



ROCAM
2024

X Jubilee Conference

15 – 18 July, Bucharest, Romania

10th INTERNATIONAL CONFERENCE ON ADVANCED MATERIALS

PROGRAM of ROCAM 2024

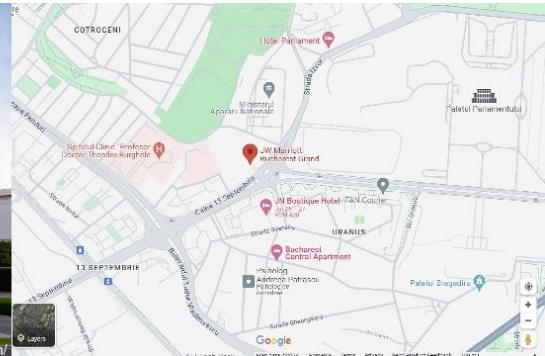
Section 1 (S1): Bulk Crystals, Ceramics, and Composites

Section 2 (S2): Thin Films, 2D Systems, and Nanostructures

Section 3 (S3): Advanced Characterization Methods

Section 4 (S4): Applications of Advanced Functional Materials

Venue Location: J.W. MARRIOTT BUCHAREST GRAND HOTEL (<https://maps.app.goo.gl/iobY6vedcXHc8NtE7>)





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Day 1, Monday, 15th of July 2024

Lobby of J.W. MARRIOTT BUCHAREST GRAND HOTEL							
07:00 – 09:00	Registration						
Grand Ball Room AB – PLENARY LECTURES (PL) SESSION Chair: Lucian PINTILIE							
09:00 – 09:45	PL1: Klaus VON KLITZING – “The quantum revolution in metrology”						
09:45 – 10:30	PL2: Gérard Albert MOUROU – “Applications of ultra-short laser pulses in materials science” <i>(presented by Dr. Gabriel P. Bleotu on behalf of Prof. Mourou)</i>						
Foyer of J.W. MARRIOTT BUCHAREST GRAND HOTEL							
10:30 – 11:00	Coffee/Tea Break						
INVITED LECTURES (IL) & ORAL PRESENTATIONS (OP) SESSIONS							
Brasov Hall – S1 Chair: Traian DUMITRICA		Grand Ball Room A – S2 Chair: Stela CĂNULESCU		Craiova Hall – S3 Chair: Marco BELEGGIA		Grand Ball Room B – S4 Chair: Anatoli SERGHEI	
11:00 – 11:30	S1-IL1: Liliana MITOSERIU “Ag-BaTiO ₃ CERMETS with tunable meta-composites properties”	11:00 – 11:30	S2-IL1: Florencio SÁNCHEZ “Disentangling stress and strain effects in ferroelectric HfO ₂ ”	11:00 – 11:30	S3-IL1: Byungha SHIN “Carrier-resolved photo-Hall effect”	11:00 – 11:30	S4-IL1: Torsten GRANZOW “Able to take the heat? – Ferroelectric oxides in electrocaloric”



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11:30 – 12:00	S1-IL2: Adelina-Carmen IANCULESCU “Multifunctional (Ba,Sr)TiO ₃ systems: From nanopowders to bulk ceramics”	11:30 – 12:00	S2-IL2: Athanasios DIMOULAS “Hafnia-based ferroelectric field effect memristor synapses epitaxially grown on silicon”	11:30 – 12:00	S3-IL2: Wolfgang BETZ “Analysis of buried interfaces for device technology by soft and hard X-ray photoemission”	11:30 – 12:00	applications” S4-IL2: Aurelian CRUNTEANU “Phase change materials for reconfigurable terahertz (meta) devices: integration and challenges”
12:00 – 12:20	S1-OP1: Radu Stefan STIRBU “Local vs. macroscopic properties of porous BaTiO ₃ ceramics based on 3D reconstructed ceramic microstructure”	12:00 – 12:20	S2-OP1: Cristina BESLEAGA “Oxygen vacancies and applied electrical field conditioning of polar phase in hafnia nanocrystals”	12:00 – 12:20	S3-OP1: Cosmin ROMANITAN “Strain analysis in vanadium oxide thin films by Rietveld refinement”	12:00 – 12:20	S4-OP1: Andra Georgia BONI “Strategies for achieving steady-state negative capacitance in ferroelectric multilayered structures”
12:20 – 12:40	S1-OP2: Lorenza ROMAGNOLI “A convenient synthesis of BaZrS ₃ , BaHfS ₃ and their solid solutions at moderate temperature”	12:20 – 12:40	S2-OP2: Viorica MUSAT “Some contributions to metal oxide-based multifunctional hybrid thin films for transparent and	12:20 – 12:40	S3-OP2: Maria-Iulia ZAI “X-Ray diffraction study of threading dislocations in epitaxial gallium nitride thin films	12:20 – 12:40	S4-OP2: Cosmin JALBA “High throughput graphene production via intercalation-expansion method”



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			flexible electronics by bottom-up approach”		grown by molecular beam epitaxy”		
12:40 – 13:00	S1-OP3: Athanasios TILIAKOS “Non-Arrhenius anomalies and large polaron tunneling mechanisms in NaSiCON superionic ceramic conductors”	12:40 – 13:00	S2-OP3: Katarzyna UNGEHEUER “Thin film cupric oxide as absorbing layer for solar cells in space applications”	12:40 – 13:00	S3-OP3: Liana SOCACIU-SIEBERT “NAP-XPS instrumentation and applications”	12:40 – 13:00	S4-OP3: Oana Alexandra RADUCU “Biosynthesized gold nanoparticles: Tunable thermo-plasmonic nanogenerators from visible region to NIR I and II Biological Windows”
Foyer of J.W. MARRIOTT BUCHAREST GRAND HOTEL							
13:00 – 14:30	Lunch						
Brasov Hall – S1 Chair: Liliana MITOSERIU			Craiova Hall – S3 Chair: Byungha SHIN			Grand Ball Room A– S4 Chair: Mihaela MATACHE	
14:30 – 15:00	S1-IL3: Traian DUMITRICA “Enhancing the mechanical properties of carbon nanotube materials through computationally guided engineering of	14:30 – 15:00		14:30 – 14:50	S3-OP4: Juan DE LA FIGUERA “Observing barium oxide on W(110) by low-energy, thermionic and photoemission electron microscopy”	14:30 – 15:00	S4-IL3: Michele BIANCHI “Micro/nanopatterning of conductive polymers for advanced biointerfaces”



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	interactions between fibers at the mesoscale level”						
15:00 – 15:20	S1-OP4: Alina M. BADEA (IONESCU) “Vortex dynamics in some representative Iron-based superconducting single crystals”	15:00 – 15:20		14:50 – 15:10	S3-OP5: Larisa Elena BORCAN “Surface magnetism of platinum (001) and strontium titanate (001) investigated by spin-resolved photoelectron spectroscopy”	15:00 – 15:20	S4-OP4: Catalin-Paul CONSTANTIN “Double electron donor-embedded polymers for energy-efficient smart windows”
15:20 – 15:40	S1-OP5: Silviu POLOSAN “Morphology and structural properties of M-hexaferrite”	15:20 – 15:40		15:10 – 15:30	S3-OP6: Amelia Elena BOCIRNEA “The effects of ultrahigh vacuum treatments on SnSe flakes transferred on naturally oxidized Si wafers”	15:20 – 15:40	S4-OP5: Any Cristina SERGENTU “ <i>In vitro</i> hyperthermia with iron oxide magnetic nanoparticles”
15:40 – 16:00	S1-OP6: Cristian Mihail TEODORESCU “A revised theory of band ferromagnetism”	15:40 – 16:00		15:30 – 15:50	S3-OP7: Marius HUSANU “Intrinsic electronic structure of oxide surfaces and	15:40 – 16:00	S4-OP6: Victor KUNCSEK “VO ₂ based thermochromic coatings for smart window applications”



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interfaces from angle
resolved
photoelectron
spectroscopy”

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16:00
–
16:30

Coffee/Tea Break

16:30
–
18:00

POSTER PRESENTATION (PP) SESSIONS of SECTIONS 1 & 2

Commission for Best Poster Awards: Torsten GRANZOW, Nicolae SPALATU, Valérie DEMANGE

S1-PP1: Marius HUSANU; “Al-doped SrTiO₃ photocatalyst with increased performance”.

S1-PP2: Mihaela BOTEA; “Bulk graded (Ba,Sr)TiO₃ structures with enhanced thermal stability”.

S1-PP3: Liviu NEDELCU; “Thermal drift in Ba_{1-x}Sr_xTiO₃/polyethylene composites studied by broad-band dielectric spectroscopy”.

S1-PP4: Oji BABATUNDE & Emmanuel IMORU; “Morphological and phase examination of mullite based ceramics developed using synthesized amorphous silica from rice husk ash”.

S1-PP5: Marius Cristian CIOANGHER; “Sr and Ga doped barium titanate piezoceramics for osteogenic applications”.

S1-PP6: Mihaela BOJAN & Cristian UDREA; “Terahertz-Time-Domain Spectroscopy for heavy metals detection in soil”.

S1-PP7: Cristina Stefania FLORICA; “Composites based on polydiphenylamine and multi-wall carbon nanotubes functionalization with carboxylic acid groups for applications in energy storage”.

S1-PP8: Teodora BURLANESCU; “Composites containing poly(vinylchloride) for applications as SERS supports and membranes used in filtration processes”.

S2-PP1: Lucian Dragos FILIP; “Investigation of the insulator layer role in polarization direction stability in multilayered heterostructures”.

S2-PP2: Liliana Marinela BALESU; “Wurtzite III-V materials for ferroelectric component in heterostructures”.



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S2-PP3: Alexandru-Cristi IANCU; "Swinging molecular adsorption of carbon monoxide on ferroelectric BaTiO ₃ (001)".
S2-PP4: Cristina Florentina CHIRILA; "Obtaining and tailoring electrical properties of epitaxial PZT thin films by different doping".
S2-PP5: Cristian ROTARESCU; "The effect of magnetoelastic anisotropy on the magnetization processes in amorphous nanowires".
S2-PP6: Constantin Catalin NEGRILA; "Structural and electronic properties of HfO ₂ thin layers deposited on III-V semiconductor surfaces".
S2-PP7: Ioana DASCALESCU; "Hydrogenated GeSn films for short-wave infrared detection".
S2-PP8: Valentina MIHALACHE; "Exchange bias effect in ZnFe ₂ O ₄ (FIM)-FeO(AFM)-ZnO and ZnFeO (DMS) – FeO(AFM) nanocomposite systems".
S2-PP9: Crina GHEMES; "Improvement of the tunnel magnetoresistance – based sensor by optimizing the deposition conditions".
S2-PP10: Hristina POPOVA; "Step meandering on vicinal surfaces: Crystal growth modeling based on cellular automata".
S2-PP11: Messaoud TAMIN; "Synthesis and characterization of kesterite thin films Cu ₂ ZnSnS ₄ solar cells with Ag substitution".
S2-PP12: Adelina-Gabriela NICULESCU; "3D-printed microfluidic devices for magnetic nano and microparticle synthesis of use in environmental applications".
S2-PP13: Dana-Ionela TUDORACHE; "Cross-flow 3D microfluidic device for aerogel nanocomposites synthesis".
S2-PP14: Mariana Mihaela APOSTOL; "Growth graphene by chemical vapor deposition for electronic devices".
S2-PP15: Cosmin ROMANITAN; "Dependence of La-doped ZnO nanocomposite properties of dopant concentration for semiconductor materials fabricated by electrospinning calcination method".
S2-PP16: Anatoli SERGHEI; "Investigations of attograms and zeptograms of matter under extremely high electric fields".
S2-PP17: Rahim ALEKBEROV; "X-ray diffraction and Raman scattering of PbSe(S) thin films".
S2-PP18: Florin GHERENDI; "In ₂ O ₃ and ZnO thin film paper transistors fabricated by pulsed electron beam deposition".
S2-PP19: Magdalena NISTOR; "How far oxygen deficiency can be driven in indium oxide thin films grown by pulsed electron beam deposition?".
S2-PP20: Daniela Cristina NASTAC; "Investigation of the electrospinning parameters on the manufacture of PVDF nanofibers".
S2-PP21: Sara NISTOR; "Amyloid beta improved surfaces for development of biomedical applications".



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<p>S2-PP22: Iulia ANTOHE; “Synthesis of a highly sensitive NH₃ gas detection sensor through Co-doped ZnO thin-film using SILAR technique”.</p>
<p>S2-PP23: Maria-Iulia ZAI; “Density functional theory computational study of the superconducting properties of palladium hydride systems”.</p>
<p>S2-PP24: Alexandru-Mihai IAMANDI; “Exploring the generation of metal nanoparticles through laser ablation in liquid media”.</p>
<p>S2-PP25: Abdessamad EL KANOUNY; “The influence of duty cycle on structural and optical properties of Tin Selenide thin films prepared by pulsed electrodeposition”.</p>
<p>S2-PP26: Anca CRIVEANU; “Studies regarding the optimization of the dispersion process of iron oxide nanoparticles synthesized by laser pyrolysis”.</p>
<p>S2-PP27: Florian DUMITRACHE; “Spectacular dispersibility of oxide nanoparticles synthesized by laser pyrolysis with isopropanol vapors as sensitizer”.</p>
<p>S2-PP28: Eliseia PETRE; “Exciton-photon coupling in ZnO optical microcavities fabricated by pulse laser deposition”.</p>
<p>S2-PP29: Filip-Ioan CEARA & Marian ZAMFIRESCU; “Design and characterization of integrated optics fabricated by two-photon polymerization”.</p>
<p>S2-PP30: Rim SAYED; “Effect of doping on the structural and optical properties of Co-doped ZnO thin films by electrodeposition method”.</p>
<p>S2-PP31: Samira SAADAOU; “Study of optical and structural properties of mixed halides (I, Cl) of methylammonium-lead perovskite by spin-coating method for photovoltaic application”.</p>
<p>S2-PP32: Viorica STANCU; “Growth and functionality of Cu₂ZnSnS₄(CZTS) films: From nanoparticle ink to inorganic solar cells”.</p>
<p>S2-PP33: Lucian TRUPINA; “Growth and characterization of vanadium dioxide thin films prepared by reactive-RF sputtering”.</p>
<p>S2-PP34: Lucian PINTILIE; “Polarization switching triggered by charge injection: possible universal switching mechanism in ferroelectric thin films”.</p>
<p>S2-PP35: Stefanie HILGERS; “Exploring the structural and chemical composition of antimony monolayer on Ag(110)”.</p>
<p>S2-PP36: Ionel STAVARACHE; “2D-MoS₂ selectively grown on Mo patterned substrates for photosensitive field effect transistor”.</p>



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Day 2, Tuesday, 16th of July 2024

Lobby of J.W. MARRIOTT BUCHAREST GRAND HOTEL							
08:00 – 09:00	Registration						
Grand Ball Room AB – PLENARY LECTURES (PL) SESSION Chair: Lucian PINTILIE							
09:00 – 09:45	PL3: Rodrigo MARTINS – “Materials for eco-design strategies for an innovative industry”						
09:45 – 10:30	PL4: Elvira FORTUNATO – “From forest to electronic and biomedical applications”						
Foyer of J.W. MARRIOTT BUCHAREST GRAND HOTEL							
10:30 – 11:00	Coffee/Tea Break						
INVITED LECTURES (IL) & ORAL PRESENTATIONS (OP) SESSIONS							
Brasov Hall – S1 Chair: Adelina IANCULESCU		Grand Ball Room A – S2 Chair: Athanasios DIMOULAS		Craiova Hall – S3 Chair: Beata KARDYNAL		Grand Ball Room B – S4 Chair: Aurelian CRUNTEANU	
11:00 – 11:20	S1-OP7: Nermin DEMIRKOL “Ternary hydroxyapatite-titania-graphene biocomposites	11:00 – 11:30	S2-IL3: Stela CANULESCU “Unveiling nonlinear optical and electrical responses in	11:00 – 11:30	S3-IL3: Marco BELEGGIA “Design, fabrication and characterization of adaptive electron-	11:00 – 11:30	S4-IL4: Zacharie JEHL LI-KAO “From stagnation to success: Recent breakthroughs in



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	produced by green process and their bioactivity behavior”		molybdenum disulfide: A journey through 2D materials and beyond”		optical devices for beam shaping”		kesterite solar cell technology for indoor Photovoltaics”
11:20 – 11:40	S1-OP8: Denis A. PIKULSKI “Cu-Zr-Al metallic glass matrix composites with in-situ precipitated phase reinforcement”	11:30 – 12:00	S2-IL4: Nicolae SPALATU “Towards developing emerging antimony and bismuth-based chalcogenide for next generation, Earth abundant photovoltaics”	11:30 – 12:00	S3-IL4: Marius KREMER “X-ray diffraction for battery analysis: Modern challenges and modern solutions”	11:30 – 12:00	S4-IL5: Mihaela MATACHE “Photo-sensitive azo-based small molecule switches”
11:40 – 12:00	S1-OP9: Maria STEFAN “Composite photocatalysts based on carbon structure and semiconductors obtained by recycling electronic wastes”	12:00 – 12:20	S2-OP4: Alessandro STROPPA “Chiral multiferroicity in two-dimensional hybrid organic-inorganic perovskites”	12:00 – 12:20	S3-OP8: Bogdana BORCA “Advanced method for amino acid recognition within peptide sequences”	12:00 – 12:20	S4-OP7: Outman EL KHOUJA “Synthesis, characterization and optoelectronic applicability of Sb ₂ S ₃ thin films for enhanced solar energy conversion”
12:00 – 12:20	S1-OP10: Monica ENCULESCU “Fabrication and characterization of	12:20 – 12:40	S2-OP5: Miruna-Ioana BELCIU & Alin VELEA “Prediction of glass formation ability in	12:20 – 12:40	S3-OP9: Radu DOBRE “Momentum estimation of charged particles registered in	12:20 – 12:40	S4-OP8: Andrei Gabriel TOMULESCU “Mitigating the toxicity during perovskite solar



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	sponge-like PDMS composites”		chalcogenides using machine learning algorithms”		a nuclear emulsion detector within the DsTau(NA65) experiment”		cell fabrication”
12:20 – 12:40	S1-OP11: Corina SECU “Rare-earth doped GdF ₃ /LiGdF ₄ nanocrystals in silica glassy nanocomposites: crystalline phase tuning and luminescence properties”	12:40 – 13:00	S2-OP6: Ana-Maria FLOREA (RADUTA) “Physical properties of submicrometric RF-sputtered CdTe thin films for photovoltaic applications”	12:40 – 13:00	S3-OP10: Mathias ADELMARK “Fabrication of a thin-film adaptive electrostatic phase plate”	12:40 – 13:00	S4-OP9: Eda ALEMDAR YILMAZ “Optical, electrochemical and photovoltaic properties of side chain effects on BDT and TPD-containing polymers”
12:40 – 13:00	S1-OP12: Magdalena GALATANU “Improved thermo-physical and mechanical properties of Tungsten with dispersed nanometric ZrC particles processed by SPS and a subsequent thermo-mechanical treatment”						
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13:00 – 14:30	Lunch
	Grand Ball Room AB – PLENARY LECTURES (PL) SESSION Chair: Lucian PINTILIE
14:30 – 15:15	PL5: Rafal E. DUNIN-BORKOWSKI – “Exploring the nano-world with electrons”
15:15 – 16:00	PL6: Paolo FORNASIERO – “Sustainable processes: Producing better and more with less”
	Foyer of J.W. MARRIOTT BUCHAREST GRAND HOTEL
16:00 – 16:30	Coffee/Tea Break
16:30 – 18:00	POSTER PRESENTATION (PP) SESSIONS of SECTIONS 3 & 4 <i>Commission for Best Poster Awards: Torsten GRANZOW, Nicolae SPALATU, Valérie DEMANGE</i>
	S3-PP1: Marian Cosmin ISTRATE; “New deposition method for achieving ferroelectric orthorhombic ZrO₂”.
	S3-PP2: Alina-Tania NEAGU; “Production of a few alpha pairs in interactions of light nuclei with nuclear emulsion”.
	S3-PP3: Cristian RADU & Andrei Cristian KUNCSEK; “From electron tomography to magnetic properties using micromagnetic simulations”.
	S3-PP4: Iulia Corina CIOBOTARU; “Structural and photophysical properties of antimony hybrid perovskites for organic light emitting diode applications”.
	S3-PP5: Petrica POPOV & Maria-Emanuela MIHAILOV; “Exploring underwater objects through magnetometry techniques – Methods and assessment”.



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<p>S3-PP6: Alexandru SIMEDRU; “Effects of several accelerators` working mechanisms on Portland cement concrete structure and mechanical properties”.</p>
<p>S3-PP7: Anca Emanuela MINUTI; “Scanning electron microscopy as pathway to study on the adherence of nanomaterials on cells”.</p>
<p>S3-PP8: Sasa-Alexandra YEHIA-ALEXE; “Hydrogen isotopes released from beryllium layer by Laser Induced Desorption and Laser Induced Ablation”.</p>
<p>S4-PP1: Catalin MARCULESCU; “Improving the conductivity of FETs based on carbon nanomaterials by decorating the nanomaterial surface with gold nanoparticles”.</p>
<p>S4-PP2: Marcin PIEKARCZYK; “Advancements in smart material systems for micro 4D printing: fabrication, actuation and characterization”.</p>
<p>S4-PP3: Lucia Nicoleta LEONAT; “Study of protonated diamines for the improvement of the morpho-structural characteristics of hybrid halide perovskite films”.</p>
<p>S4-PP4: Oana CRACIUNESCU; “Evaluation of the viability of 3D stem cell spheroids in a hydrogel matrix for dental tissue regeneration”.</p>
<p>S4-PP5: Daniel GHERCA; “Entropy-engineered spinel-type mixed oxides for photocatalytic oxygen evolution reaction”.</p>
<p>S4-PP6: Irina ZGURA; “Photocatalytic activity of composite materials based on ZnO and CuO commercial powders”.</p>
<p>S4-PP7: Eugen CHIRIAC; “Development and optimization of a microfluidic device for exosome filtration”.</p>
<p>S4-PP8: Anca Gabriela MIREA; “Low metal loading supported on MAX Phases for selective hydrogenation of cinnamaldehyde”.</p>
<p>S4-PP9: Ion SPINU; “Transport mechanisms in IGZO memristor”.</p>
<p>S4-PP10: Maria-Iuliana CHIRICA; “2D Ti₃C₂T_x MXene as electrode on all oxide capacitors deposited by spray coating method”.</p>
<p>S4-PP11: Metka BENČINA; “Bio-compatibility of stainless steel treated with advanced surface modification techniques”.</p>
<p>S4-PP12: Marius Cristian CIOANGHER; “Overcoming obstacles and finding solutions for integrating Barium Titanate–Hydroxyapatite ceramics with uncompromised piezoelectric and biological characteristics”.</p>
<p>S4-PP13: Khouloud DAMMAK; “Monovalent silver complexes based on phosphine ligands designed to promote synergistic antitumor effects”.</p>



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<p>S4-PP14: George E. STAN; “Bone graft substitutes fabricated by robocasting from bioactive and piezoelectric ceramics: Pilot studies at the National Institute of Materials Physics”.</p>
<p>S4-PP15: Sara LAAFAR; “Temperature annealing effect on ZTO-TFT transistors performances”.</p>
<p>S4-PP16: Sorin AVRAMESCU; “Investigating the influence of titanium and rhenium oxidation states on the catalytic properties of Ti–Re–Ox-doped materials in carbohydrate conversion to Levulinic Acid”.</p>
<p>S4-PP17: Daniela OPREA; “Exploring antioxidant capacities and cellular effects of spring green’s polyphenolic extracts”.</p>
<p>S4-PP18: Anca ALDEA; “Electrospun polymeric fibers doped with natural anthocyanins for monitoring pH changes”.</p>
<p>S4-PP19: Ana-Maria IGNAT; “Study on the influence of reaction compounds on the size distribution of gold nanoparticles (AuNp)”.</p>
<p>S4-PP20: Andra-Elena BEJAN & Mariana-Dana DAMACEANU; “Polyimines designed for trifluoroacetic acid detection: promising materials for waveguide interferometer sensors”.</p>
<p>S4-PP21: Mihaela-Cristina BUNEA; “Development of an electrochemical biosensor for the evaluation of enzymatic activity of methionine sulfoxide reductase A”.</p>
<p>S4-PP22: Anca BONCIU; “PLD-based pyramidal-shaped ceria biointerfaces”.</p>
<p>S4-PP23: Felicia IACOB; “Gas sensing studies using polyaniline-coated chemiresistive sensors subjected to electron beam irradiation”.</p>
<p>S4-PP24: Dumitru Daniel HEREA; “In vitro enhancement of antitumor drug efficacy by magnetic field-assisted rotation of gold-coated magnetic nanoparticles”.</p>
<p>S4-PP25: Alina Irina RADU; “Study of ternary organic photovoltaic cells based on P3HT:PAni:Phen blend using the WO₃ mesoporous thin film as holes transport layer”.</p>
<p>S4-PP26: Cristina STAVILA; “Silver-coated magnetite for tumor cells treatment”.</p>
<p>S4-PP27: Simona BRAJNICOV; “Tuning the wettability of poly(vinyl formal) polymer films via matrix assisted pulsed laser evaporation (MAPLE)”.</p>
<p>S4-PP28: Mirela BRASOVEANU & Monica R. NEMTANU; “Enhancing starch functionality through non-thermal plasma for innovative natural-inspired materials”.</p>



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S4-PP29: Simona BRAJNICOV; “Fabrication and characterization of improved Poly(E-Caprolactone) (PCL) films for applications in biliary stents”.
S4-PP30: Nicoleta LUPU; “Anionic dye pollutant adsorption from wastewaters by layered double hydroxide calcined material”.
S4-PP31: Maria-Emanuela MIHAILOV & Petrică POPOV; “Enhancing Romanian naval resilience to climate change: Advanced functional materials for Green Defense strategies”.
S4-PP32: Iulia Ioana LUNGU; “Spectacular dispersibility of oxide nanoparticles synthesized by laser pyrolysis with isopropanol vapors as sensitizer”.
S4-PP33: Maria Elena ZARIF; “Sr-doped Hydroxyapatite/ Chitosan composite layers deposited on titanium substrates for bone tissue engineering applications”.
S4-PP34: Liliana BUDA-PREJBEANU; “Spiking neuron based on dual-free layer magnetic tunnel junction”.
S4-PP35: Roxana PATRU; “Synthesis and characterization of functional properties in flexible ferroelectric composites with PVDF-TrFE matrix”.
S4-PP36: Teddy TITE; “Enhancing perovskite solar cells efficiency by incorporating graphene oxide in the electron transport layer using electrochemical methods”.



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Day 3, Wednesday, 17th of July 2024

Lobby of J.W. MARRIOTT BUCHAREST GRAND HOTEL							
08:00 – 09:00	Registration						
Grand Ball Room AB – PLENARY LECTURES (PL) SESSION Chair: Lucian PINTILIE							
09:00 – 09:45	PL7: Thomas SCHROEDER – “IKZ for EU: Latest R & D trends on synthesis & applications of crystalline materials”						
09:45 – 10:30	PL8: Marin ALEXE – “Symmetry breaking and novel photovoltaic effects in oxide perovskites”						
Foyer of J.W. MARRIOTT BUCHAREST GRAND HOTEL							
10:30 – 11:00	Coffee/Tea Break						
INVITED LECTURES (IL) & ORAL PRESENTATIONS (OP) SESSIONS							
<i>Parallel sessions of Section 2</i>				Craiova Hall – S3 Chair: Mariana Dana DAMACEANU		Brasov Hall – S4 Chair: Zacharie JEHL LI-KAO	
Grand Ball Room A – S2 Chair: Stefano BELLUCCI		Grand Ball Room B – S2 Chair: Florencio SÁNCHEZ					
11:00 – 11:30	S2-IL5: Maciej R. MOLAS “Linearly-polarized electroluminescence in van der Waals	11:00 – 11:30	S2-IL7: Mihaela GIRTAN “Next materials for future opto-	11:00 – 11:30	S3-IL5: Makoto NAKAJIMA “Application of Terahertz time domain	11:00 – 11:30	S4-IL6: Alessandro STROPPA “Can we generate, tune or transfer CHIRALITY?”



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	heterostructures”		electronics and photonics devices”		ellipsometry”		
11:30 – 12:00	S2-IL6: Ioan-Lucian PREJBEANU “All-optical switching in magnetic memories”	11:30 – 12:00	S2-IL8: Valérie DEMANGE “Oxide nanosheets as seed layers for growth of complex oxides”	11:30 – 12:00	S3-IL6: Beata KARDYNAL “Ultra-low energy ion implantation into two-dimensional materials”	11:30 – 12:00	S4-IL7: Narcis AVARVARI “Chirality Induced Spin Selectivity (CISS) effect with helicene and tetrathiafulvalene derivatives”
12:00 – 12:20	S2-OP7: Cristian Mihail TEODORESCU “Microscopic models of ferroelectricity in thin films and predictions of mean field theories based on them”	12:00 – 12:20	S2-OP10: Radu MANU “Thin films characterized by the precession of the electron beam”	12:00 – 12:20	S3-OP11: Daniela ION-EBRASU “PEM electrochemical hydrogen compressor evaluation”	12:00 – 12:20	S4-OP10: Florentina NEATU “Acid modified MXene for PET depolymerization”
12:20 – 12:40	S2-OP8: Julian A. HOCHHAUS “Investigating the chemical and structural evolution of sub-monolayer Sn on Au(111)”	12:20 – 12:40	S2-OP11: Magdalena NISTOR “New insight into the angular distribution of multi-elemental oxide thin films grown by pulsed electron beam deposition”	12:20 – 12:40	S3-OP12: Alexandra Camelia JOITA “EPR investigation of the blue quartz from the Albesti - Romania granite”	12:20 – 12:40	S4-OP11: Ioan-Alexandru BARAGAU “Continuous hydrothermal flow synthesis of biomass-related carbon quantum dots (CQDs) as nanosensors for



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							carcinogenic ions detection”
12:40 – 13:00	S2-OP9: Lucel SIRGHI “Chemical vapor deposition of octadecyltrichlorosilane monolayer films on plasma-activated silicon substrate”	12:40 – 13:00	S2-OP12: Florin ANDREI “Tailoring perovskite-based thin films to boost photoelectrochemical water splitting efficiency”	12:40 – 13:00	S3-OP13: Catalina BAROS (IACOB) “Enabling progress in advanced materials research: Verder Scientific’s innovative solutions”	12:40 – 13:00	S4-OP12: Stefan NEATU “Photocatalytic water splitting using 1D-nanofilaments TiO ₂ -based lepidocrocite”
Foyer of J.W. MARRIOTT BUCHAREST GRAND HOTEL							
13:00 – 14:30	Lunch						
Grand Ball Room A – S1 Chair: Silviu POLOSAN		Grand Ball Room B – S2 Chair: Ioan-Lucian PREJBEANU			Brasov Hall – S4 Chair: Narcis AVARVARI		
14:30 – 14:50	S1-OP13: Alexandra POPESCU & Daniel VIZMAN “Numerical simulations of unsteady thermal and oxygen transport in a Czochralski process for solar silicon growth”	14:30 – 14:50	S2-OP13: Khalid NOUNEH “Hierarchical nanostructure for energy and sensing application”			14:30 – 14:50	S4-OP13: Victor C. DICULESCU “Portable biosensing devices for healthcare”



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14:50 – 15:10	S1-OP14: Vasile Cristian CIOMAGA HATNEAN “Progress in the growth of crystals for optical and thermal barrier coating applications”	14:50 – 15:10	S2-OP14: Alin VELEA “Advanced synthesis techniques of 2D materials for enhanced functional properties”			14:50 – 15:10	S4-OP14: Tiberiu Alecu BURINARU “Electrochemical impedance spectroscopy based biosensors for bleomycin detection”
15:10 – 15:30	S1-OP15: Lorentza ROMAGNOLI “Study of thermal decomposition of formamidinium tin triiodide perovskite by means of Knudsen effusion mass spectrometry”	15:10 – 15:30	S2-OP15: Rkia ELOTMANI “Preparation of Cu ₂ SnS ₃ (CTS) thin films through sulfurization of electrodeposited Cu-Sn stacked precursor layers”			15:10 – 15:30	S4-OP15: Ada-Ioana BUNEA “Micro 3D and 4D printing of pH-sensing multimaterial microrobots”
15:30 – 15:50	S1-OP16: Cristian Mihail TEODORESCU & Marius HUSANU “Re-entrant ferromagnetism occurring from a simple band model as a possible origin of the geomagnetic field”	15:30 – 15:50	S2-OP16: Cornelia ENACHE “The morphostructural and optical characteristics of SnO ₂ films deposited by picosecond laser ablation”			15:30 – 15:50	S4-OP16: Adrian ENACHE “Advanced functional materials as trigger for fibroblasts differentiation and wound healing stimulation”



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15:50 – 16:10	S1-OP17: Lucian M. IONESCU “On gravity and gravitational anisotropic meta-materials”	15:50 – 16:10	S2-OP17: Ovidiu PANA “Emerging properties in ferromagnetic semiconductors through interfacial charge-spin transfer in nanocomposites with half-metals”			15:50 – 16:10	S4-OP17: Adam LÓRINCZI “Saturation and stability tests of chalcogenide-porphyrin nanocomposite for methane sensing at environmental temperature”
16:10 – 16:25	S1-OP18: Wolfgang SCHWINGER “New workflow-based methods for material research”	16:10 – 16:30	S2-OP18: Helmina ARDELEANU “Study on the synthesis of gold/silver stabilized magnetite nanoparticles”			16:10 – 16:30	S4-OP18: Daciana BOTTA “Fabrication of a portable electrochemical cell based on flexible porous materials”
16:25 – 16:30	Closing S1						
16:30	Coffee/Tea Break						
16:45	Free time to our Capital City ☺						
	Grand Ball Room C – D						
19:30 – 22:00	Gala Dinner & Awards Ceremony						



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Day 4, Thursday, 18th of July 2024

Grand Ball Room AB – PLENARY LECTURES (PL) SESSION Chair: Lucian PINTILIE							
09:00 – 09:45	PL9: Adrian M. IONESCU – “Emerging nanoelectronics and artificial intelligence: Convergence, challenges and opportunities”						
09:45 – 10:30	PL10: Nicolae BARSAN – “Gas sensing with semiconducting metal oxides: The interplay between chemistry, physics and engineering”						
Foyer of J.W. MARRIOTT BUCHAREST GRAND HOTEL							
10:30 – 11:00	Coffee/Tea Break						
INVITED LECTURES (IL) & ORAL PRESENTATIONS (OP) SESSIONS							
<i>Parallel sessions of Section 2</i>							
Grand Ball Room A – S2 Chair: Mihaela GIRTAN		Grand Ball Room B – S2 Chair: Cristian Mihail TEODORESCU		Craiova Hall – S3 Chair: Makoto NAKAJIMA		Brasov Hall – S4 Chair: Marin ALEXE	
11:00 – 11:30	S2-IL9: Stefano BELLUCCI “Environmental remediation through advanced carbon nanomaterials”	11:00 – 11:30	S2-IL11: Emmanouil KOUDOUMAS “Novel nanostructured nanocomposites with tunable conductivity for electromagnetic shielding and potential	11:00 – 11:30	S3-IL7: Mariana-Dana DAMACEANU “Current state-of-the-art characterization techniques for probing polymers as electrode materials of energy	11:00 – 11:30	S4-IL8: Alexandru NEMNES “Capacitive and inductive effects in perovskite solar cells”



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			uses in electronics and optoelectronics applications”		storage smart windows: a case study”		
11:30 – 12:00	S2-IL10: Ryan W. CRISP “Synthetic strategies, optoelectronic and physical properties of 2D nanocrystalline ABX3 chalcogenide perovskites”	11:30 – 12:00	S2-IL12: Mirela Petruta SUCHEA “Complex 3D nanostructured surfaces in WO ₃ thin films made by spray deposition”	11:30 – 12:00	S3-IL8: Pawel OLOWEK “Structural characterization of nano-scaled materials using X-ray scattering techniques”	11:30 – 12:00	S4-IL9: Anatoli SERGHEI “Universal correlation between the electromagnetic interference shielding effectiveness of composite materials and their electrical properties”
12:00 – 12:20	S2-OP19: Iulia ANTOHE “A portable and accurate fiber optic plasmonic sensor for environmental water pollutants monitoring”	12:00 – 12:20	S2-OP22: Liviu P. ZARBO & Larisa-Milena PIORAS-TIMBOLMAS “Single qubit control in the presence of other qubits”	12:00 – 12:20	S3-OP14: Catalina Gabriela MIHALCEA “Correlations between the synthesis route, morphology, structure and electrical properties of SnO ₂ -Gd ₂ O ₃ nanocomposites for applications in gas sensing”	12:00 – 12:20	S4-OP19: Tamara POTLOG “Designing photosensitizers based on some derivatives of Zinc Phtalocyanine”
12:20 –	S2-OP20: Ana-Maria POPA	12:20 –	S2-OP23: Luiza BUIMAGA-IARINCA	12:20 –	S3-OP15: Mohamed Yassine ZAKI	12:20 –	S4-OP20: Mariana Emilia GHICA



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12:40	“Conductive polymers as chemiresistive ammonia gas sensing materials”	12:40	“Computational tools in material science”	12:40	“Fine-tuning of S/(S+Se) ratio in magnetron-sputtered CZTSSe thin films for improved characteristics”	12:40	“Strategies to improve the mechanical and thermal features of silica aerogels for thermal insulation applications”
12:40 – 13:00	S2-OP21: Tiberius O. CHECHE “Atomistic approach to the strain field in finite-sized heterostructures”	12:40 – 13:00	S2-OP24: Larisa-Milena PIORAS-TIMBOLMAS & Liviu P. ZARBO “Fine-tuning fluxonium qubit devices for enhanced performance”	12:40 – 13:00	S3-OP16: Aurelian Catalin GALCA “Facts and artifacts in optical and structural characterization of emerging materials for renewable and sustainable energy”	12:40 – 13:00	S4-OP21: Cristian E. SIMION “Simultaneous investigations of catalytic conversion and electrical resistance”
13:00 – 13:10	Closing S2		Closing S2		Closing S3		Closing S4
Foyer of J.W. MARRIOTT BUCHAREST GRAND HOTEL							
13:10 – 14:45	Lunch						