

THURSDAY MORNING SESSIONS

ORAL SESSION #1A

NANOMATERIALS FOR ENERGY & ENVIRONMENT
(CONFERENCE HALL A – “LONDON I” & ZOOM)

- 8:30 – 9:00AM **Invited Talk 53 (Session Chair – Frohlich)**
Dr. Ewa Wierzbicka, *Military University of Technology, Poland*
Novel Strategies to Improve Nanostructured TiO₂ Properties for the Photocatalytic and Photoelectrocatalytic H₂ Generation (ID #[654](#))
- 9:00 – 9:30AM **Invited Talk 54 (Session Chair – Frohlich)**
Dr. Tofik Ahmed Shifa, *Ca' Foscari University, Italy*
Tofik Ahmed Shifa, Kassa Belay Ibrahim, Alberto Vomiero, Elisa Moretti / Novel Catalysts for Water Splitting: Strategies for Performance Enhancement (ID #[745](#))
- 9:30 – 10:00AM **Invited Talk 55 (Session Chair – Frohlich)**
Prof. Nicola Pinna, *Humboldt University of Berlin, Germany*
Ye Liu, Yu Wang, Nicola Pinna / Photocatalysis and Photosensitization Using Atomically Precise Metal Nanoclusters for Solar Energy Harvesting and Conversion (ID #[473](#))
- 10:00 – 10:15AM **Contributed Talk 59 (Session Chair – Frohlich)**
Siew Kheng Boong, *Hiang Kwee Lee / Superlattice-based Plasmonic Catalysis for Efficient Nitrogen Reduction Reaction at Ambient Conditions (ID #[470](#))*
- 10:15 – 10:30AM **Contributed Talk 60 (Session Chair – Frohlich)**
Alvaro Miranda, *Akari Narayama Sosa, Brandom Jhoseph Cid, María Isabel Iturrios, Luis Antonio Pérez, Miguel Cruz-Irisson / Hydrogen Storage in Ca-Decorated Doped Germanene: A DFT Study (ID #[734](#))*
- 10:30 – 10:45AM **Contributed Talk 61 (Session Chair – Frohlich)**
Tahir Muhmood / Carbon Nanotubes Heterojunction with Graphene Like Carbon Nitride for the Enhancement of Electrochemical and Photocatalytic Activity (ID #[481](#))
- 10:30 – 11:00AM *Coffee break (Conference room “Rome”)*
- 11:00 – 11:30AM **Invited Talk 56 (Session Chair – Wierzbicka)**
Prof. Karol Frohlich, *Institute of Electrical Engineering, Slovak Academy of Sciences, Slovakia*
Karol Frohlich, Prangya Parimita Sahoo, Alper Güneren, Boris Hudec, Miroslav Mikolášek, Ahmed Nada, Magdalena Precnerova, Matej Mičušík / Ultrathin Atomic Layer Deposited ZnO Films Improves Performance of the Silicon/Graphite Anode for Li-Ion Batteries (ID #[737](#))
- 11:30 – Noon **Invited Talk 57 (Session Chair – Wierzbicka)**
Prof. Woo Jin Hyun, *Guangdong Technion – Israel Institute of Technology, China*
Ionogel Electrolytes Based on Hexagonal Boron Nitride Nanoplatelets for Lithium-Ion Batteries (ID #[742](#))
- Noon – 12:15PM **Contributed Talk 62 (Session Chair – Wierzbicka)**
Prangya Parimita Sahoo, *Boris Hudec, Miroslav Mikolášek, Magdalena Precnerova, Matej Mičušík, Karol Frohlich / Lithium Iron Phosphate Cathodes Protected by Ultrathin Alumina Films by Atomic Layer Deposition (ID #[764](#))*
- 12:15 – 12:30PM **Contributed Talk 63 (Session Chair – Wierzbicka)**
Tamara Skrypyuk, *Maryna Bodnarchuk, Maksym Kovalenko, Iryna Bespalova, Luciano Boesel / Improvement of Perovskite Nanocrystals Stability by Incorporation into Polymer Cross-Linked Systems (ID #[556](#))*
- 12:30 – 2:00PM *Lunch break (at your own expense)*

THURSDAY AFTERNOON SESSIONS

ORAL SESSION #1B**NANOMATERIALS FOR ENERGY & ENVIRONMENT
(CONFERENCE HALL A – “LONDON I” & ZOOM)**

- 2:00 – 2:15PM **Contributed Talk 64 (Session Chair – Pinna)**
Selay Sert Çok, Fatoş Koç, Zoltán Dudás, Nilay Gizli / Hydrophobic Silica Aerogel-Like Nanomaterials for Potential Environmental and Health-Care Related Applications (ID #[629](#))
- 2:15 – 2:30PM **Contributed Talk 65 (Session Chair – Pinna)**
Anu Gupta / Synthesis of Silica Nanoparticles from Rice Husk and their Applications in Soil Remediation (ID #[683](#))
- 2:30 – 2:45PM **Contributed Talk 66 (Session Chair – Pinna)**
Yuliia Bondar, Svetlana Kuzenko, Kostyantyn Yaroshenko, Dmytro Charnyi / Nanocomposite Polymer Fibers for Selective Removal of Cesium Radionuclides from High Salt Solutions (ID #[673](#))
- 2:45 – 3:00PM **Contributed Talk 67 (Session Chair – Pinna)**
Pravinkumar Ranchhodbhai Dudhagara, Sunil Bhavsar / Development of Fenton-Like Process Using Magnetic Iron Oxide Nanoparticles to Decolorize and Degrade Disperse Azo Dye by Photocatalysis (ID #[469](#))
- 3:00 – 3:15PM **Contributed Talk 68 (Session Chair – Pinna)**
Saloni Sharma, Gurjeet Kaur, Manoj Nayak Kumar, Akash Deep / Synthesis And Characterization of Ti-MoF Based Magnetically Retrievable Composite for the Selective Detection of Enteropathogenic E.Coli (ID #[787](#))
- 3:30 – 4:00PM *Coffee break (Conference room “Rome”)*
- 4:00 – 4:15PM **Contributed Talk 69 (Session Chair – Bondar)**
Sergii Mamykin, Tetiana Lunko, Iryna Mamontova, Olga Kondratenko, Tetiana Semikina, Volodymyr Romanyuk / Composite PEDOT:PSS Films with SWCNT and Ag Nanoparticles for Solar Cell Application (ID #[718](#)) (in Zoom)
- 4:15 – 4:30PM **Contributed Talk 70 (Session Chair – Bondar)**
Eslam Salama, Mona Ossman / Efficient Adsorbent Graphene Oxide Nanoparticles from Agricultural Waste for DR-81 Decontamination (ID #[463](#))
- 4:30 – 4:45PM **Contributed Talk 71 (Session Chair – Bondar)**
Mahak Gupta, Sachin Tyagi, Neelam Kumari / Electrochemical Performance of Hybrid Spinel Ferrite/Carbon (NiFe₂O₄/C) Nanocomposite Derived from Metal-Organic-Frameworks (MOF) as Electrode Material for Supercapacitor Application (ID #[703](#))
- 4:45 – 5:00PM **Contributed Talk 72 (Session Chair – Bondar)**
Katlego Makgopa / Intrinsic Properties of N-Doped Reduced Graphene Oxide on Manganese-Based (Oxides and Phosphates) Nanoparticles as Electrode Materials for Supercapacitors (ID #[596](#))
- 5:00 – 5:15PM **Contributed Talk 73 (Session Chair – Bondar)**
Vivek Kumar, Karthick Raja K, T Anusuya / Reduced Porous Graphene Oxide Network as High-Performance Supercapacitor Electrodes: Effect of Reduction Temperature (ID #[628](#))
- 5:15 – 5:30PM **Contributed Talk 74 (Session Chair – Bondar)**
Swati Gahlot, Vaibhav Kulshrestha, Bijay Prakash Tripathi / Polydopamine Modified Graphene Oxide Nanocomposite Membranes for Efficient Dye Removal from Water (ID #[487](#)) (in Zoom)
- 5:30 – 7:30PM **Poster Session #2 (Conference room “Rome”)**

THURSDAY MORNING SESSIONS

ORAL SESSION #2A INTERDISCIPLINARY & MISCELLANEOUS TOPICS (CONFERENCE HALL B – “LONDON II” & in ZOOM)

- 8:30 – 8:45AM **Contributed Talk 75 (Session Chair – Khomenkova)**
Pavlo Mikheenko / Screening of Magnetic Field by Self-Assembled Mammalian and Fungal Microtubules (ID #[494](#))
- 8:45 – 9:00AM **Contributed Talk 76 (Session Chair – Khomenkova)**
Faseehuddin Ahmed Mohammed / Electrospun Nanofibers for Effective Oral Delivery of Efavirenz (ID #[665](#))
- 9:00 – 9:15AM **Contributed Talk 77 (Session Chair – Khomenkova)**
Yasaman Farahnak Majd, **Ahmad Barari** / Precision Uncertainty Due to Infill in Additive Manufacturing of Small-Scale Devices (ID #[681](#))
- 9:15 – 9:30AM **Contributed Talk 78 (Session Chair – Khomenkova)**
Vaibhav Jain, Satish Jaiswal, Kinshuk Dasgupta, Debrupa Lahiri / The Role of Carbon Nanotubes in Improving the Interfacial and Mechanical Properties of Carbon Fiber Epoxy Laminated Composites (ID #[790](#))
- 9:30 – 9:45AM **Contributed Talk 79 (Session Chair – Khomenkova)**
Maciej Chrobak, Kamil Nowak, Michał Jurczyszyn, Andrii Naumov, Marek Przybylski / Annealing Effect on Bi₂Te₃ Topological Surface States as Seen From Magnetoresistance Probed at Sub-Kelvin Temperatures (ID #[682](#))
- 9:45 – 10:00AM **Contributed Talk 80 (Session Chair – Khomenkova)**
Oksana Kalinkevich, Aleksei Kalinkevich, O. Yu. Karpenko, Yana Trofimenko, Viktoriia Holubnycha, Liliya Angelova, Viktoriia Ivchenko, Albena Daskalova / Chitosan Film Surface Nanotexturing by Femtosecond Laser Treatment (ID #[795](#)) (in Zoom)
- 10:00 – 10:15AM **Contributed Talk 81 (Session Chair – Khomenkova)**
Karen Jacqueline Cloete, Nandipha Botha, Ziga Smit, Kristina Isaković, Mahmood Akbari, Razieh Morad, Malik Maaza / Ionome Mapping and Targeted Amino Acid Metabolome Profiling of Pinto bean (*Phaseolus vulgaris* L.) Seeds Imbibed with Phytoengineered Nano-zincite Guided by Molecular Dynamics Computational Simulation (ID #[488](#)) (in Zoom)
- 10:30 – 11:00AM *Coffee break (Conference room “Rome”)*
- 11:00 – 11:30AM **Invited Talk 58 (Session Chair – Mikheenko)**
Prof. Dong Su Lee, *Korea Institute of Science and Technology (KIST), Republic of Korea*
Two Dimensional Metal Nanoplates Film for Electromagnetic Interference Shielding (ID #[835](#))
- 11:30 – 11:45AM **Contributed Talk 82 (Session Chair – Mikheenko)**
Ruth Condori, **Maribel Guzman**, Betty C. Galaretta / Synthesis and Characterization of CuO Nanoparticles to Remove Heavy Metals (ID #[841](#))
- 11:45 – Noon **Contributed Talk 83 (Session Chair – Mikheenko)**
Adrianna Biedrzycka, Volodymyr Tkach, Evgeny Demianenko, Viktoriia Paientko, Agnieszka Gładysz-Płaska, Ewa Skwarek / Magnetite as a Versatile Material, – Application as an Electrochemical Sensor in the Determination of Sucralose and Perilartin In Drinks and as an Adsorbent of Uranium: Theoretical Description (ID #[588](#))

- Noon – 12:15PM **Contributed Talk 84 (Session Chair – Mikheenko)**
Adam Krzysztofik, Marta Warżajtis, Mikołaj Pochylski, Marcel Boecker, Tommaso Marchesi D’Alvise, Christopher V. Synatschke, Tanja Weil, Bartłomiej Graczykowski / Wireless Actuation and Mechanical Properties of Poly-Catecholamine Nanomembranes (ID #704)
- 12:15 – 12:30PM **Contributed Talk 85 (Session Chair – Mikheenko)**
Sofia Sturari, Veronica Varzi, Pietro Aprà, Adam Britel, Nour-Hanne Amine, Greta Andrini, Emilio Corte, Giulia Tomagra, Lorenzo Mino, Paolo Olivero, Federico Picollo / Investigating the Link Between Electrical Properties and Surface Terminations of Carbon-Based Nanomaterials (ID #778)
- 12:30 – 2:00PM *Lunch break (at your own expense)*

THURSDAY AFTERNOON SESSIONS

ORAL SESSION #2B THEORY & MODELING (CONFERENCE HALL B – “LONDON II” & in ZOOM)

- 2:00 – 2:30PM **Invited Talk 59 (Session Chair – Ivashchenko)**
Prof. Richard Korytár, Charles University, Czech Republic
Spin Production in Helical Molecular Wires (ID #744)
- 2:30 – 3:00PM **Invited Talk 60 (Session Chair – Ivashchenko)**
Prof. Martin Gmitra, Pavol Jozef Šafárik University in Košice, Slovakia
Proximity Effects in Graphene Van Der Waals Heterostructures
(ID #668)
- 3:00 – 3:30PM **Invited Talk 61 (Session Chair – Ivashchenko)**
Prof. Mario Carpentieri, Polytechnic University of Bari, Italy
Mario Carpentieri, Giovanni Finocchio / Design of Magnetic Tunnel Junctions for Microwave Detectors and Physical Unclonable Functions (ID #879)
- 3:30 – 4:00PM *Coffee break (Conference room “Rome”)*
- 4:00 – 4:30PM **Invited Talk 62 (Session Chair – Gmitra)**
Prof. Frantisek Karlicky, University of Ostrava, Czech Republic
Semiconducting MXenes: What we can Learn about Excitons, Electronic, and Optical Properties from Many-Body Methods (ID #677)
- 4:30 – 4:45PM **Contributed Talk 86 (Session Chair – Gmitra)**
Dmytro Shyrokorad, Oleksandr Goncharov, Ivan Kolinko, Svetlana Goncharova, Grygoriy Kornich / Computer Simulation of Transition Metal Nitrides Thin Film Deposition (ID #517) (in Zoom)
- 4:45 – 5:00PM **Contributed Talk 87 (Session Chair – Gmitra)**
Ladislav Sátor, Miroslav Repka / Analysis of Temperature Fields in FGM Macro/Nano Solids by Moving Finite Element Method (ID #570)
- 5:30 – 7:30PM **Poster Session #2 (Conference room “Rome”)**

THURSDAY MORNING SESSIONS

ORAL SESSION #3A

SUPERCONDUCTIVITY IN NANOSCALE & MESOSCOPIC SYSTEMS (CONFERENCE HALL C – “LONDON III” & in ZOOM)

- 8:30 – 9:00AM **Invited Talk 63 (Session Chair – Plecenik)**
Prof. Tomas Samuely, Pavol Jozef Šafárik University in Košice, Slovakia
Tomas Samuely, Darshana Wickramaratne, Martin Gmitra, Thomas Jaouen, Ondrej Šofranko, Dominik Volavka, Marek Kuzmiak, Jozef Haniš, Pavol Szabó, Shunsuke Sasaki, Laurent Cario, Igor Mazin, Peter Samuely / Ising Superconductivity in Bulk Materials (ID #522)
- 9:00 – 9:30AM **Invited Talk 64 (Session Chair – Plecenik)**
Prof. Pavol Szabó, Institute of Experimental Physics, Slovak Academy of Sciences, Slovakia
Disorder- and Magnetic Field-Tuned Fermionic Superconductor-Insulator Transition in MoN Thin Films. Transport and STM Studies
(ID #531)
- 9:30 – 10:00AM **Invited Talk 65 (Session Chair – Plecenik)**
Prof. Oleksandr Dobrovolskiy, University of Vienna, Austria
Vortices and Nonequilibrium Phenomena in Nanoengineered Superconductors (ID #489)
- 10:00 – 10:15AM **Contributed Talk 88 (Session Chair – Plecenik)**
Zoltán Tajkov, Marko Milivojević, Martin Gmitra / Interplay of Superconducting Gap and Spin-Orbit Coupling in Rhombohedral Graphite Proximitized by NbSe₂ (ID #616)
- 10:30 – 11:00AM *Coffee break (Conference room “Rome”)*

ORAL SESSION #3A

NANOSENSORS & NANODEVICES (CONFERENCE HALL C – “LONDON III” & in ZOOM)

- 11:00 – 11:30AM **Invited Talk 66 (Session Chair – Szabo)**
Prof. Tomáš Plecenik, Comenius University Bratislava, Slovakia
Tomáš Plecenik, Marek Vidiš, Michal Patrnčíak, Martin Moško, Leonid Satrapinsky, Tomáš Roch, Pavol Ďurina, Andrej Plecenik / Combining Gas Sensing and Resistive Switching: Toward Chemiresistive Gas Sensors with Intrinsic Memory (ID #626)
- 11:30 – Noon **Invited Talk 67 (Session Chair – Szabo)**
Prof. Oleg Lupan, Technical University of Moldova, Republic of Moldova
Armin Reimers, Vasile Postica, Yogendra Kumar Mishra, Adrian Bîrnaz, Ali Shaygan Nia, Xinliang Feng, Rainer Adelung, Fabian Schütt, Oleg Lupan / Multifunctional Devices Based on 3D Hybrid Networks of ZnO and 3D Carbon Nanomaterials (ID #496) (in Zoom)
- Noon – 12:15PM **Contributed Talk 89 (Session Chair – Szabo)**
Pallavi Sharma, Sudipta Sarkar Pal, Sachin Tyagi / Free Standing Mechano-luminescent Polystyrene/ZnS:Mn Composite Thin Films for Optical Sensing Application (ID #511) (in Zoom)
- 12:30 – 2:00PM *Lunch break (at your own expense)*

THURSDAY AFTERNOON SESSIONS

ORAL SESSION #3B NANOSENSORS & NANODEVICES (CONFERENCE HALL C – “LONDON III” & in ZOOM)

- 2:00 – 2:30PM **Invited Talk 69 (Session Chair – Sifallovic)**
Dr. Tomas Polakovic, Argonne National Laboratory, USA
Tomas Polakovic, Timothy Draher, Yi Li, Valentine Novosad
Superconducting Nanowire Devices: Particle Detectors and Electronics (ID #839)
- 2:30 – 3:00PM **Invited Talk 71 (Session Chair – Sifallovic)**
Dr. Christopher A. Mizzi, Los Alamos National Laboratory, USA
Christopher A. Mizzi, Fedor F. Balakirev, Ivan Nekrashevich, Maxime Leroux, Masashi Miura /
Non-linear Electrical Transport in Pulsed Magnetic Fields on Superconducting Thin Films (ID #870)
(in Zoom)
- 3:30 – 4:00PM *Coffee break (Conference room “Rome”)*
- 4:00 – 4:15PM **Contributed Talk 90 (Session Chair – Kakazei)**
Nyepudzai Charlsline Gatsi, Gugu Mhlongo, Nosipho Moloto, Rudolph Marthinus Erasmus, Odireleng
Martin Ntwaeaborwa / Pristine and Modified Ga₂O₃ Nanostructure-Based Gas Sensors for
Environment and Food Safety (ID #798)
- 4:15 – 4:30PM **Contributed Talk 91 (Session Chair – Kakazei)**
Gugu Mhlongo, Murendeni Nemifulwi, Mosima Kgomo / Nano-Enabled Chemi-Resistive Gas Sensors
Based on In₂O₃ and ZnFe₂O₃ as VOC Detection Platforms: Effects of Cr-Doping (ID #730)
- 4:30 – 4:45PM **Contributed Talk 92 (Session Chair – Kakazei)**
Fatai Oladipupo Oladoyinbo, Felix Olaniyi Sanni, Fatai Akinwunmi, Kamoli Akinwale Amusa, Saheed
Adekunle Ganiyu, Quwam Olamilekan Yusuf, Wasiu Babatunde Ayinde, Tajudeen Adeniyi Afolabi,
Enock Olugbenga Dare / Facile Reductive Synthesis and Characterization of Heterostructure Core-
Shell Silver-Silica Nanocomposite for Humidity Sensing (ID #527)
- 4:45 – 5:00PM **Contributed Talk 93 (Session Chair – Kakazei)**
Juliang Li, Pete Barry, Tom Cecil, Marharyta Lisovenko, Volodymyr Yefremenko, Gensheng Wang,
Serhii Kruhlov, Goran Karapetrov, Clarence Chang / Frequency-Tunable High-Q Superconducting
Resonator via Nonlinear Kinetic Inductance Control with Flux Coupling (ID #863) (in Zoom)
- 5:30 – 7:30PM **Poster Session #2 (Conference room “Rome”)**