of a High-Temperature Solar Absorber Coating under Different Accelerated Aging Tests	**HOSSEINI Sahar**

44_1422	Illumination dependent hot polaron photovoltaics in strongly correlated perovskite oxides	**DEHNING Annika**
45_1217	Fabrication of plasmonics Au nanostructures on the surfaces of TiO2 thin films by a solid state thermal dewetting for solar cells applications	**AISSA Brahim**
46_467	Small Hole and Electron Polarons in Cs2AgBiBr6 Halide Double Perovskites	**BASKURT Mehmet**
47_2604	Accelerating Electrochemical Nitrogen Reduction through attached active site on Ni-based catalysts	**AN Tae-yong**
48_2530	Nitrogen-frendly Surface Design of Catalysts for Electrochemical Ammonia Production	**AN Tae-yong**
49_370	MOVPE Grown Dilute Nitrides: Physical Properties vs. Growth Parameters Enabling Highly Performance Optoelectronic and Photovoltaic Devices	**GABÁS Mercedes**
50_1478	The effect of concentrated electrolytes on the dissolution rate of Fe electrode in aqueous redox flow batteries .	**ALMALKI Hind**
51_669	Enhancement of wettability and electrical conductivity through low energy nitrogen ion irradiation of MXene	**PATRA Shyamapada**
52_1681	Tracking the in-Operando Charge Carrier Dynamics of Metal Oxide Heterojunctions – Studying the Effect of Glycerol for Enhancing Solar-Driven Hydrogen Production	**LI Longren**
53_1005	All-Printed Wearable Triboelectric Nanogenerator with Ultra-Charged Electron Accumulation Polymers Based on MXene Nanoflakes	**KIM Kyeong nam**
54_977	Silver telluride-nylon nanocomposite multifunctional flexible film designed for harvesting mechanical and thermal energy	**GAUTAM Amish kumar**
55_822	Parallel combination of electrically conducting materials and redox electrolytes for the heat-to-electricity energy conversion	**SOLIS DE LA FUENTE Mauricio**
56_89	The Unified Theory for Triboelectric Nanogenerators: Sliding Mode vs Contact Mode	**DHARMASENA Randunu devage ishara gihan**
57_2148	Janus Nanomaterials—Design, Fabrication and Applications	**LACHGAR Abdou**
58_1861	Activation of metal exsolution catalysts for the oxygen evolution reaction in aqueous medium	**WEBER Moritz lukas**

59_1203	Thermoelectric Properties of Hot-Carrier Solar Cell Energy Selective Contacts	**DURÁN Inés**
60_2841	Mixed metal sulfides (FeNiS2) nanosheets decorated reduced graphene oxide for efficient electrode materials for supercapacitors	**MIAH Milon**

Tuesday May 30

B1_04
Smart Conversion Materials and Technology 3

Chairperson(s) : KHANSUR Neamul - MARTIN Alexander

Schweitzer (Ground floor)

10:00	1982	INV	Electromechanical response in multilayered materials from non-ferroelectric polymers – Toward piezoelectric and triboelectric generators	**SUTKA Andris**
10:30	1760		Piezo-phototronic Aided Photodetector and Piezoelectric Nanogenerator Based on Perovskite Interfaced Polymer	**MONDAL Bidya**
10:45	1155		Piezoelectric bimorph beam for simultaneously harvesting thermal and vibration energies	**YAMAMOTO Ryota**
11:00	1936		3D printed flexible thermoelectric generators0	**MASSETTI Matteo**
11:15	1891		Quantum advantage in a molecular spintronic engine that harvests thermal fluctuation energy	**ZAFAR Talha**
11:30	2306		Perovskite oxides for photovoltaic applications	**HLINKA Jiri**
11:45	1784		Perovskite-inspired materials for indoor photovoltaics devices application	**ZHU Huimin**

Tuesday May 30

B2_01
Advances in wide band-gap semiconductors 1

Chairperson(s) : LOBO Ntumba - RHO Kongshik - ZHANG Endong

Dresde (1st floor)

10:00	1624	INV	Development of wide-bandgap perovskite materials for high-efficiency and stable photovotaics	**HEPING Shen**
10:30	2047		Strategies to manipulate AVT and PCE in wide bandgap perovskite solar cells for BIPV	**MATTEOCCI Fabio**
10:45	2474		Enhancing photon upconversion in large-area amorphous films via suppression of energy back-transfer	**RAIŠYS Steponas**

11:00	1514		Designing spectral conversion layers for enhancing photosynthesis in algae growth	**FLAUCHER Ina**
11:15	1994		Ultra thin Zr-doped Indium Oxide as Transparent Electrode for Si-based solar cells	**LO MASTRO Andrea**
11:30	1269		Influence of temperature on the film properties of aluminum nitride thin films prepared by magnetron sputter epitaxy	**SUNDARAPANDIAN Balasubramanian**
11:45	954		Ferroelectric-Photocatalyst Nanocomposite Thin Films for Enhanced Photoelectrocatalytic Activity	**BRISCOE Joe**

Tuesday May 30

B1_05

Smart Conversion Materials and Technology 4

Chairperson(s) : BRABEC Christoph - HAYAKAWA Tomokatsu

Schweitzer (Ground floor)

13:30	2248	INV	Pulsed laser annealed Ga or B hyperdoped poly-Si/SiOx passivating contacts for high-efficiency monocrystalline Si solar cells	**NAPOLITANI Enrico**
14:00	582		Monolithic perovskite/silicon tandem solar cells using transparent conductive polymer PEDOT:PSS/n-Si hybrid heterojunction device as a bottom cell	**SHIRAI Hajime**
14:15	2610		Raman amplification for trapped radiation in crystalline single Si nanoparticle	**CONDORELLI Marcello**
14:30	2338		Improvement of photoluminescence from GaAsPN/GaP alloys by electron irradiation and rapid thermal annealing	**PAVELESCU Emil mihai**
15:00	259		Optical determination of the seebeck coefficient in InGaAsP single quantum well	**VEZIN Thomas**
15:15	2028		Understanding the effect of cross diffusion in GaAs/Ge heterojunctions grown by MOVPE on photovoltaic devices performance	**OREJUELA Víctor**
15:30	494		Novel concept for an optimal solar cell based on self-assembling organic molecules	**KRANER Stefan**
15:45	2686		Molecular doping of fully printed flexible organic solar cells using F4-TCNQ additive	**PALIAGKAS Alexandros**

Tuesday May 30

B2_02

Advances in wide band-gap semiconductors 2

Chairperson(s) : HEPING Shen

Dresde (1st floor)

13:30	239	INV	Effects of polishing on carrier recombination in TiO2 and SrTiO3 single crystals	**KATO Masashi**
14:00	1015		Defects mediated high Seebeck coefficient and power factor in transparent thermoelectric thin films	**MURMU Peter**
14:15	454		A CMOS Compatible Al/Silica Multilayer Selective Emitter for Use in A Thermophotovoltaic System for Medium Grade Waste Heat Applications	**MASOOD Maria**
14:30	57		Facial synthesis of p-p heterojunction composites: Evaluation of their electrochemical properties with photovoltaics-electrolyzer water splitting using two-electrode system	**KANNAN Karthik**
14:45	947		Ferroelectric-enhanced photoelectrodes: Improvement of photogenerated hole lifetime, population and photocurrent upon poling a ferroelectric BaTiO3 photoanode	**FORRESTER Chloe**
15:00	985		Giant photostrictive actuation in free-standing ferroelectric membranes	**GANGULY Saptam**
15:15	2229		Molybdenum oxide as alternative hole selective contact for Silicon Hetero-Junction Solar cells	**LA MANNA Salvatore**
15:30	802		Synthesis of metal-doped self-supported nickel nitride as efficient electrocatalysts for hydrogen evolution reaction	**LUAN Chuhao**
15:45	2110		Linking cation site distribution to the photoelectrochemical performance of spinel ferrite photoelectrodes for green hydrogen production	**RASHKOVSKIY Alexander**

Tuesday May 30

B1_08 a
Defects in Perovskites 3 a

Chairperson(s) : BRABEC Christoph

Schweitzer (Ground floor)

16:30	744	Enhancing High-Pressure Conductivity through Redox-Active Molecules in an Expanded Halide Perovskite Analog	**MATHEU Roc**
16:45	2708	Simulating the transient luminescence of perovskite light-emitting diodes under pulsed operation	**TORRE Miguel a.**
17:00	823	Hydrothermal synthesis and optical characterizations of eco-friendly Bi-based halide perovskites	**HASHIMOTO Haruto**

Tuesday May 30

B_P02
Poster session 2

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

01_2473	Study and characterizations of Langmuir-Schaefer films of low bandgap polymers	**BORRO Marcelo s.**
02_2119	Multiquantum band-to-impurity optical transitions in CdTe luminescence and phonon-plasmon replicas	**VARZARI Alexandru**
03_2384	Features of beyond bandgap emission of Cu2ZnSnS4 kesterites	**REDKO Roman**
04_1913	Transient Photocurrents and Defect States in Hierarchically Structured ZnO Nanowires	**SCHWARZ Reinhard**
05_1587	Development of direct bonded InGaP/GaAs/Si material for solar optoelectronic conversion that combines light concentrating and non-concentrating	**KIM Hyo jin**
06_417	Impact of silver nanoparticles on crack growth in silica glass coating	**MOMMA Hiroya**
07_1612	Role of Oxygen Vacancy in Visible Light Absorbing Ferroelectric Perovskite Oxides	**N V Sarath**
08_94	Minimization of the escape cone losses in tandem and lateral luminescent solar concentrators	**CHKREBTII / SHKREBTII Anatoli**

09_984	Influence of solvents on the morphology and optoelectronic properties of Langmuir and Langmuir–Schaefer films of poly(fullerene)s	**OLIVATI Clarissa**
10_1107	Gallate Spinel Oxides as Promising Cathodes for Photocatalytic Fuel Cells	**CAN Musa**
11_837	Wet-chemical Synthesis and Catalytic Properties of Metal Nanomaterials with Unconventional Crystal Phases	**CHEN Ye**
12_774	Fabrication of color glass for building integrated photovoltaic by polymer solution process	**LIM Seongmin**
13_589	A study on EVA-free lamination process and high transmittance colored glass using pearlescent pigment and optical adhesive	**AHN Hyeon-sik**
14_686	A Tunable Structural Family with Ultralow Thermal Conductivity: Copper-Deficient Cu1-x?xPb1-xBi1+xS3	**MAJI Krishnendu**
15_143	Optimization and Efficiency Improvement of Photovoltaic Solar Cell Device Using Inorganic ETL and HTL	**JEONG Byoung-seong**
16_12	Switching of photocurrent polarity in electrochemical cells with light via an excited state proton transfer mechanism	**YUCKNOVSKY Anna**
17_292	Effect of thiolate monolayers on CO2 photoreduction using CuPt nanoparticle decorated TiO2 nano-ellipsoids	**CHAULAGAIN Narendra**
18_387	Enhancement of photocatalytic performance of Cu2O by decreasing oxygen vacancy density	**CHIEN Forest shih-sen**
19_1000	Investigation of the physical properties of copper oxide CuxO in thin film: Application to the detection of ethanol	**CHAFFAR AKKARI Ferid**
20_1173	Near-infrared sensitized Z-E photoswitching of azobenzene derivatives in bioplastics	**NAIMOVICIUS Lukas**
21_2450	Nanostructured semiconducting oxide (SnO2 , FTO) thin films for thermoelectric energy harvesters	**KARUPPIAH Deva arun kumar**
22_311	Investigation of Li3PS4·2THF solvato-complex formation, impact of solvent reactivity on the reaction mechanism	**POIRIER Romain**
23_2427	Phase Transition Behavior and Enhanced Piezoelectric Properties of (Bi0.97Sm0.03) ScO3-PbTiO3 Textured Ceramics using BaTiO3 Templates for High Temperature Piezoelectric Device Applications	**JEONG Younghun**

24_2326	The influence of Fe on the Ni electrocatalytic activity for the urea oxidation reaction: operando FT-IR spectroscopy investigation	**ZEMTSOVA Viktoriia**
25_2222	Main-chain poly(fullerene xylene)s – new materials for optoelectrical and biomedical applications	**HIORNS Roger**
26_2211	Germanium incorporation routes for CZTS solar absorbers	**NAYLOR Matthew**
27_2186	Structural Investigation of (1-x) Bi(Mg2/3Sc1/3)O3 – (x)PbTiO3 Near the Morphotropic Phase Boundary Region	**PADMANABAN Aravinthkumar**
28_2124	Nanoscopic characterisation of ferroelectric materials under external stimuli	**PAL Subhajit**
31_1645	Building 3D-organized Nanocrystallites to Harness Grain-boundary Defects	**OH Myoung hwan**
30_1086	Coating of Ti1-xNbxO2 thin film on stainless steel separators for polymer electrolyte fuel cells by mist chemical vapor deposition	**XU Han**
32_337	Average and local structure analysis of near-infrared reflective black pigments by using synchrotron radiation X-ray	**OKA Ryohei**
33_662	Tuning of CoFe2O4 nanostructured electrode material for electrochemical performance under magnetic field	**MANDAL Debabrata**
34_520	Synthesis and characterization of novel oxyfluoride LaSrCrO4F2	**VASALA Sami**
35_103	Enhanced thermoelectric efficiency in Bi-substituted La0.95Sr0.05CoO3	**DUBEY Divya prakash**
36_137	Ground-state electronic structure of LaSrCoO4 potential catalyst in energy conversion systems	**HAW Shu-chih**
37_150	Electrostrain properties of (1-x)BaTiO3-xSrSnO3 Pb-free ceramics and interpretation of their hysteresis behavior using simple mathematical functions	**LIM Young soo**
38_2312	Design of well-defined grain boundary in nanocrystal for CO2 conversion reaction.	**KIM Seungkyu**
39_2302	Multivalent metal ion additive assist ultra high performance aqueous zinc ion batteries	**WU Zhuoxi**
40_2445	Design and preparation of high k polymer nanocomposite for thin film capacitors for control circuit of active-matrix display	**WANG Mingqing**

41_2379	Effect of TiO2 protection layers on the efficiency of Si-based PEC devices	**KHAN Ramsha**
42_1391	Thermoelectric performance of nanostructured Si/SiGe superlattices	**JULIA BURMESTER Julia**
43_903	Influence of field-induced phase transformation on the photoferroelectric response of Sn-doped BaTiO3	**KRAFT Viktoria**
44_544	Study for relaxor polymer matrix for piezoelectric nanocomposite energy harvesters	**JEONG Chang kyu**
45_1879	Influence of Al2O3 on the electrical properties of lead-free Na0.5K0.5NbO3 ceramics	**MARTIN Alexander**
46_1625	Electric and Atomic Structure Analysis of Oxide / GaN interface	**TOMITA Hiroto**
47_1541	The influence of 3D printing methods and materials on the response of printed symmetric carbon supercapacitors	**FERGUSON Matthew**
48_346	Influence of Scandium concentration on crystallographic and functional properties of a-plane AlScN films	**NAIR Akash**
49_1606	Enhancing electrochemical performances of spinel NiCoS nanowire arrows	**MARKHABAYEVA Ayymkul**
50_1490	All-Additively-Fabricated Microsupercapacitors: Fine-Tuning Chemistry to Maximize Performance	**HODAEI Amin**
51_104	Silver Nanoparticles Decorated Carbon Nanotubes-based Thin film Supercapacitors for Flexible and Wearable electronics applications	**TIWARI Pranjala**
52_1685	Carbonized foam-red mud /paraffin composites as Phase Changing Materials (PCMs) for thermal shielding applications.	**SALMAS Constantinos**
53_2108	Preparation and study of advanced building components: paraffin- PCMs/activated carbon composite gypsum boards	**KARAKASSIDES Michael**
54_1354	Photoexcited charge carrier and spin dynamics in methylammonium lead bromide doped by magnetic transition metals.	**BODNAR Stanislav**
55_2209	MOF-derived Fe-Zn-N-C Catalysts as Non-Noble Metal Oxygen Reduction Catalysts for High Performing Anion Exchange Membrane Fuel Cells	**ELSAESSER Patrick**
56_88	Structural and optical characterization of 2D pristine and hydrogenated In2Se3 nanolayers for photovoltaic applications	**CHKREBTII / SHKREBTII Anatoli**

Wednesday May 31

B1_06
Defects in Perovskites 1

Chairperson(s) : HEISS Wolfgang - REHM Viktor

Schweitzer (Ground floor)

10:00	2054	INV	The role of Frenkel pair defects and atomic layer deposited alumina on the perovskite solar cells' stability	**KOT Malgorzata**
10:30	2540		Semi-Transparent FAPb(Br1-xClx)3 Perovskite for BIPV Applications: a systematic study	**ORY Daniel**
10:45	2486		Fabrication and characterization of large-scale perovskite solar devices	**AIDER Celia**
11:00	2304		carrier dynamics and lasing activities in halide perovskites under continuous & pulsed wave stimulation.	**LOBO Ntumba**
11:15	2288		Investigating the Application of Organometallic Complexes in Tin Halide Perovskite Solar Cells	**VANIN Francesco**
11:30	560		Defect metastability in metal halide perovskites	**SCHEBLYKIN Ivan**
11:45	814		A quantitative model of ion transport in methylammonium lead iodide	**DE SOUZA Roger**

Wednesday May 31

B2_03
Atomic scale modeling of ferro-optical properties

Chairperson(s) : SPREAFICO Samuele - WENDLER Fank

Dresde (1st floor)

10:00	2006	INV	Second-principles modelling of ferroelectric oxides and related compounds with MULTIBINIT	**SASANI Alireza**
10:30	659		Microscopic origins of enhancement of dielectric permittivity in substituted and co-doped transition metal oxides	**KUTANA Alex**
10:45	2321		First principal calculation of structural, electronic and optical properties of ZnX (X = Te, S and O): Application to Cu(In,Ga)Se2 solar cells	**BOUCHAMA Idris**

11:00	221		Investigation of Photocatalytic Properties of Undoped and Doped BaTiO3 Compounds	**ISOE Wyclifffe**
11:30	1355		First principles phase diagram calculation and theoretical investigation of electronic structure properties of KCuTe1-mSem for photoelectrode applications	**KAR Arini**
11:45	1280		Defect control and ab initio thermodynamics for synthesising chalcogenide perovskite	**LI Zhenzhu**

Wednesday May 31

B1_07
Defects in Perovskites 2

Chairperson(s) : HEISS Wolfgang - REHM Viktor

Schweitzer (Ground floor)

13:30	1264	INV	Defect engineering in Mixed Halide Perovskites with Ion Irradiation	**PLANTEVIN Olivier**
14:00	956		Unrevealing Defects During Lead-Halide Perovskite Film Formation	**MRKYVKOVA Nada**
14:15	1117		Surface Treatment and Control of Perovskite Film Growth to Achieve High Efficiency Solar Cells.	**PAUPORTÉ Thierry**
14:30	1302		Temperature-Dependent Ionic Conductivity and Properties of Iodine-Related Defects in Metal Halide Perovskites	**TAMMIREDDY Sandhya**
14:45	1342		Surface passivation to control charge carrier injection in electroluminescent lead-halide perovskite nanocrystals	**JAYABALAN Roshini**
15:00	995	INV	Carbazole Based Self-Assembled Monolayer as Hole Transport Layer for Efficient and stable Pb/Sn perovskite Solar Cells	**LOI Maria antonietta**
15:30	1371		Removal of surface trps leads to enhancement of exciton-to-dopant energy transfer in Mn:CsPbCl3 nanocrystals	**LÓPEZ-FERNÁNDEZ Iago**
15:45	2181		Probing perovskite/C60 interface modifications by near-UV photoemission spectroscopy: defect states and band line-up	**MENZEL Dorothee**

Wednesday May 31

B2_04
Simulation and Modeling of Energy Conversion Systems: From Materials to Devices

Chairperson(s) : HEGENDÖRFER Andreas - YAMAMOTO Ryota

Dresde (1st floor)

13:30	51	INV	Design and develop a commercializable piezoelectric energy harvesting system	**BAI Yang**
14:00	2064		Optimization of a vibrating MEMS electromagnetic energy harvester : from simulations to demonstrator	**LACROIX Lise-marie**
14:15	1017		Artificial Intelligence Enabled Self-Powered Sensors for Next-Generation Electronic Devices	**BABU Anand**
14:30	916		An implicit finite element method-electronic circuit simulator coupling for accurate simulations of piezoelectric energy harvesting systems	**HEGENDÖRFER Andreas**
14:45	676		The effect of contact motion components on the optimization of surface texture of triboelectric materials: A theoretical study	**VERNERS Osvalds**
15:00	381	INV	Microscopically motivated continuum modeling of domain switching effects in ferroelectrics	**SUTTER Felix**
15:30	2115		Combining image information with integrated device quantities of perovskite solar cells for improved modelling and material parameter estimation	**KNAPP Evelyne**
15:45	1601		Numerical analysis of new generation of smart laminated panels embedded with multiple piezoelectric patches utilizing ambient vibration-based energy harvesting	**LAHE MOTLAGH Peyman**

Wednesday May 31

B1_08 b
Defects in Perovskites 3

Chairperson(s) : BRABEC Christoph

Schweitzer (Ground floor)

16:30	547	INV	Resolving defect densities and lifetimes in perovskite solar cells using frequency domain methods	**RAVISHANKAR Sandheep**
17:00	2701		Photophysics of light-induced halide segregation in wide bandgap perovskites interfaced with self-assembled monolayers	**PETOUKHOFF Christopher**
17:15	2172		Microwave photoconductivity – A powerful characterization method for perovskite solar materials	**KUPFER Christian**
17:30	1615		Structural Disorders in Double Perovskite Cs2AgBiBr6	**HAN Byoung-gun**

Wednesday May 31

B2_05
Simulation of Energy Materials from Atomistic to Continuum Scales

Chairperson(s) : DURDIEV Dilshod - WENDLER Fank

Dresde (1st floor)

	494		Novel concept for an optimal solar cell based on self-assembling organic molecules	**KRANER Stefan**
16:30	456	INV	„Interplay of domain structure, phase transitions and functional responses in ferroelectric BaTiO3”	**GRÜNEBOHM Anna**
17:00	847		Ferroelectric 90° domain wall migration and free energy in BaTiO3 via molecular dynamics simulations	**AZUMA Hikaru**
17:15	557		Dislocation effects on the inversion of ferroelectric polarization in BaTiO3 using a graph neural network potential	**DEGUCHI Genki**
17:30	714		A phase-field model for ferroelectrics with defects configured by molecular dynamics	**DURDIEV Dilshod**
17:45	1179		Hot carriers in metal halide perovskites: the cold background effect	**FABER Tim**

18:00	1070	Using Molecular Dynamics simulations as a tool to better understand reactive multilayers	**SCHWARZ Fabian**

Thursday June 1

B1_09
Development, Characterization, and Applications of Energy Materials

Chairperson(s) : MAIER Juliana - ROSCOW James

Schweitzer (Ground floor)

10:00	1382	INV	Structure property relationships in polar perovsktie oxides	**KHANSUR Neamul**
10:30	870		Phonon dispersions of Ta- and Ti-doped Fe2VAl Heusler-type thermoelectric materials studied by inelastic X-ray scattering	**KIMURA Koji**
10:45	913		Clarification of the structural origin of an enhanced ductility in Mg-REEs alloys using x-ray fluorescence holography	**KATO Tatsuya**
11:00	1071		X-ray fluorescence holography (XFH) of ß-PdBi2 imaging using point- and 2D- CdTe detectors at ambient temperature	**SEKHAR Halubai**
11:15	539		Structural study on ZnFe2O4 by x-ray fluorescence holography	**HOSOKAWA Shinya**
11:30	1486		Robust chemical state analysis of Sn-based perovskites via Auger parameter analysis in XPS	**WIECZOREK Alexander**
11:45	1013		Structural and surface properties of Ca-doped BaTiO3	**GAN Rongguang**

Thursday June 1

B2_06
Processing and Properties of Chalcogenides Semiconductors including Perovskites 1

Chairperson(s) : WELLMANN Peter

Dresde (1st floor)

10:00	400	INV	Synthesis of chalcogenide perovskite thin films	**SCRAGG Jonathan**
10:30	2069		Optimization of interface carrier transport in band gap graded flexible Cu(In,Ga)Se2 thin film solar cells	**PARK Ha kyung**
10:45	2170		Fabrication of Precursors for Chalcogenide Perovskite Thin Films	**FREUND Tim**

11:00	1348		Metastability in Dark Current Diode Characteristics of Chalcogenide Photovoltaic Modules	**FRIEDEL Bettina**
11:15	363		Complete determination of thermoelectric and thermal properties of supported few layers 2D materials	**RAHIMI Mehrdad**
11:30	21		Comparison of one and two-stage growth approaches for close space sublimation deposited Sb2Se3 thin film solar cell.	**SINDI Daniya**

Thursday June 1

B1_10
Development, Characterization, and Applications - Atomic and Microscale

Chairperson(s) : GAN Rongguang - MARTIN Alexander

Schweitzer (Ground floor)

13:30	2254	INV	Electronic Coupling of Highly Ordered Perovskite Nanocrystals in Supercrystals	**SCHALL Peter**
14:00	843		Bulk Photovoltaic Effect in Ferroelectric Vertically Aligned Nanocomposites	**PALLADINO Emanuele**
14:15	1945		Thin film of lanthanum cobaltite LaCoO3 for solar thermal collectors	**BANDE Abdoul azise**
14:30	1374		Texturing and ferroelectric properties of SrxBa1-xNb2O6 thin films prepared by aqueous solution deposition	**PEDERSEN Viviann hole**
14:45	307		Increasing the Open-circuit Voltage in a-Si:H/ oxide Ultrathin Transparent PV Devices via Electron Transport Layer Optimization by Incorporating Dipolar Molecules	**LOPEZ-GARCIA Alex**
15:00	1445		Influence of cooling rate and atmosphere on the structural and dielectric behavior of lead free-ferroelectric Bi1/2K1/2TiO3 (BKT)	**EYOUM Gina estelle**
15:15	2305		Local structure-function control in a low band gap Mn-Nb co-doped BaTiO3 ferroelectric	**MUKHERJEE Soham**
15:30	1971		Doping control in metal oxides transparent electrodes by ion implantation	**TRINGALI Fiorella**
15:45	340		Synthesis of PVDF-based materials for optimal multiphysic energy harvesting	**FRICAUDET Matthieu**

Thursday June 1

B2_07

Processing and Properties of Chalcogenides Semiconductors including Perovskites 2

Chairperson(s) : FREUND Tim

Dresde (1st floor)

13:30	1602	INV	Hybrid Pulsed Laser Deposition of Perovskite and Related Phases of Chalcogenides	**RAVICHANDRAN Jayakanth**
14:00	1326		Fundamental Vibrational Properties and Crystallographic Orientation Evaluation of Sb2S3 by Means of Multiwavelength Raman Spectroscopy	**ROTARU Victoria**
14:15	1368		Effect of composition on structural and optoelectronic properties in combinatorially synthesized BaZrS3 thin films	**RÖTTGER Adriana**
14:30	223		Negative Doping in Semiconducting 2H-MoS2 and Surface Functionalisation	**KRAJEWSKA Aleksandra**
14:45	1595		MoS2 Wrapped N-Doped Carbon for Batteries Beyond Lithium	**PRIYA Surbhi**

Thursday June 1

B2_08

Photonic Materials: Structure & properties

Chairperson(s) : DOBESH David k. - OTSUKA Takahito

Dresde (1st floor)

15:00	1855	INV	Development of Transparent Nanocrystallization of Oxyfluoride Glasses in Melt-quenching Process by Glass Structure Design	**SHINOZAKI Kenji**
15:30	1711		Energy Conversion properties of Eu-doped barium fluoride thin films through a simple MOCVD approach	**LO PRESTI Francesca**
15:45	76		The Local Atomic Structure of Amorphous Organotin Sulfide Compounds with Extreme Nonlinear Optical Properties	**STELLHORN Jens r.**

Thursday June 1

B1_11
Development, Characterization, and Applications - Atomic and Microscale

Schweitzer (Ground floor)

16:30	31	INV	Engineering the electromechanical properties of ferroelectric composites: domains to devices	**ROSCOW James**
17:00	1366		Defect modulated negative thermal expansion in ceramic films for energy harvesting deposited with powder aerosol deposition	**WEBBER Kyle**
17:15	214		Exploring electro mechano thermal potentialities of lead-free hybrid molecular ferroelectrics dabcoH[A]	**MORVEZEN Gwenn**
17:30	369		Conversion polymorphism in the high-pressure stabilized BiMg0.5Ti0.5O3-BiZn0.5Ti0.5O3 solid solution system – a lead-free structural analogue of PbZrO3-PbTiO3	**SALAK Andrei n.**
17:45	1659		Improving stability and open-circuit voltage of perovskite mini-modules by tuning laser processing conditions	**JEONG Yujin**

Thursday June 1

B2_09
Photonic Materials: Structure & properties

Dresde (1st floor)

16:30	836		Charge Transfer Complexes for Advanced Optical Materials	**TIAN Shuang**
16:45	323		Filterless Visible-Range Color Sensing and Wavelength-Selective Photodetection Based on Barium/Nickel Codoped Bandgap-Engineered Potassium Sodium Niobate Ferroelectric Ceramics	**BALANOV Vasilii**
17:00	1440		Synthesis and characterization of highly durable P2O5-ZnO-Na2O/CaO-Fe2O3 glasses for low-temperature sealing applications	**MAZINANI Babak**

17:15	58	Low-cost WO3 nanoparticles / PVA smart photochromic glass windows for sustainable building energy savings	**BADOUR Yazan**

Thursday June 1

B_P03
Poster session 3

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

01_2417	First-principles study of perovskite/halide interfaces	**SPREAFICO Samuele**
02_842	Tuning physical properties of ferroelectric BaTiO3 by lateral compression: A molecular dynamics simulation study	**AZUMA Hikaru**
03_1519	On numerical modelling and experimental approach of Heterojunction Tandem Solar Cells based on Si and Cu2O/ZnO. Results and perspectives	**CHILIBON Irinela**
04_2425	Strong Robust Generalized Cross-validation for Deconvolving the Distribution of Relaxation Times through Tikhonov Regularisation	**PY Baptiste**
05_2284	Octadecanona-ene: Relation of theories of electrical conductivity and chemical reaction in the solid	**AHMANE Younes**
06_894	Thermodynamics and Kinetics of Charge Transfer in Solid Boosted Flow Batteries: Case of CuHCF and TEMPTMA	**MOGHADDAM Mahdi**
07_1568	New ab-initio calculations of Tunneling Current in Graphene/n-GaAs forward-biased Schottky Diodes	**VARONIDES Argyrios**
08_962	Piezoelectric Response of Poly (L-Lactic Acid) a Form on the Stress State	**ZADOROZHNII Vitalii**
09_771	A Low-Cost and Environmentally Friendly Mixed Polyanionic Cathode for Sodium-Ion Storage	**SONG Tianyi**
10_694	Strain Driven Anomalous Anisotropic Enhancement in the Thermoelectric Performance of Monolayer MoS2	**CHAUDHURI Saumen**
11_506	Numerical simulation of earth abundant and non-toxic Kesterite-based solar cells using Solar Cell Capacitance Simulator (SCAPS-1D)	**KHEMIRI Naoufel**

12_438	Evaluating the nature of arsenic-involving bonds and interactions together with their relationship to piezoelectric properties using Quantum crystallography and complementary bonding analysis	**BALMOHAMMADI Yaser**
13_97	Method to explore optimal multi-metallic alloy hydrogen evolution reaction catalyst by active learning and experiment	**KIM Minki**
14_2125	Revisiting Conversion Electrode Materials for Lithium-ion Batteries	**HUA Xiao**
15_2249	All Organic d-PVDF based Self-powered Nanogenerator for Signal Recognition Approach Through Machine Learning	**GUPTA Varun**
16_1821	Rationalising the Effect of Electrical Double Layer Structure on the Oxygen Evolution Reaction	**YE Yuhong**
17_1052	Photoluminescence color prediction of Eu3+-doped perovskite-type oxide by supervised machine learning	**OTSUKA Takahito**
18_2150	Europium as a structural probe within Ti/Zr containing glasses and glass-ceramics for energy harvesting materials	**DOBESH David k.**
19_1301	Recyclable photon upconversion bioplastics for broad-band light harvesting	**BHARMORIA Pankaj**
20_2544	Optical super-absorbers and organic thermoelectrics for energy harvesting	**ANGUITA Jose**
21_2711	Thin Films Quaternary materials for photovoltaic applications	**BEN RABEH Mohamed**
22_1470	Charged Nanomaterials via Electrochemical Redox Processes	**AMAR Paul-benjamin**
23_2196	Photoemission spectroscopy study of BaZrS3 perovskite crystals	**RIVA Stefania**
24_597	Composition-dependent electronic structure changes in CuxInSe2 (x	**MOHAMED Ahmed yousef sayed**
25_2722	Ga2S3 thin films in UV detector applications: physics vs. technology	**GHILETCHII Gheorghe**
26_156	Metal telluride compounds synthesized using a liquid metal-based technique for active hydrogen evolution	**MOUSAVI Maedehsadat**
27_1146	Presodiation strategy for enhancing performance of metal sulfide anodes	**CHOE Jacob**

28_1001	Effect of defects induced by the GLAD technique on the Sb2S3 material on structural and morphological properties: Anisotropy study	**CHAFFAR AKKARI Ferid**
29_1564	Operando Raman Spectroscopy Revealing Lithium Consumption Source and Phase Changes at the Electrode/Electrolyte Interface in Lithium-Ion Battery Systems	**GRANT Alex**
31_382	Chiral conjugated polymers based on a helicene moiety for increased performances in organic photovoltaics	**GEDEON Clement**
32_652	A Deprotection-free Method for High-yield Synthesis of Graphdiyne Powder to construct a highly active materials for photocatalytic H2 generation	**GHAZZAL Mohamed nawfal**
33_658	Glassy thermal conductivity in Cs3Bi2I6Cl3 single crystal	**ACHARYYA Paribesh**
34_1321	A Physical Unclonable Function Security Device Generated by Irregular Grain Boundaries of Perovskite Calcium Titanate	**LEE Subin**
35_1341	Unravel the role of doping in high performance blue organic photodetectors	**ZHANG Tianyi**
36_1535	Understanding the polysulfide shuttle effect using Ampero-Coulometry	**GULZAR Umair**
37_1943	Thermal ALD process for Aluminum doped zinc oxide films and their effective silicon surface passivation	**KUMAR Abhishek**
38_1976	Hydrothermal synthesis of composition controlled (K,Na)NbO3 perovskite particles	**ELLAWALA KANKANAMGE Chandima pradeep**
39_2176	Optical Properties of Chalcogenide Perovskite Precursor Films	**FREUND Tim**
40_2269	Reactive Metals as Seasonal Energy Storage	**ESPINOSA-ANGELES Julio-cesar**
41_22	Thermally Compatible High Performance Reversible Protonic Ceramic Cell	**TAHIR Abdullah**
42_49	Sustainable highly charged Polyimide in non-contact mode triboelectric nanogenerator	**LEE Jae won**
43_87	Refined vertical nanodevice patterning to develop robust (spin) electronics across molecules	**ZAFAR Talha**
44_136	Plasma Assisted Reconstruction of Defect-rich Porous Bismuthene Arrays for Highly active Electrocatalytic CO2 Reduction to HCOOH	**BU Shuyu**

45_291	Redox stability of Sc-doped La0.6Sr0.4FeO3-d for tubular solid oxide electrolysis cells interconnector	**KIM Sun-dong**
46_425	Controlling Trap-Assisted Recombination in Organic Photovoltaic Cells for Indoor Application	**RHEE Seunghyun**
47_449	Core-shell heterojunction engineering of TiN nanorod arrays@Co-MOF nanoparticles bifunctional electrocatalyst for highly enhanced electrochemical overall water splitting	**NGUYEN Dinh chuong**
48_453	Semiconductive MoS2 nanoparticles/metallic CoS2 nanotube arrays contact induced Mott-Schottky heterostructure for improving the catalytic behavior of water-splitting electrocatalyst	**DOAN Thi luu luyen**
49_654	Microwave Dielectric properties of Zn2(Te1-2xNbxScx)3O8	**VINAYA KUMAR Asapu**
50_900	Ultra-small anatase nanoparticles for energy applications	**IESALNIEKS Mairis**
51_1402	Topochemical domain engineering to construct 2D mosaic heterostructure with internal electric field for high-performance overall water splitting	**QUAN Quan**
52_1665	Thermoelectric Properties of Delafossite CuCr1-xFexO2 (0 = x = 1)	**MAJEE Mithun kumar**
53_2036	Transition Metal Antimonates for Oxygen Electrocatalysis	**ALSAIDI Walaa**

Friday June 2

B1_12
Development, Characterization, and Applications - Micro to Macroscale

Chairperson(s) : KIRCHNER Jens - MARTIN Alexander

Schweitzer (Ground floor)

08:45	2587	INV	Flexible Wireless Energy Transfer Printable Devices based on Thermoelectricity: from Concept to Application	**PEREIRA A**
09:15	1885		High throughput 3D printed based Ferro, piezo and pyroelectret structure for mechanical and thermal energy harvesting	**KUMAR Ajay**
09:30	514		Influence of grain size on functional properties of BCZT: A multiscale analysis using Spark Plasma Sintering and Aerosol Deposition	**MAIER Juliana**
09:45	1622		Self-powered Nanogenerator as an Aqueous Processable Printable Ink and Strain-Induced Piezo-phototronic Effect	**MISHRA Hari krishna**

Friday June 2

B1_13
Development, Characterization, and Applications - Micro to Macroscale

Schweitzer (Ground floor)

10:30	93	INV	All-Textile Triboelectric Nanogenerators for Next Generation Wearable Electronics	**DHARMASENA Randunu devage ishara gihan**
11:00	969		Sol-gel-derived Ordered Mesoporous High Entropy Spinel Ferrites and Assessment of their Photoelectrochemical and Electrocatalytic Water Splitting Performance	**EINERT Marcus**
11:15	1444		A Sol-gel inkjet printable PZT ink for additively fabricated mechanical transducers for energy harvesting, sensing, and mechanical actuation	**FADLELMULA Mustafa**
11:30	216		Impact of the polymer matrix in GaN nanowire-based devices for energy harvesting	**CHEVILLARD Amaury**

11:45	**883**	Patch-type thermoelectric for energy harvesting with efficient thermal contact properties	**LEE Taek seong**