

Institute of Electrical Engineering Slovak Academy of Sciences
Slovak University of Technology in Bratislava
Sumy State University
IEEE Nanotechnology Council

**2023 IEEE 13th International Conference
“Nanomaterials: Applications & Properties”
(IEEE NAP – 2023)**

CONFERENCE PROGRAM

Bratislava, SLOVAKIA
September 10–15, 2023

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Information for the Participants

Welcome to Bratislava!

We welcome you to the majestic city of **Bratislava**, Slovakia, and hope that the IEEE NAP-2023 Conference will serve as an excellent international platform for an engaging and informal exchange of ideas that could lead to strengthening existing collaborations and catalyzing new partnerships. Our overarching goal is to accelerate the application of nanotechnology to address the most urgent societal needs.

The IEEE NAP Conference is traditionally devoted to the most interesting aspects of modern materials science with a prime focus on nanoscale materials. Our aim is to bring together a broad international community of scientists, engineers, and educators involved in the pursuit of understanding and controlling of matter at the nanoscale that would ultimately lead to revolutionary technological and industrial advances.

The NAP-2023 Organizing Committee wishes you a fruitful week and a pleasant stay at the Crowne Plaza Bratislava Hotel!

BRATISLAVA CITY

Bratislava is in southwestern Slovakia at the foot of the Little Carpathians, occupying both banks of the River Danube and the left bank of the River Morava. Bordering Austria and Hungary, it is the only national capital to border two sovereign states. Today Bratislava is the political, cultural, and economic center of Slovakia. It is the seat of the Slovak president, the parliament, and the Slovak Executive. It has several universities and many museums, theatres, galleries, and other cultural and educational institutions. Many of Slovakia's large businesses and financial institutions have headquarters there.

CONFERENCE VENUE

The Conference will be held in the Crowne Plaza Bratislava Hotel (Hodžovo nám. 2, 816 25 Bratislava, Slovakia). The Crowne Plaza Bratislava is situated in the heart of the historical city center - opposite the Presidential Residence, within the pedestrian zone and only a few minutes walking distance from the famous Bratislava Castle. Crowne Plaza Hotel be reached in 15-minute's drive from Bratislava International Airport and 35 minute's drive from Vienna International Airport. Bratislava's main train station can be reached within 5-minute drive. The hotel is very close to major business centers - Tower 115, Panorama Offices, CBC Tower, CBC office and Twin City.

CONFERENCE SESSIONS

The conference Welcome Reception will be held at the Crowne Plaza hotel on Sunday evening (Sept. 10th, 2020), and all technical sessions and networking events will be from Monday through Friday. In addition, zoom links will be provided for the remote presenters and participants who have decided to telecommute. Note, while the on-site Poster session will be held on Tuesday and Thursday, the e-Poster session will be organized online on Wednesday.

Information about any changes in the Program will be communicated via emails and on our websites: <https://ieeenap.org> and www.facebook.com/nap.conference.

PRESENTATIONS

Speakers are expected to bring their presentations on a USB memory device. We ask that all presentations are pre-loaded onto the desktop of the presentation room laptop *before* the start of the session. The use of personal laptop computers for presenting is discouraged. Speakers who have video clips in their presentation should check the compatibility with the projection equipment before the session starts.

Plenary & Tutorial Lectures: 45 min (40 min presentation +5 min Q&A).

Keynote & Invited Talks: 30 min (25' + 5').

Regular contributions: 15 min (12'+3').

The time limits will be strictly enforced!

Recommended poster sizes for on-site presentations are A0 (84 × 119 cm, portrait format).

E-Poster Session (5:30 PM – 7:30 PM on Wednesday) will be online. Please check the details and requirements on our web page IEEE NAP Organizers with “e-Posters Session” in the subject line.

BEST PRESENTATION AWARD, EXCLUSIVELY SPONSORED BY [ANGSTROM ENGINEERING INC](#)

The Conference Award Chairs and their designated representatives will select the best oral and poster presentations. The presentations will be evaluated according to the quality of the research, originality of the work, and presentation quality. Students and early career presenters, co-authors of the proceeding papers, are eligible for the awards. We will award the “*Rising Star in Nanoscience & Nanotechnology*” certificates at the end of the conference.

BEST CONFERENCE PAPER AWARD, EXCLUSIVELY SPONSORED BY [ATLANT 3D NANOSYSTEMS](#), a Danish deep-tech company founded in 2018 to revolutionize electronics atom by atom. The paper(s) will be selected by the Conference Editors and Scientific Committee members based on the (i) Scientific merit and broad impact; (ii) Originality of the research objectives and/or the ideas presented; (iii) Uniqueness of the approaches and concepts; and (iv) Technical quality and clarity of presentation. The winner(s) will be announced at the Conference Closing Ceremony (on Friday), and the presenting author will be awarded an engraved Award Plaque and a gift certificate.

CONFERENCE PROCEEDINGS

The proceeding papers will be published online on the IEEE Xplore Digital Library site.

“*PROCEEDINGS OF THE 2023 IEEE 13TH INTERNATIONAL CONFERENCE “NANOMATERIALS: APPLICATIONS & PROPERTIES” (PROC. IEEE NAP-2023)*”

Publisher: IEEE Publishing

ISBN: 979-8-3503-2908-7

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Yurii Shabelnyk	Sumy State University (Ukraine), Secretary

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WELCOME LETTER

Dear Esteemed Participants,

On behalf of the Organizing Committee, it is our distinct pleasure to extend a warm welcome to the 2023 IEEE 13th International Conference "Nanomaterials: Applications & Properties" (IEEE NAP-2023) that takes place at the Crowne Plaza Hotel in the picturesque city of Bratislava, Slovakia.

This international event is a collaborative effort between the IEEE Nanotechnology Council, the Institute of Electrical Engineering of Slovak Academy of Sciences, the Slovak University of Technology in Bratislava, and Sumy State University. The conference theme, "Nanomaterials: Applications & Properties," reflects the core focus of the event. Our goal is to facilitate the exchange of knowledge and ideas among scientists, engineers, educators, and industry professionals who are dedicated to harnessing the extraordinary properties of nanoscale materials for practical applications. Throughout the conference, you will have the opportunity to engage with leading experts from around the globe, including prominent figures from academia, industry, and research laboratories. We are excited to bring together a diverse community of professionals who are at the forefront of defining the future landscape of nanotechnology.

Bratislava, with its rich history and vibrant culture, serves as an inspiring backdrop for this momentous event. We invite you to immerse yourself in the engaging discussions, interactive sessions, and networking opportunities that IEEE NAP-2023 has to offer.

Thank you for joining us on this exciting journey of exploration and discovery. We eagerly anticipate your presence and active participation at the 2023 IEEE 13th International Conference "Nanomaterials: Applications & Properties." Let us collectively contribute to the advancement of nanotechnology and its profound impact on our world!

Warm regards, the IEEE NAP-2023 Genral Chairs:

Prof. *Vladimír Cambel*, IEE SAS;

Prof. *Lubomír Čaplovič*, STU;

Prof. *Alexander Pogrebnyak*, SumDU.



Conference Program

SUNDAY, SEPTEMBER 10, 2023

3:00 – 7:00 PM

ATTENDEES ARRIVAL & REGISTRATION

Registration desk working hours: Sunday, 3 – 7 PM; Monday-Thursday, 10 – NOON & 2 – 5 PM

7:00 – 9:00 PM

IEEE NAP CONFERENCE GENERAL CHAIRS' WELCOME RECEPTION

(@Crowne Plaza Bratislava, Restaurant "Fresh")

MONDAY, SEPTEMBER 11, 2023

MONDAY MORNING SESSION**IEEE NAP-2023 CONFERENCE OPENING & PLENARY SESSION**
(CONFERENCE HALL "LONDON" & in ZOOM)

- 8:45 – 9:00 AM Welcome to the IEEE NAP-2023 Conference!
Prof. Pavol Šajgalík (President SAS, Slovakia)
Prof. Goran Karapetrov (Drexel University, US), Program Chair
Dr. Vladimír Cambel (*IEE SAS, Slovakia*), IEEE NAP-2023 Conference Chair
- 9:00 – 9:45 AM **Plenary Talk 1 (Session Chair - Hanein)**
Prof. Yury Gogotsi, *Drexel University, USA*
Interactions of MXenes with Electromagnetic Waves – from Optoelectronic to Communication Technologies (ID #818)
- 9:45 – 10:30 AM **Plenary Talk 2 (Session Chair – Hanein)**
Prof. Jannik C. Meyer, *University of Tuebingen, Germany*
Jannik C. Meyer, Christoph Hofer, Jonas Haas, Jani Kotakoski, Toma Susi, Clemens Mangler, Viera Skákalová, Andreas Mittelberger, Giacomo Argentero, Mohammad R. A. Monazam, Christian Kramberger-Kaplan, Xiao Wang, Kai Braun.
Analyzing and Assembling Layered Materials, Atom by Atom and Layer by Layer, in 2D and 3D (ID #874)
- 10:30 – 11:00 AM *Coffee break (Conference room "Rome")*
- 11:00 – 11:45 AM **Plenary Talk 3 (Session Chair – Meyer)**
Prof. Yael Hanein, *Tel Aviv University, Israel*
Invasive and Non-invasive Neural Interfaces (ID #869)
- 11:45 – 12:30 PM **Plenary Talk 4 (Session Chair – Meyer)**
Prof. Vladimir Tsukruk, *Georgia Institute of Technology, USA*
Bio-enabled Functional Nanomaterials: from Actuating Flexible Magnets to Photonically-Assisted Logic (ID #729)
- 12:30 – 1:00 PM **Participants Group Photo** (*in CROWNE PLAZA hotel*)
-
- 1:00 – 2:00 PM *Lunch break (at your own expense)*
-

MONDAY AFTERNOON SESSIONS

- 2:00 – 2:45 PM **Plenary Talk 5 (Session Chair – Cambel)**
Prof. Jaroslav Fabian, *University of Regensburg, Germany*
 Spintronics with 2D materials (ID #810)
- 2:45 – 3:30 PM **Plenary Talk 6 (Session Chair – Cambel)**
Prof. Marek Przybylski, *AGH University of Science and Technology in Kraków, Poland*
 Electron Tunneling and Spin-Dependent Phenomena: Developing Concepts for Random Access Memory (ID #900)
- 3:30 – 3:45 PM *Coffee break (Conference room “Rome”)*
- 3:45 – 5:15 PM **IEEE NAP-2023 Special Session “Sponsors in the Spotlight”**
(Session Chair – Karapetrov)
Highlight talks by:
- 1.) IEEE NTC
 - 2.) IEEE MagSoc
 - 3.) ESET, s.r.o.
 - 4.) Bizzcom, s.r.o.
 - 5.) U.S.-UA Foundation
 - 6.) Atlant 3D Nanosystems
 - 7.) Angstrom Engineering
- 5:15 – 5:30 PM *Coffee break (Conference room “Rome”)*
- 5:30 – 7:00 PM **IEEE NAP-2023 YP & STUDENT ACTIVITIES CHAIRS** present:
“Nanotech Startups: How-to Succeed” Round Table & International Networking Event.
- Panelists:**
- Mr. Lukáš Hatala, *Bizzcom, s.r.o., Slovakia*
 Mr. Ondrej Kubovič, *ESET, s.r.o., Slovakia*
 Dr. Maksym Plakhotnyuk, *ATLANT 3D Nanosystems, Denmark*
- Moderators:**
- Kateryna Smyrnova, *Slovak University of Technology in Bratislava, Slovakia*
 Matteo Bruno Lodi, *University of Cagliari, Italy*
 Martin Sahul, *Slovak University of Technology in Bratislava, Slovakia*
 Marta Wala, *Silesian University of Technology, Poland*

TUESDAY, SEPTEMBER 12, 2023

TUESDAY MORNING SESSIONS**ORAL SESSION #1A**
NANOMAGNETISM & MAGNETIC MATERIALS
(CONFERENCE HALL A – “LONDON I” & in ZOOM)

- 8:30 – 9:00 AM **Invited Talk 1 (Session Chair – Urbánek)**
Prof. Andrii Chumak, University of Vienna, Austria
Magnon Transport in YIG/GGG at Millikelvin Temperatures (ID #825)
- 9:00 – 9:30 AM **Invited Talk 2 (Session Chair – Urbánek)**
Dr. Michal Mruczkiewicz, Institute of Electrical Engineering, Slovak Academy of Sciences, Slovakia
 Michal Mruczkiewicz, Mateusz Zelent, Zhiwang Zhang, Johan Christensen, Tomas Scepka, Juraj Feilhauer / Unidirectional spin-wave edge modes in magnonic crystal (ID #529)
- 9:30 – 9:45 AM **Contributed Talk 1 (Session Chair – Urbánek)**
Sergei Krylov, Tetiana Kalmykova, Vladimír Cambel, Tomáš Ščepka / Nanostructures for Topological Magnonics (ID #565)
- 9:45 – 10:00 AM **Contributed Talk 2 (Session Chair – Urbánek)**
Oksana Yastrubchak, Nataliia Tataryn, Tadeusz Wosinski, Janusz Sadowski, Maciej Sawicki, Volodymyr Romanyuk, Sergii Mamykin, Lukasz Gluba, Olga Kondratenko / Investigation of Valence Band Dispersion in (Ga, Mn)(Bi, As) Epitaxial Nanolayers (ID #675)
- 10:00 – 10:15 AM **Contributed Talk 3 (Session Chair – Urbánek)**
Juraj Mnich, Martin Gmitra / Magnetic Properties of Two-Dimensional 1T-NiI₂ (ID #589)
- 10:15 – 10:30 AM **Contributed Talk 4 (Session Chair – Urbánek)**
Konstantin Bublikov, Milan Tapajna, Sergei Krylov, Dagmar Gregušová, Michal Kučera, Filip Gucmann, Michal Mruczkiewicz / Optically Controllable Magnonic Crystal Based on Ferrit-Semiconductor Bilayer (ID #537)
- 10:30 – 11:00 AM *Coffee break (Conference room “Rome”)*
- 11:00 – 11:30 AM **Invited Talk 3 (Session Chair – Mruczkiewicz)**
Dr. Michal Urbánek, CEITEC Nano Group, Czech Republic
 Ondřej Wojewoda, Martin Hrtoň, Meena Dhankhar, Jakub Krčma, Kristyna Davidkova, Jan Klíma, Jakub Holobrádek, Filip Ligmajer, Tomáš Šikola, Michal Urbánek / Phase-resolved Optical Characterization of Spin Waves (ID #635)

- 11:30 – Noon **Invited Talk 4 (Session Chair – Mruczkiewicz)**
Prof. Sorin Cotofana, *Delft University of Technology, The Netherlands*
Spin Wave Based Computing: Promises and Hurdles on the Road
(ID #899)
- Noon – 12:15 PM **Contributed Talk 5 (Session Chair – Mruczkiewicz)**
Maedeh Rassekh, Marko Milivojević, Martin Gmitra / Stochastic
Proximity Induced Spin Currents and Spin-Orbit Torques in Graphene on
1T-TaS₂ (ID #571)
- 12:15 – 12:30 PM **Contributed Talk 6 (Session Chair – Mruczkiewicz)**
Sergey Polevoy / Increasing of the Photon-Magnon Coupling Strength
in a System of Coupled Microwave Resonators with a Magnetic Sample
(ID #538) (*in Zoom*)
- 12:30 – 2:00 PM *Lunch break (at your own expense)*

TUESDAY AFTERNOON SESSIONS

ORAL SESSION #1B

NANOMAGNETISM & MAGNETIC MATERIALS
(CONFERENCE HALL A – “LONDON I” & in ZOOM)

- 2:00 – 2:30 PM **Invited Talk 5 (Session Chair – Stadler)**
Dr. Roman Khymyn, *University of Gothenburg, Sweden*
Roman Khymyn, Roman Ovcharov, Boris Ivanov, Johan Akerman /
Antiferromagnetic Self-Localized Structures Driven by Spin Current
(ID #657)
- 2:30 – 3:00 PM **Invited Talk 6 (Session Chair – Stadler)**
Prof. David Carroll, *Wake Forest University, USA*
David Carroll, Kamil Burak Ucer, Vojislav Krstic / Time Crystals Using
Topological States? (ID #832)
- 3:00 – 3:30 PM **Invited Talk 7 (Session Chair – Stadler)**
Prof. Goran Mihajlović, *San Jose Research Center, Western Digital*
Corporation, United States
Physical Mechanisms Affecting Performance of Perpendicular
STT MRAM Cells (ID #890) (*in Zoom*)
- 3:30 – 4:00 PM *Coffee break (Conference room “Rome”)*
- 4:00 – 4:30 PM **Invited Talk 8 (Session Chair – Prokopenko)**
Prof. Bethanie Stadler, *University of Minnesota Twin Cities, USA*
Roman Kolisnyk, Allison Harpel, Yicong Chen, Bethanie Stadler / Using
Magnetic Nanowires for Localized Heating (ID #840)

4:30 – 5:00 PM

Invited Talk 9 (Session Chair – Prokopenko)**Prof. Atsufumi Hirohata**, *University of York, United Kingdom*

Yuan Ding, David C. Lloyd, Masaki Mizuguchi, Masaru Ikeda, Atsufumi Hirohata / Development of a Magnetic Sensor Using Co:MgO Antidots (ID #888)

5:00 – 5:15 PM

Contributed Talk 7 (Session Chair – Prokopenko)**Jiandong Man**, Jiamin Chen, Zhenhu Jin / Flexible Hair Tactile Array

Based on Micro Magnetic Particles (ID #500)

5:15 – 5:30 PM

Contributed Talk 8 (Session Chair – Prokopenko)**Yulan Chen**, Karthik Srinivasan, Marcus Choates, Ludovico Cestarollo, Amal El-Ghazaly / Unraveling Interactions Between Magnetic Nanochains for Reconfigurable Soft Actuators (ID #847)

5:30 – 7:30 PM

Poster Session #1 (*Conference room “Rome”*)

TUESDAY MORNING SESSIONS

ORAL SESSION #2A**NANOMATERIALS SYNTHESIS & SELF-ASSEMBLY
(CONFERENCE HALL B – “LONDON II” & in ZOOM)**

- 8:30 – 9:00 AM **Invited Talk 10 (Session Chair – Richter)**
Prof. Albano Cavaleiro, *University of Coimbra, Portugal*
Sputtering as a Versatile Technique for the Production of Nanomaterials for Diverse Applications (ID #821)
- 9:00 – 9:30 AM **Invited Talk 11 (Session Chair – Richter)**
Prof. Viera Skákalová, *Institute of Electrical Engineering and CEMEA SAS, Slovakia*
Viera Skákalová, Kimmo Mustonen, Peter Kotrusz, Christoph Hofer, Thuy An Bui, Peter Hutár, Marián Precner / Simple Chemical Approach to 2D Metal Iodides/Graphene Heterostructures and their Properties (ID #829)
- 9:30 – 10:00 AM **Invited Talk 12 (Session Chair – Richter)**
Dr. Kimmo Mustonen, *University of Vienna, Austria*
Kimmo Mustonen, Christoph Hofer, Peter Kotrusz, Alexander Markevich, Martin Hulman, Clemens Mangler, Toma Susi, Timothy J. Pennycook, Jannik C. Meyer, Jani Kotakoski, Viera Skákalová
New Approaches for New Materials: Exotic 2D Crystals from Table-Top Chemistry (ID #875)
- 10:00 – 10:15 PM **Contributed Talk 9 (Session Chair – Richter)**
Filip Zechel, Peter Hutár, Viliam Vretenár, Karol Végső, Peter Šiffalovič, Milan Sýkora / Green Colloidal Synthesis of MoS₂ Nanoplatelets (ID #647)
- 10:15 – 10:45 AM **Invited Talk 13 (Session Chair – Richter)**
Dr. Georg Duesberg, *University of the Bundeswehr Munich, Germany*
2D Material Based Sensors (ID #753) (in Zoom)
- 10:30 – 11:00 AM *Coffee break (Conference room “Rome”)*
- 11:00 – 11:30 AM **Invited Talk 14 (Session Chair – Skakalova)**
Prof. Peter Šiffalovič, *Institute of Physics, Slovak Academy of Sciences, Slovakia*
Nada Mrkyvkova, Vladimir Held, Karol Vegso, Peter Nadazdy, Martin Ledinsky, Matej Jergel, Frank Schreiber, Peter Siffalovic / Development of Defects in the Growth of Lead-Halide Perovskite Films (ID #751)

- 11:30 – Noon **Invited Talk 15 (Session Chair – Skakalova)**
Prof. Maria Christine Richter, *CY Cergy Paris University, France*
 Maria Christine Richter, Olivier Heckmann, Jan Minar, Jean-Michel Mariot, Johan Adell, Mats Leandersson, Janusz Sadowski, Jurgen Braun, Hubert Ebert, Jonathan Denlinger, Ivana Vobornik, Jun Fujii, Pavol Sutta, Gavin Bell, Martin Gmitra, Karol Hricovini / Surface Termination Dependent Topological States on InBi(001) (ID #765)
- Noon – 12:15PM **Contributed Talk 10 (Session Chair – Skakalova)**
Amin Farhadi, Gilles R. Bourret / Dewetting-Assisted Patterning: A Lithography-Free Route to Synthesize Black and Colored Silicon (ID #779)
- 12:15 – 12:30PM **Contributed Talk 11 (Session Chair – Skakalova)**
Vivek Chaudhary, Sri Sivakumar / Photodynamics of Temperature Tuned Dual Colour Emission in Mn-Doped ZnS-CdSe Janus Coupled Quantum Dot (ID #597)
- 12:30 – 12:45PM **Contributed Talk 12 (Session Chair – Skakalova)**
Divya Gupta, Sanjeev Aggarwal / Structural and Optical Properties of Nano-Phases in Ar⁺ Sputtered SiC Surfaces (ID #741) (*in Zoom*)
- 12:30 – 2:00PM *Lunch break (at your own expense)*

TUESDAY AFTERNOON SESSIONS

ORAL SESSION #2B

NANOMATERIALS SYNTHESIS & SELF-ASSEMBLY (CONFERENCE HALL B – “LONDON II” & in ZOOM)

- 2:00 – 2:30PM **Invited Talk 16 (Session Chair – Mustonen)**
Dr. Roman Kolisnyk, *University of Minnesota Twin Cities, United States*
 Roman Kolisnyk, Bethanie Stadler, Morgen Smith, Placidus Amama, Jeanne Riga / Magnetic nanowires as growth catalysts for carbon nanotubes (ID #769)
- 2:30 – 3:00PM **Invited Talk 17 (Session Chair – Mustonen)**
Prof. Hidehito Asaoka, *Advanced Science Research Center, Japan Atomic Energy Agency, Japan*
 Uniaxial Stress-driven Reconstructed Si (110)-“16×2” Surfaces (ID #631)
- 3:00 – 3:30PM **Invited Talk 18 (Session Chair – Mustonen)**
Dr. Rui Xu, *Helmholtz-Zentrum Dresden-Rossendorf e.V., Germany*
 Rui Xu, Denys Makarov / Geometrically well-defined nanostructure arrays replicated from designable anodic aluminum oxide templates for optoelectronic application (ID #801)

- 3:30 – 3:45 PM **Contributed Talk 13 (Session Chair – Mustonen)**
Xoliswa Cingo, Odwa Mapazi, Luthando Nyaba, Philiswa Nosizo
Nomngongo / Fabrication and Application of Meso-Porous Activated
Carbon @ZSM-5 Composite Derived from Coal Gasification Slag and Fly
Ash for the Adsorptive Removal of Pharmaceuticals in Aqueous Media
(ID #595)
- 3:30 – 4:00PM *Coffee break (Conference room “Rome”)*
- 4:00 – 4:15PM **Contributed Talk 14 (Session Chair – Kolisnyk)**
Shaked Ashkenazi, **Iris Weitz** / Effect of Nanoconfining PLGA Shell on
the Self-Assembly of Indigo Carmine (ID #767)
- 4:15 – 4:30PM **Contributed Talk 15 (Session Chair – Kolisnyk)**
Katerina Lebedeva, Anna Cherkashina, Tetyana Tykhomyrova, Victor
Moiseev, Volodimir Lebedev, Andrij Masikevych / Researching of
biologically active polymeric hydrogel transdermal nanomaterials
modification by humic acid (ID #653) (*in Zoom*)

- 4:30 – 4:45PM **Contributed Talk 16 (Session Chair – Kolisnyk)**
Asma Tadj, Mokhtar Zerdali, Saad Hamzaoui / Morphological, Structural and Optical Changes of 2D ZnO Nanostructures Upon Addition of Sodium Nitrate (NaNO₃) (ID #615)
- 4:45 – 5:00PM **Contributed Talk 17 (Session Chair – Kolisnyk)**
Yuliia Shlapa, Veronika Sarnatskaya, Serhii Solopan, Bogdan Gerashchenko, Oleksii Sydorenko, Dmytro Klymchuk, Anatolii Belous / Fabrication of Nanocomposites Based on the Activated Carbon and CeO₂ Nanoparticles for Biomedical Application (ID #498) (in Zoom)
- 5:00 – 5:15PM **Contributed Talk 18 (Session Chair – Kolisnyk)**
Anatolii Belous, Ivan Lisovskyi, Pavlo Torchyniuk, Yuliia Shlapa / Synthesis of Functional Nanocomposites and Nanohybrids Based on the Nanoscale Oxide Materials (ID #497) (in Zoom)
- 5:15 – 5:30PM **Contributed Talk 19 (Session Chair – Kolisnyk)**
Serhii Kopylov, Volodimir Lebedev, Maksym Riabchenko, Anna Cherkashina, Denis Miroshnichenko, Oleksii Shestopalov, Alina Hrubnik / Polymer Inorganic Nanocomposites For Electromagnetic Radiation Absorption Using Potassium Titanates (ID #667) (in Zoom)
- 5:30 – 7:30PM **Poster Session #1 (Conference room “Rome”)**

TUESDAY MORNING SESSIONS

ORAL SESSION #3A

NANOBIOMEDICAL RESEARCH & APPLICATIONS (CONFERENCE HALL C – “LONDON III” & in ZOOM)

- 8:30 – 9:00AM **Invited Talk 20 (Session Chair – Celinski)**
Dr. Iaroslav Gnilitzkyi, “NoviNano Lab” LLC, Ukraine
 Towards Femtosecond Laser-induced Periodic Surface Structures in Developing Functional Surface Properties (ID #873)
- 9:00 – 9:30AM **Invited Talk 21 (Session Chair – Celinski)**
Prof. Maksym Pogorielov, University of Latvia, Latvia
 Kateryna Diedkova, Alexander Pogrebnjak, Sergiy Kyrylenko, Pawel Zukowski, Yevheniia Husak, Wojciech Simka, Viktoriia Korniienko, Ivan Baginskiy, Veronika Zahorodna, Una Riekstina, Oleksiy Gogotsi, Yury Gogotsi, Maksym Pogorielov
 MXenes as a Promising Materials for Conductive Biomaterials Development (ID #906)

- 9:30 – 9:45AM **Contributed Talk 20 (Session Chair – Celinski)**
Yevheniia Husak, Anna Skoczylas, Natalia Waloszczyk, Maksym Pogorielov, Wojciech Simka / Impact of Silicates and Phosphates on The Properties of Anodized Magnesium Implants (ID #761)
- 9:45 – 10:00AM **Contributed Talk 21 (Session Chair – Celinski)**
Klaudia Kowalska, Viktoriia Paientko, Evgeny Demianenko, Ewa Skwarek / Synthesis and Analysis of Selected Physicochemical Properties of Clay/Hydroxyapatite/Clitoria Ternatea Composites with Doped SiO₂, TiO₂, ZnO₂ as an Additive to Cosmetics (ID #613)
- 10:00 – 10:15AM **Contributed Talk 22 (Session Chair – Celinski)**
Zulema Vargas Osorio, Andrés Da Silva Candal, Yolanda Piñeiro, José Rivas, Martin Michálek, Dušan Galusek / Injectable Theranostic Platforms Based on Amino-Functionalized Magnetic SBA-15 Nanorods for Neurological Diseases (ID #610)
- 10:15 – 10:45AM **Invited Talk 19 (Session Chair – Celinski)**
Prof. Açelya Yilmazer, Ankara University, Stem Cell Institute, Turkey
Maksym Strikha, Anna Morozovska / From Cancer Research to Antiviral Research: a Journey with 2D Materials (ID #820)
- 10:30 – 11:00AM *Coffee break (Conference room “Rome”)*
- 11:00 – 11:30AM **Invited Talk 22 (Session Chair – Pogorielov)**
Prof. Zbigniew Celinski, University of Colorado Colorado Springs, USA
Zbigniew Celinski, Josh Stoll, Yu Hao, Robert Camley, Dorota Lachowicz, Angelika Kmita, Marek Przybylski, Janusz Hankiewicz / Use of Magnetic Particles in MRI Thermometry (ID #813)
- 11:30 – Noon **Invited Talk 23 (Session Chair – Pogorielov)**
Dr. Svitlana Kopyl, University of Aveiro, Portugal
Development of Biocompatible Piezoelectric Thin Films: Towards a Wearable Sensor Devices (ID #480)
- Noon – 12:30PM **Invited Talk 24 (Session Chair – Pogorielov)**
Prof. Attila Bonyár, Budapest University of Technology and Economics, Hungary
Attila Bonyár, Tomáš Lednický, Rebeka Kovács, Shereen Zangana / Tightly Packed Gold Nanoparticle Ensembles for Plasmonic Sensing Applications (ID #872)

12:30 – 12:45PM **Contributed Talk 23 (Session Chair – Pogorielov)**
Iryna Ivasechko, Olga Klyuchivska, Volodymyr Vasylechko, Olga Vyviurska, Yaroslav Kalychak, Rostyslav Stoika / Effect of Clinoptilolite Doped with Cations of *d*- and *f*-Metals on Viability of Tumor Cells Depends on Density of Intercellular Contacts and Rate of their Growth (ID #485) (in Zoom)

12:30 – 2:00PM *Lunch break (at your own expense)*

TUESDAY AFTERNOON SESSIONS

ORAL SESSION #3B

NANOBIOMEDICAL RESEARCH & APPLICATIONS (CONFERENCE HALL C – “LONDON III” & in ZOOM)

- 2:00 – 2:30PM **Invited Talk 25 (Session Chair – Sulaieva)**
Prof. Natalia Beshchasna, Fraunhofer Institute for Ceramic Technologies and Systems IKTS, Germany
 Nanostructured Materials and Surfaces for Biomedical Applications (ID #876)
- 2:30 – 3:00PM **Invited Talk 26 (Session Chair – Sulaieva)**
Dr. Agata Sotniczuk, National Center of Nuclear Research, Poland
 Exploring the Evolution of Nanometric Titanium Oxide Layers in Real-time During Immersion of Titanium Alloys in the Physiological Fluids (ID #885)
- 3:00 – 3:15PM **Contributed Talk 24 (Session Chair – Sulaieva)**
Andrzej Kudelski / Various Strategies for DNA Identification Using Surface Enhanced Raman Scattering (ID #471)
- 3:15 – 3:30PM **Contributed Talk 25 (Session Chair – Sulaieva)**
Vladyslav Seminko, Pavel Maksimchuk, Vladimir Klochkov, Yevhen Neuhodov, Svetlana Yefimova / RE³⁺-doped Ceria Nanoparticles with Spectroscopically Controlled ROS Scavenging Activity (ID #501) (in Zoom)
- 3:30 – 4:00PM *Coffee break (Conference room “Rome”)*
- 4:00 – 4:30PM **Invited Talk 27 (Session Chair – Sotniczuk)**
Prof. Martin Balog, Institute of Materials and Machine Mechanics, Slovak Academy of Sciences, Slovakia
 Martin Balog, Moara Marques de Castro, Jaroslav Capek, Peter Svec, Martina Takacova, Lucia Csaderova, Eva Sedlackova, Eliska Svastova, Andrea Skolakovska, Drahomir Dvorsky, Jan Pinc, Vojtech Hybasek, Jiri

- Kubasek, Peter Krizik, Jacek Skiba / Ultrafine-grained bioabsorbable Zn composite stabilized by nanometric ZnO dispersoids (ID #809)
- 4:30 – 4:45PM **Contributed Talk 26 (Session Chair – Sotniczuk)**
Meng-Long Wang, Deng-Guang Yu, **Sim Wan Annie Bligh** / Side-by-Side Electrospun PCL-Ag NPs/CA-Lavender Oil Janus Nanobelt as Potential Wound Dressing (ID #805)
- 4:45 – 5:00PM **Contributed Talk 27 (Session Chair – Sotniczuk)**
Anton Tkachenko, Anatolii Onishchenko, Volodymyr Yurievich Prokopiuk, Pavlo Virych, Nataliya kutsevol / Dextran-Graft-Polyacrylamide/Zinc Oxide Nanosystem does not Trigger Eryptosis (ID #731)
- 5:00 – 5:15PM **Contributed Talk 28 (Session Chair – Sotniczuk)**
Volodymyr Prokopiuk, Anatolii Onishchenko, Nataliya kutsevol, Pavlo Virych, Anton Tkachenko / Cultured Fibroblasts-Based Assays Reveal Good Biocompatibility of Dextran-Graft-Polyacrylamide/Zinc Oxide Nanosystems (ID #732) (*in Zoom*)
- 5:15 – 5:30PM **Contributed Talk 29 (Session Chair – Sotniczuk)**
Supriya Nambiar, Dilip G. Naik, Arun M. Isloor, Ethel Suman / Surface Characterisation and Anti Biofouling Properties of Polydopamine Based Zwitterion Nano-coatings on Titanium (ID #519) (*in Zoom*)
- 5:30 – 7:30PM **Poster Session #1 (Conference room “Rome”)**

WEDNESDAY, SEPTEMBER 13, 2023

WEDNESDAY MORNING SESSIONS

ORAL SESSION #1A
**NANOMAGNETISM & MAGNETIC MATERIALS
(CONFERENCE HALL A – “LONDON I” & in ZOOM)**

- 8:30 – 9:00AM **Invited Talk 28 (Session Chair – Salvador)**
Dr. Oleksandr Pylypovskyi, *Helmholtz-Zentrum Dresden-Rossendorf e.V., Germany*
 Nanomagnetism and Strain Effects in Magnetoelectric Antiferromagnet Cr₂O₃ (ID #551) (in Zoom)
- 9:00 – 9:30AM **Invited Talk 29 (Session Chair – Salvador)**
Prof. Kostyantyn Gusliyenko, *University of the Basque Country, Spain*
 Nutation Modes in the Gyrotropic Vortex Dynamics in Circular Magnetic Nanodots (ID #539)
- 9:30 – 10:00AM **Invited Talk 30 (Session Chair – Salvador)**
Dr. Oleksii Volkov, *Helmholtz-Zentrum Dresden-Rossendorf e.V., Germany*
 Local and Non-Local Effects in Curvilinear Micromagnetism (ID #510)
- 10:00 – 10:15AM **Contributed Talk 30 (Session Chair – Salvador)**
Yelyzaveta Borysenko, Denis Sheka, Kostiantyn Yershov, Juergen Fassbender, Jeroen van den Brink, Denys Makarov, Oleksandr Pylypovskyi / Curvilinear Antiferromagnetic Spin Chains: Interplay Between Geometry and External Magnetic Field (ID #598)
- 10:15 – 10:30AM **Contributed Talk 31 (Session Chair – Salvador)**
Svitlana Kondovych, Igor Lukyanchuk / Topological Chirality in the Absence of Antisymmetric Exchange (ID #852)
- 10:30 – 10:45AM **Contributed Talk 32 (Session Chair – Salvador)**
Jaroslav Tobik / Dynamical Symmetry Breaking in Magnetic Systems (ID #550)
- 10:30 – 11:00AM *Coffee break (Conference room “Rome”)*
- 11:00 – 11:30AM **Invited Talk 31 (Session Chair – Palotas)**
Dr. José A. Fernandez-Roldan, *Helmholtz-Zentrum Dresden-Rossendorf e.V., Germany*
 Chiral domain walls in cylindrical nanowires (ID #796)

- 11:30 – Noon **Invited Talk 32 (Session Chair – Palotas)**
Dr. Mauro Fanciulli, *CY Cergy Paris University, France*
 Mauro Fanciulli, Matteo Pancaldi, Emanuele Pedersoli, Bernard Dieny, Giovanni De Ninno, Flavio Capotondi, Maurizio Sacchi, Thierry Ruchon / Magnetic Helicoidal Dichroism in Resonant Scattering with XUV Light Vortices (ID #750)
- Noon – 12:30PM **Invited Talk 33 (Session Chair – Palotas)**
Prof. Xiangrong Wang, *The Hong Kong University of Science and Technology, Hong Kong*
 A Theory of Unusual Anisotropic Magnetoresistance in Bilayer Heterostructure (ID #824)
- 12:30 – 12:45PM **Contributed Talk 33 (Session Chair – Palotas)**
Holly Holder, Kilian Stenning, Xiaofei Xiao, Alex Vanstone, Jack Carter-Gartside, Oscar Kennedy, Rupert Oulton, Will Branford / All-Optical Magnetic Switching of Ferromagnetic Nano-islands with a Low-power, Continuous-wave Laser (ID #754)
- 12:30 – 2:00PM *Lunch break (at your own expense)*

WEDNESDAY AFTERNOON SESSIONS

ORAL SESSION #1B

NANOMAGNETISM & MAGNETIC MATERIALS (CONFERENCE HALL A – “LONDON I” & in ZOOM)

- 2:00 – 2:30PM **Invited Talk 34 (Session Chair – Milivojevic)**
Dr. María Salvador, *University of Oviedo, Spain*
 María Salvador, José Luis Marqués-Fernández, Alexander Bunge, Juan Carlos Martínez-García, Rodica Turcu, Davide Peddis, María del Mar García-Suárez, María Dolores Cima Cabal, Diana Leitao, Montserrat Rivas / How Magnetism Can Improve Rapid Diagnostic Tests: Pneumococcal Pneumonia Detection (ID #833)
- 2:30 – 3:00PM **Invited Talk 35 (Session Chair – Milivojevic)**
Prof. Gleb Kakazei, *Institute of Physics for Advanced Materials, Nanotechnology and Photonics, Portugal*
 Artem Bondarenko, Sergey Bunyaev, Kostyantyn Gusliyenko, Adekunle Adeyeye, Gleb Kakazei / Gigahertz Gyrotropic Excitations in Vortex-State Magnetic Nanodots (ID #883)

3:00 – 3:30PM

Invited Talk 36 (Session Chair – Milivojevic)

Dr. Krisztián Palotás, *Wigner Research Center for Physics, Hungary*
Magnetic Skyrmions Probed by Spin-polarized STM: Topology Imprinted on the Charge Current and Spin Transfer Torque (ID #828)

3:30 – 4:00PM

Coffee break (Conference room “Rome”)

4:00 – 4:15PM

Contributed Talk 34 (Session Chair – Chumak)

Anatoliy Lapchuk, Alexander Prygun, **Ivan Gorbov**, Dmytro Manko /
Module Trap for Magnetic Nanoparticles Concentration
(ID #561) (*in Zoom*)

4:15 – 4:30PM

Contributed Talk 35 (Session Chair – Chumak)

Marko Milivojević, Martin Gmitra, Marcin Kurpas, Ivan Štich, Jaroslav Fabian /
Stacking Control of Spin-Orbit Proximity Effect in a WSe₂-P-WSe₂ Heterostructure (ID #618)

4:30 – 4:45PM

Contributed Talk 36 (Session Chair – Chumak)

Dovydas Karoblis, Agne Kizalaite, Tomas Murauskas, Aleksej Zarkov, Aivaras Kareiva, Sarah Stoll /
Molten Salt Synthesis of Manganese Pyrochlores (R₂Mn₂O₇, R = Y, Ho-Lu) at Ambient Pressure (ID #603)

4:45 – 5:00PM

Contributed Talk 37 (Session Chair – Chumak)

Oksana Koplak, Federico Maspero, Alejandro Plaza, Riccardo Bertacco /
Tuning of the Contributions of the Magnetically Hard and Magnetically Soft Phases in W/SmCo/W Films (ID #689)

5:00 – 5:15PM

Contributed Talk 38 (Session Chair – Chumak)

Viktor Bratus', Bela Shanina, Igor Vorona, Valentyn Lysakovskiy, Sergii Ivakhnenko /
Magnetic Resonance Study of Disordered Nanoparticle Ensembles in Synthetic Diamond (ID #755) (*in Zoom*)

5:30 – 7:30PM

e-POSTERS SESSION (*in Discord Platform*)

8:00 – 12:00AM

CONFERENCE GALA DINNER (HRADNÁ Reštaurácia)<https://hradna.com>

WEDNESDAY MORNING SESSIONS

ORAL SESSION #2A**MULTIFUNCTIONAL THIN FILMS & COATINGS
(CONFERENCE HALL B – “LONDON II” & in ZOOM)**

- 8:30 – 9:00AM **Invited Talk 37 (Session Chair – Krasheninnikov)**
Prof. Vitaliy Bilanych, *Uzhhorod National University, Ukraine*
Vitaliy Bilanych, Oleg Shylenko, Serhii Vorobiov, Serhii Soroka, Vasyl Bilanych, Vasyl Rizak, Alexander Feher, Vladimir Komanicky / Nano-Structuring Chalcogenide Semiconductor Thin Films with Electron Beam (ID #486)
- 9:00 – 9:30AM **Invited Talk 38 (Session Chair – Krasheninnikov)**
Prof. Milan Ťapajna, *Institute of Electrical Engineering, Slovak Academy of Sciences, Slovakia*
Milan Ťapajna, Andrii Kozak / Tribological Properties of Few-layer $\text{Ti}_3\text{C}_2\text{O}_x$ MXenes (ID #740)
- 9:30 – 10:00AM **Invited Talk 39 (Session Chair – Krasheninnikov)**
Prof. Martin Hulman, *Institute of Electrical Engineering, Slovak Academy of Sciences, Slovakia*
Martin Hulman, Michaela Sojkova, Marián Precner, Lenka Pribusová Slušná, Tatiana Vojteková, Jana Hrdá, Jozef Kačmarčík, Martin Mosko, Edmund Dobročka / Optical and Transport Properties of Polycrystalline Thin Layers of 2D-TMDC Semimetals (ID #803)
- 10:00 – 10:15AM **Contributed Talk 39 (Session Chair – Krasheninnikov)**
Silvia Ďurišová, Mariana Pajtašová, Róbert Janík, Katarína Moricová, Ivan Labaj / The Influence of Plasma Treatment on Thermal, Dynamic-Mechanical and Rheological Properties of Polymeric Material (ID #602)
- 10:15 – 10:30AM **Contributed Talk 40 (Session Chair – Krasheninnikov)**
Sung Woo Hong, In Park, Dohoon Lee / Highly Transparent, Colorless Optical Film with Outstanding Mechanical Strength and Folding Reliability using Mismatched Charge-transfer Complex Intensification (ID #782)
- 10:30 – 10:45AM **Contributed Talk 41 (Session Chair – Krasheninnikov)**
Andrii Kozak, Markéta Ilčíková, Nafiseh Babaei, Nikolaos Konios, Marián Precner, Josef Osíčka, Jaroslav Mosnáček, Milan Tapajna / Graphene Oxide Modified by Fluoropolymer Brushes as a Promising Lubricant in Ambient Air and Vacuum (ID #882)
- 10:30 – 11:00AM *Coffee break (Conference room “Rome”)*

11:00 – 11:30AM

Invited Talk 40 (Session Chair – Tapajna)**Dr. Marian Mikula**, *Comenius University Bratislava, Slovakia*

Marian Mikula, Marek Vidiš, Marek Gocník, Tomáš Fiantok, Viktor Šroba, Vitalii Izai, Martin Truchlý, Leonid Satrapinsky, Stefan Nagy, Branislav Grančič, Peter Kúš / The Concept of Improving Mechanical Properties and Fracture Toughness in Multilayered Coatings Based on Transition Metal Diborides (ID #811)

11:30 – Noon

Invited Talk 41 (Session Chair – Tapajna)**Prof. Volodymyr Ivashchenko**, *Frantsevich Institute for Problems of Materials Science, NAS of Ukraine, Ukraine*

Volodymyr Ivashchenko, Petro Scrynsky, Aleksey Onoprienko, Alexander Pogrebnyak, Andrii Kozak, O.K. Sinelnichenko, D.V. Vedel, Pavlo Mazur / High-Entropy Diboride Films: Experimental and First-principles Investigations (ID #834)

Noon – 12:30PM

Invited Talk 42 (Session Chair – Tapajna)**Prof. Arkady Krasheninnikov**, *Helmholtz-Zentrum Dresden-Rossendorf e.V., Germany*

Engineering the Structure and Properties of 2D Materials by Defect Creation and Intercalation (ID #844)

12:30 – 2:00PM

*Lunch break (at your own expense)***WEDNESDAY AFTERNOON SESSIONS****ORAL SESSION #2B****MULTIFUNCTIONAL THIN FILMS & COATINGS****(CONFERENCE HALL B – “LONDON II” & in ZOOM)**

2:00 – 2:30PM

Invited Talk 43 (Session Chair – Hulman)**Dr. Benjamin Borie**, *ATLANT 3D Nanosystems, Denmark*

Maksym Plakhotnyuk, Atilla Varga, Karolis Parfeniukas, Ivan Kundrata, Julien Bachmann/ Direct Atomic Layer Processing on Complex Surface Morphologies (ID #578)

2:30 – 3:00PM

Invited Talk 44 (Session Chair – Hulman)**Dr. Mathieu Salaün**, *Université Grenoble Alpes, France*Mathieu Salaün, Benoit Boulanger / Epitaxial RTP Thin Films: The Rb⁺ Diffusion Problem (ID #728)

- 3:00 – 3:15PM **Contributed Talk 42 (Session Chair – Hulman)**
Ivana Sara Skrobakova / Application of Acoustic Emission Testing to Evaluate Properties of Al-Ti-N Coatings (ID #593)
- 3:15 – 3:30PM **Contributed Talk 43 (Session Chair – Hulman)**
Leonid Shaginyan, Mikhail Mironov, Vladimir Kremenetsky, Vadim Novichenko / Transformations in Composition and Structure in Multicomponent Alloy Targets Occurring During their Exploitation (ID #532) (*In Zoom*)
- 3:30 – 4:00PM *Coffee break (Conference room “Rome”)*
- 4:00 – 4:15PM **Contributed Talk 44 (Session Chair – Salaun)**
Antonica Valeria Montefusco, Margherita Izzi, Maria Chiara Sportelli, Rosaria Anna Picca, Nicola Cioffi / Silver Nanoparticles Entrapped in Zein Films as Biocompatible Coatings for Food Preservation (ID #584)
- 4:15 – 4:30PM **Contributed Talk 45 (Session Chair – Salaun)**
Anjana Nair V J, **Deepa Kummattummal Govindan** / Shaping the Band Structure of *n*-Type Cs₂Snl₆ Thin Films using Electron Spectroscopy (ID #513) (*in Zoom*)
- 4:30 – 4:45PM **Contributed Talk 46 (Session Chair – Salaun)**
Vitalii Chornii, Volodymyr Boyko, Maksym Lazarenko, Mykola Slobodyanyk, Serhii Nedilko, Kateryna Terebilenko, Petro Teselko, Valeriia Zozulia, Yaroslav Zhydachevskyy, Andrzej Suchocki / Development of K₂Eu(PO₄)(WO₄) – based Luminescent Phospho-Tungstate Glass-Ceramics (ID #619) (*in Zoom*)
- 4:45 – 5:00PM **Contributed Talk 47 (Session Chair – Salaun)**
Volodymyr Korzhyk, Petro Stukhliak, Olena Berdnikova, Junjun Zhao, **Kseniia Lepilina**, Ihor Skachkov / Metal-Ceramic and Epoxy Composite Materials Nanostructure Coatings (ID #493) (*in Zoom*)
- 5:00 – 5:30PM **Invited Talk 45 (Session Chair – Salaun)**
Evan Piano
Low Temperature Alternatives for Reactive Sputtering High Quality Stoichiometric Metal Nitride Films (ID #904) (*in Zoom*)
- 5:30 – 7:30PM **e-POSTERS SESSION** (*in Discord Platform*)
- 8:00 – 12:00AM **CONFERENCE GALA DINNER (HRADNÁ Reštaurácia)**
<https://hradna.com>

WEDNESDAY MORNING SESSIONS

ORAL SESSION #3A**NANOPHOTONICS & NANOMATERIALS FOR ENERGY & ENVIRONMENT****(CONFERENCE HALL C – “LONDON III” & in ZOOM)**

- 8:30 – 8:45AM **Contributed Talk 48 (Session Chair – Shifa)**
Namrata Pachauri, Sri Sivakumar / Luminescence Alteration of
 Converted Trivalent Europium Ions Doped Tungsten Sulfide
 Semiconductor Nanomaterials for Optical Applications (ID #541)
- 8:45 – 9:00AM **Contributed Talk 49 (Session Chair – Shifa)**
Oleksandr Sorokin, Iryna Grankina, Oleksandr Samoillov, Natalia Kasian,
 Svitlana Hrankina, Longin Lisetski, Svetlana Yefimova / Influence of
 Dispersion in Liquid Crystal on Optical Properties of Carbocyanine Dye
 J-Aggregates (ID #534)
- 9:00 – 9:30AM **Invited Talk 46 (Session Chair – Shifa)**
Prof. Thierry Pauporté, *Institut de Recherche de Chimie Paris, France*
 Thierry Pauporté, Daming Zheng / Unveiling the Mechanism of 2D,
 Quasi-2D and 3D Halide Perovskite Thin Films Formation (ID #524)
- 9:30 – 10:00AM **Invited Talk 47 (Session Chair – Shifa)**
Prof. Fabien Dubois, *Université Grenoble Alpes, CNRS, France*
 Pierre Bauer, Aude Barbara, Ali Dabbous, Vincent Maurel, Fabien
 Dubois / Hybrid CdSe/ZnS Quantum Dots-Gold Nanoparticles
 Composites Assembled by Click Chemistry for Redox Photocatalysts
 Applications (ID #907)
- 10:00 – 10:30AM **Invited Talk 48 (Session Chair – Shifa)**
Prof. Alberto Vomiero, *Foscari University of Venice, Italy*
 Kassa Belay Ibrahim, Tofik Ahmed Shifa, Elisa Moretti, Alberto Vomiero
 / Tuning Optoelectronic Properties of 0-Dimensional Nanostructures
 toward High-Efficiency Luminescent Solar Concentrators
 (ID #831) (in Zoom)
- 10:30 – 11:00AM *Coffee break (Conference room “Rome”)*

ORAL SESSION #3A**NANOBIOMEDICAL RESEARCH & APPLICATIONS****(CONFERENCE HALL C – “LONDON III” & in ZOOM)**

- 11:00 – 11:30AM **Invited Talk 49 (Session Chair – Pauporte)**
Dr. Oksana Sulaieva, *Medical Laboratory CSD, Ukraine*
 Ethical Issues of Nanomedical Research (ID #680)

- 11:30 – Noon **Invited Talk 50 (Session Chair – Pauporte)**
Dr. Sergiy Kyrylenko, *Sumy State University, Ukraine*
 Sergiy Kyrylenko, Oksana Sulaieva, Zhanna Klishchova, Mykola Lyndin,
 Volodymyr Deineka, Tetiana Shapochka, Anton Roshchupkin, Ilya
 Yanko, Yevheniia Husak, Oleksiy Gogotsi, Maksym Pogorielov /
 Immunological Properties of T₂C₃T_x MXene (ID #752)
- Noon – 12:15PM **Contributed Talk 50 (Session Chair – Pauporte)**
Meng-Long Wang, *Deng-Guang Yu, Sim Wan Annie Bligh / Side-by-Side*
 Electrospun PCL-Ag NPS/Ca-Lavender Oil Janus Nanobelt as a Potential
 Wound Dressing (ID #843)
- 12:15 – 12:30PM **Contributed Talk 51 (Session Chair – Pauporte)**
Murtaza Najabat Ali, *Amna Aleem Khawaja, Bakhtawar Ghafoor,*
 Zunaira Qureshi, Mariam Mir / Design and Development of Curcumin-
 based Nano Fibrous Mats as Drug Eluting Stent Grafts for the Treatment
 of Coronary Diseases (ID #756)
- 12:30 – 12:45PM **Contributed Talk 52 (Session Chair – Pauporte)**
Deepa Garg, *Abhay Sachdev, Ishita Matai / Silver Nanotriangles*
 Incorporated Gum Tragacanth / Sodium Alginate Hydrogels for Biofilm
 Inhibition (ID #505) (*in Zoom*)
- 12:30 – 2:00PM *Lunch break (at your own expense)*

WEDNESDAY AFTERNOON SESSIONS

ORAL SESSION #3B

ELECTROCHEMISTRY OF NANOMATERIALS

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

- 2:00 – 2:15PM **Contributed Talk 53 (Session Chair – Hudec)**
Gurjeet Kaur, *Saloni Sharma, Manoj Nayak Kumar, Akash Deep /*
 Synthesis of Water-Stable MoS₂-Tb-MoF Based Nanocomposite for
 Highly Sensitive Electrochemical Detection of Anthrax Biomarker
 Dipicolinic Acid (DPA) (ID #788)
- 2:15 – 2:30PM **Contributed Talk 54 (Session Chair – Hudec)**
Kwena Desmond Modibane / Metal-Organic Framework Composites
 for Hydrogen Energy Applications: Advances and Challenges (ID #739)
- 2:30 – 2:45PM **Contributed Talk 55 (Session Chair – Hudec)**
Takeshi Ito / Analysis of Interaction of Liposomes and Nanopillar Array
 (ID #542)

- 2:45 – 3:00PM **Contributed Talk 56 (Session Chair – Hudec)**
Manjeet Mor, Manish Kumar Vishwakarma, Puneet Jain / Effect of N⁺ Ion Implantation on Structural, Optical Properties and Dielectric Behavior of ZnO Thin Films (ID #540)
- 3:00 – 3:15PM **Contributed Talk 57 (Session Chair – Hudec)**
Mariia Lopachak, Lidiya Boichyshyn, Viktor Nosenko / Electrochemical Behavior of Cobalt-Based Nanostructured Amorphous Alloys in Alkaline Solution (ID #659) (in Zoom)
- 3:30 – 4:00PM *Coffee break (Conference room “Rome”)*
- ORAL SESSION #3B**
NANOSCALE CHARACTERIZATION & IMAGING
(CONFERENCE HALL C – “LONDON III” & in ZOOM)
- 4:00 – 4:30PM **Invited Talk 51 (Session Chair – Asaoka)**
Dr. Boris Hudec, *Institute of Electrical Engineering, Slovak Academy of Sciences, Slovakia*
 Boris Hudec, Che-Chia Chang, Tuo-Hung Hou / Looking Under the Hood – Probing Degradation Mechanisms of Analog Memristive Devices by Combination of Thin Film Spectroscopy Techniques (ID #714)
- 4:30 – 5:00PM **Invited Talk 52 (Session Chair – Asaoka)**
Dr. Larysa Khomenkova, *V. Lashkaryov Institute of Semiconductor Physics, NAS of Ukraine, Ukraine*
 Larysa Khomenkova, Nadiia Korsunskya, Semyon Ponomaryov, Yuliia Polishchuk, Kostiantin Kozoriz, Maryna Khrypko, Lyudmyla Melnichuk, Oleksandr Melnichuk / Scanning Auger Microscopy as a Tool for the Direct Characterization of 3D Elemental Distribution in Multicomponent Materials and Structures (ID #781)
- 5:00 – 5:15PM **Contributed Talk 58 (Session Chair – Asaoka)**
Ján Šoltýs, Iuliia Vetrova, Juraj Feilhauer, Sergey Krylov, Ján Fedor, Tomáš Ščepka, Vladimír Cambel / Novel MFM Probe with a Disk-Shaped Magnetic Tip Apex (ID #699)
- 5:30 – 7:30PM **e-POSTERS SESSION (in Discord Platform)**
- 8:00 – 12:00AM **CONFERENCE GALA DINNER (HRADNÁ Reštaurácia)**
<https://hradna.com>

THURSDAY, SEPTEMBER 14, 2023

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 Skrypnyk, 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)**
Islam 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 – Lee)**
Pavlo Mikheenko / Screening of Magnetic Field by Self-Assembled Mammalian and Fungal Microtubules (ID #494)
- 8:45 – 9:00AM **Contributed Talk 76 (Session Chair – Lee)**
Faseehuddin Ahmed Mohammed / Electrospun Nanofibers for Effective Oral Delivery of Efavirenz (ID #665)
- 9:00 – 9:15AM **Contributed Talk 77 (Session Chair – Lee)**
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 – Lee)**
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 – Lee)**
Maciej Chrobak, Kamil Nowak, Michał Jurczyszyn, Andrii Naumov, Marek Przybylski / Annealing Effect on Bi_2Te_3 Topological Surface States as Seen From Magnetoresistance Probed at Sub-Kelvin Temperatures (ID #682)
- 9:45 – 10:00AM **Contributed Talk 80 (Session Chair – Lee)**
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 – Lee)**
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 Krysztofik, Marta Warzajtis, 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 – Goncharov)**
Prof. Richard Korytár, Charles University, Czech Republic
Spin Production in Helical Molecular Wires (ID #744)
- 2:30 – 3:00PM **Invited Talk 60 (Session Chair – Goncharov)**
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 – Goncharov)**
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 Patrňciak, 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 – Shabelnik)

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 – Shabelnik)

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 – Prokopenko)

Nyepudzai Charshline 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 – Prokopenko)

Gugu Mhlongo, Murendeni Nemufulwi, Mosima Kgomo / Nano-Enabled Chemi-Resistive Gas Sensors Based on In_2O_3 and ZnFe_2O_3 as VOC Detection Platforms: Effects of Cr-Doping (ID #730)

4:30 – 4:45PM

Contributed Talk 92 (Session Chair – Prokopenko)

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 – Prokopenko)

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")

FRIDAY, SEPTEMBER 15, 2023

FRIDAY MORNING SESSION

ORAL SESSION #1A
NANOMAGNETISM & MAGNETIC MATERIALS
(CONFERENCE HALL "LONDON" & in ZOOM)**ORAL SESSION #1A (Continued)**
FOCUS SESSION ON NANOENGINEERED SUPERCONDUCTORS
(CONFERENCE HALL "LONDON" & in ZOOM)

- 8:30 – 9:00AM **Invited Talk 73 (Session Chair – Karapetrov)**
Prof. Vladimir M. Fomin, Leibniz Institute for Solid State and Materials Research (IFW) Dresden, Germany
Superconductor 3D Nanoarchitectures: Properties due to Complex Geometry and Nontrivial Topology (ID #592)
- 9:00 – 9:30AM **Invited Talk 74 (Session Chair – Karapetrov)**
Dr. Rosa Córdoba, University of Valencia, Spain
Nanofabrication of Curvilinear and 3D Superconducting Architectures (ID #575)
- 9:30 – 9:45AM **Contributed Talk 94 (Session Chair – Karapetrov)**
Axel Johan Marie Deenen, Arnaud Emile S. Nizet, Dirk Grundler / Time-Dependent Ginzburg-Landau Simulations of Curved 3D Nanoarchitectures (ID #727)
- 9:45 – 10:00AM **Contributed Talk 95 (Session Chair – Karapetrov)**
Barbora Budinská, Volodymyr Bezv, Mikhail Mikhailov, Sebastian Lamb-Camarena, Stanislava Shpilinska, Andrii Chumak, Michal Urbanek, Markus Arndt, Wolfgang Lang, Oleksandr Dobrovolskiy / Vortex Counting and Velocimetry for Slitted Superconducting Thin Strips (ID #670)
- 10:00 – 10:30AM **Invited Talk 72 (Session Chair – Karapetrov)**
Prof. Haifeng Ding, Nanjing University, China
Coherent Picture on Pure Spin Current Transport Between Ag/Bi and Ferromagnet (ID #908) (in Zoom)
- 10:30 – 11:00AM *Coffee break (Conference room "Rome")*

- 11:00 – 11:30AM ***Invited Talk 75 (Session Chair – Fomin)***
Dr. Mariia Sidorova, *Nanyang Technological University, Singapore*
Mariia Sidorova, Sebastian Raupach, Alexei Semenov
Size Effects and Excess Noise in Superconducting Nanowire Single-Photon Detectors (ID #577)
- 11:30 – Noon ***Invited Talk 76 (Session Chair – Fomin)***
Dr. Mikhail Silaev, *Tampere University, Finland*
Ultrastrong Magnon-Photon Coupling and Entanglement in Superconductor/Ferromagnet Nanostructures (ID #721)
- Noon – 12:15PM ***Contributed Talk 96 (Session Chair – Fomin)***
Sandra Keppert, Bernd Aichner, Wolfgang Lang, Johannes Pedarnig David / $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_8$ Thin Film Fabrication for Nanostructuring to Investigate Vortex Dynamics (ID #638)
- 12:15 – 12:30PM ***Contributed Talk 97 (Session Chair – Fomin)***
Dr. Bernd Aichner, Max Karrer, Katja Wurster, Lucas Backmeister, Philipp Alexander Korner, Barbora Budinská, Oleksandr Dobrovolskiy, Reinhold Kleiner, Edward Goldobin, Dieter Koelle, Wolfgang Lang / Non-destructive Nanostructuring: Using a Focused Helium Ion Beam to Change the Properties of Cuprate Superconductors (ID #655)
- 12:30 – 2:00PM *Lunch break (at your own expense)*
- 2:00 – 2:30PM **IEEE NAP-2023 AWARDS & CONFERENCE CLOSING CEREMONY**
IEEE NAP-2024 ANNOUNCEMENT
(Session Chair – Cambel)

TUESDAY, SEPT. 12TH, 2023**POSTER SESSION # 1****MULTIFUNCTIONAL THIN FILMS & COATINGS - NANOBIO MEDICAL RESEARCH & APPLICATIONS - NANOMAGNETISM & MAGNETIC MATERIALS - NANOPHOTONICS****CONFERENCE ROOM "ROME"****5:30 – 7:30PM**

ID	No	Title	Authors	Track
468	P1-1	Multilayer Nanoscale WN/NbN Coatings with Superior Mechanical Properties and Wear Performance	Kateryna Smyrnova, Martin Sahul, Marián Haršáni, Alexander Pogrebnyak, Lubomír Čaplovič, Vyacheslav Beresnev, Mária Čaplovičová, Martin Kusy	Multifunctional Thin Films & Coatings (MTFC)
479	P1-2	Influence of Bias Voltage on the Structure and Mechanical Properties of Dual DC Magnetron Sputtered Ti-Nb-C Films	Volodymyr Ivashchenko, Aleksey Onoprienko, Alexander Pogrebnyak, Petro Scrynskyy, Oleksandr Marchuk, Andrii Kovalchenko, Olena Olifan	Multifunctional Thin Films & Coatings (MTFC)
483	P1-3	Structure, Hardness and Wear Resistance of Detonation Coating Based on Cr ₃ C ₂ -NiCr after Pulse-Plasma Treatment	Daur Kakimzhanov, Bauyrzhan Rakhadilov, Oleg Kolisnichenko, Yuri Tyurin, Dastan Buitkenov	Multifunctional Thin Films & Coatings (MTFC)
600	P1-4	Electrodeposition in a Magnetic Field of Electrocatalytically Active and Ferromagnetic Alloys	Yuliya Yapontseva, Valeriy Kublanovsky, Tetyana Maltseva, Oksana Gorobets	Multifunctional Thin Films & Coatings (MTFC)
623	P1-5	Inkjet-Printed Luminescence Metal-Organic Framework Patterns as the Ammonia Gas Sensor	Priyanshu Goel, Priyanshu Goel	Multifunctional Thin Films & Coatings (MTFC)
643	P1-6	Luminescent Composites Based on Nanocellulose and K ₃ Tb(PO ₄) ₂ Phosphor – Preparation and Properties	Serhii Nedilko, Vitalii Chornii, Kateryna Terebilenko, Petro Teselko, Vasyl Scherbatskyi, Danylo Gerasymchuk, Artem Voinalovych, Volodymyr Boyko, Yaroslav Zhydachevskyy, Valerii Barbash, Olga Yashchenko	Multifunctional Thin Films & Coatings (MTFC)

ID	No	Title	Authors	Track
679	P1-7	The Characteristics and Photocatalytic Activity of Lanthanum Doped ZnO Films	Liliia Myroniuk, Denys Myroniuk, Olga Chudinovych, Eduard Maistruk, Ivan Koziarskyi, Olena Olifan, Ihor Danylenko, Arsenii Ievtushenko	Multifunctional Thin Films & Coatings (MTFC)
695	P1-8	Patterning of Titanium Nitride Films by Dry Reactive Ion Etching in Inductively Coupled Plasma	Tibor Izsák, Tomáš Ščepka, Gabriel Vanko, Ján Fedor, Oleksandr Romanyuk, Boris Hudec	Multifunctional Thin Films & Coatings (MTFC)
702	P1-9	Growth of Two-Dimensional MoS ₂ and WS ₂ Films by Pulsed Laser Deposition on Sapphire Substrates	Marianna Španková, Edmund Dobročka, Tatiana Vojteková, Béla Pécz, Miklós Németh, Peter Hutár, Salvatore Panasci, Filippo Giannazzo, Stefan Chromik	Multifunctional Thin Films & Coatings (MTFC)
705	P1-10	Heterostructures of Diamond and Transition Metal Dichalcogenides	Marián Varga, Michaela Sojkova, Jana Hrdá, Gabriel Vanko, Tibor Izsák, Martin Hulman, Michal Kočí, Jan Fait, Alexander Kromka	Multifunctional Thin Films & Coatings (MTFC)
706	P1-11	High Aspect Ratio GaAs Structures for Improved Radiation Detectors	Tibor Izsák, Gabriel Vanko, Eva Kováčová, Marian Vojs, Bohumír Zaťko	Multifunctional Thin Films & Coatings (MTFC)
708	P1-12	Room Temperature Fabrication of Low Resistivity Titanium Nitride Thin Films by DC Magnetron Sputtering	Tomáš Ščepka, Ján Fedor, Fridrich Egyenes, Marián Precner, Edmund Dobročka, Alica Rosová, Iuliia Vetrova, Boris Hudec	Multifunctional Thin Films & Coatings (MTFC)
716	P1-13	The Development of Nanostructuring Method Metal Surfaces by Electrospark Alloying	Oksana Gaponova, Viacheslav Tarelnyk, Stanislav Marchenko, Ievgen Konoplianchenko, Nataliia Tarelnyk	Multifunctional Thin Films & Coatings (MTFC)
759	P1-14	Mechanical and Tribological Properties of Silver-Doped CrB ₂ Thin Films Prepared by DC/HiPIMS Technology	Martin Truchlý, Marián Haršáni, Adam Frkáň, Tomáš Fiantok, Martin Sahul, Tomáš Roch, Peter Kúš, Marián Mikula	Multifunctional Thin Films & Coatings (MTFC)
762	P1-15	Structure, Mechanical and Tribological Properties of Co-Sputtered Zr-Ag-B ₂ Thin Films	Tomáš Fiantok, Martin Truchlý, Viktor Šroba, Tomáš Roch, Vitalii Izai, Marek Vidiš, Marián Haršáni, Leonid Satrapinsky, Marián Mikula	Multifunctional Thin Films & Coatings (MTFC)

ID	No	Title	Authors	Track
807	P1-16	Experimental Investigation on Structure and Mechanical Properties of $W_N_x/TiSiN$ Nanocomposite Multilayer Coatings	Martin Sahul, Barbora Bočáková, Marián Haršáni, Kateryna Smyrnova, Martin Truchlý, Miroslav Sahul, Martin Kusy, Lubomír Čaplovič, Alexander Pogrebniak, Tomáš Vopát	Multifunctional Thin Films & Coatings (MTFC)
808	P1-17	Antimicrobial Ag Nanoclusters in Hard TiB_2 Matrix Prepared by Magnetron Sputtering	Marek Vidiš, Martin Truchlý, Vitalii Izai, Tomáš Fiantok, Miroslav Rajnivec, Tomáš Roch, Leonid Satrapinskyy, Stefan Nagy, Veronika Turiničová, Marián Mikula	Multifunctional Thin Films & Coatings (MTFC)
827	P1-18	Analysis of the Mechanical Properties of $W_N_x/TiSiN$ Nanocomposite Multilayer Coating and Its Monolithic W_N_x and $TiSiN$ Layers	Martin Sahul, Barbora Bočáková, Marián Haršáni, Kateryna Smyrnova, Miroslav Sahul, Martin Truchlý, Martin Kusy, Lubomír Čaplovič	Multifunctional Thin Films & Coatings (MTFC)
854	P1-19	A Comparative Study of Microstructure and Properties of $TiZrN/NbN$ and $TiSiN/NbN$ Nanolaminate Coatings	Olga Maksakova, Vyacheslav Beresnev, Sergiy Lytovchenko, Diana Kaynts	Multifunctional Thin Films & Coatings (MTFC)
891	P1-20	Analysis of Mechanical Properties of Wire and Arc Additively Manufactured AA5087 Aluminium Alloy	Miroslav Sahul, Martin Sahul, Ladislav Kolařík, Marián Pavlík, Vít Novák, Florian Pixner	Multifunctional Thin Films & Coatings (MTFC)
897	P1-21	Resonances in Nanocomposites with Ferromagnetic Grains FeCoZr Embedded in the CaF ₂ Matrix	Vitalii Bondariev.	Multifunctional Thin Films & Coatings (MTFC)
898	P1-22	Functionalised High-Entropy Alloys and Coatings with Optimized Physical and Mechanical Properties in Antimicrobial and Biocorrosion Applications	Bogdan Postolnyi, Radu Robert Piticescu, Laura Madalina Cursaru, Beatrice Adriana Serban, Dumitru Mitrica, Arcadii Sobetkii, Vladyslav Rogoz, Vladimir Buranich, Alexander Pogrebniak	Multifunctional Thin Films & Coatings (MTFC)
509	P1-23	Catalytic Effect of $GdVO_4:Eu^{3+}$ Nanocrystals	Svetlana Yefimova, Pavel Maksimchuk, Kateryna	Nanobiomedical Research &

ID	No	Title	Authors	Track
		Over H ₂ O ₂ Decomposition Reaction	Hubenko, Vladimir Klochkov, Oleksandr Sorokin, Vladyslav Seminko, Lesya Demchenko	Applications (NRA)
525	P1-24	Titanium Oxide Nanoparticles as an Antioxidant for Cryopreservation	Iryna Bepalova, Mariia Yukhta, Viktor Kireev, Pavel Maksimchuk, Vladyslav Seminko, Svetlana Yefimova	Nanobiomedical Research & Applications (NRA)
552	P1-25	Trace Elements as a Specific Marker for Ovarian Cancer Biom mineralization	Ruslana Chyzhma, Roman Moskalenko	Nanobiomedical Research & Applications (NRA)
559	P1-26	Microstructure of Antioxidants Based on Orthovanadate Nanocrystals: XPS Study	Kateryna Hubenko, Pavel Maksimchuk, Andrey Onishchenko, Pavel Potapov, Vladimir Klochkov, Svetlana Yefimova, Martin Knupfer	Nanobiomedical Research & Applications (NRA)
569	P1-27	Synthesis, Physicochemical Characterization, and Antioxidant Assessment of Biocompatible β -cyclodextrin – Stabilized CeO ₂ Nanoparticles	Ganna Grygorova, Vladyslav Seminko, Olga V. Vashchenko, Dmitry Sofronov, Svetlana Yefimova	Nanobiomedical Research & Applications (NRA)
605	P1-28	Nano-engineered Materials in Cosmetics, Safety Aspects: Data System “Rana”	Viktoriiia Paientko, Ewa Skwarek	Nanobiomedical Research & Applications (NRA)
644	P1-29	Bioinspired Adhesive Nanofibrous Hydrogel Demonstrates Synergistic Effect of Chemo-immunotherapy for Osteosarcoma Treatment	Wei Yuan Huang	Nanobiomedical Research & Applications (NRA)
678	P1-30	Silicon Surface Sonomodification for Biointegration	Rada Savkina, O.Y. Gudimenko, Vasyi Morozhenko, Oleksii Smirnov, Maria Smoliy	Nanobiomedical Research & Applications (NRA)
758	P1-31	Effect of Silver Nanoparticles Incorporation on Properties of Poly(lactic acid)/Chitosan Electrospun Nanofibrous Composite	Yuliia Varava, Kateryna Diedkova, Yevheniia Husak, Yevhen Samokhin, Valeriia Korniienko, Baiba Zandersone, Baiba Krauze, Vladlens Grebnevs, Tatjana	Nanobiomedical Research & Applications (NRA)

ID	No	Title	Authors	Track
			Tračevska, Maksym Pogorielov, Viktoriia Kornienko	
768	P1-32	The Structure of Nanocrystalline Calcifications from the Gallbladder	Roman Moskalenko, Sergey Danilchenko, Andriy Stepanenko, Tattygul R Akhunbaeva, Roman K Kalmatov	Nanobiomedical Research & Applications (NRA)
780	P1-33	Refining the Thermal Decomposition Method for Semi-Continuous Production of Magnetic Iron Oxide Nanoparticles	Egon G Höfgen, Sulalit Bandyopadhyay	Nanobiomedical Research & Applications (NRA)
806	P1-34	Multifluid Side-by-Side Electrospun Tri-layer Janus Fiber with Different Spinnable Solutions	Meng-Long Wang, Deng-Guang Yu, Sim Wan Annie Bligh	Nanobiomedical Research & Applications (NRA)
842	P1-35	Multifluid Side-by-Side Electrospun Tri-Layer Janus Fiber with Different Spinnable Solutions	Sim Wan Annie Bligh, Deng-Guang Yu, Meng-Long Wang	Nanobiomedical Research & Applications (NRA)
886	P1-36	MXene-cell Interactions: Influence of Size and Protein Corona Formation	Kateryna Diedkova, Evelina Bebre, Una Riekstina, Iryna Roslyk, Ivan Baginskyi, Veronika Zahorodna, Oleksiy Gogotsi, Maksym Pogorielov	Nanobiomedical Research & Applications (NRA)
887	P1-37	Identification of Pathogenic Fungus on Biosurface Using Optical Coherence Tomography Combined with Laser Speckle Contrast Imaging	Eglė Vansevičiūtė, Rimantas Daugelavičius, Simona Vaitkienė, Mikus Melderis, Roman Viter, Mindaugas Tamošiūnas	Nanobiomedical Research & Applications (NRA)
893	P1-38	Labeling of Cellular Targets Using Promising Two-Photon Contrast Agent Based on Sorted Nitrogen-Doped Graphene Quantum Dot–Polymer Conjugates Exhibiting Excitation-Wavelength-Independent Photoluminescence	Wen-Shuo Kuo	Nanobiomedical Research & Applications (NRA)

ID	No	Title	Authors	Track
894	P1-39	Application of MoS ₄ ²⁻ Intercalated Magnetic Layered Double Hydroxide for Preconcentration of Cadmium and Lead from Water Samples	Luthando Nyaba, Philiswa Nosizo Nomngongo	Nanobiomedical Research & Applications (NRA)
895	P1-40	Molecularly Imprinted Polypyrrole Electrochemical Sensor for L. Monocytogenes Detection	Maksym Pogorielov, Viktoriia Korniienko, Kateryna Diedkova, Vilma Ratautaite, Arunas Ramanavicius.	Nanobiomedical Research & Applications (NRA)
896	P1-41	Size and Concentration Dependence of Antimicrobial Activity for Copper Nanoparticles	Yuliia Varava, Valeriia Korniienko, Rafal Banasiuk, Roman Moskalenko, Maksym Pogorielov, Viktoriia Korniienko.	Nanobiomedical Research & Applications (NRA)
535	P1-42	Investigation of Self-Nucleation and Induction by Magnetic Moment of MFM Tip of the Skyrmion State Inside the Patterned Nanodots Multilayer Structure	Iuliia Vetrova, Mateusz Zelent, Ján Šoltýs, Tomas Scepka, Ján Dérer, Roman Stoklas, Vladimír Cambel, Michal Mruczkiewicz	Nanomagnetism & Magnetic Materials (NMM)
555	P1-43	Observation and Study of Curie Temperature Shift In Ni _x Pt _{1-x} Alloy	Branislav Stropkai, Serhii Vorobiov, Erik Cizmar, Vitalii Latyshev, Vladimir Komanicky	Nanomagnetism & Magnetic Materials (NMM)
564	P1-44	Focused Ion Beam Influence on Topological and Magnetic Properties of the Nanostructures	Tetiana Kalmykova, Sergei Krylov, Vladimír Cambel, Tomáš Ščepka	Nanomagnetism & Magnetic Materials (NMM)
582	P1-45	Dynamics of Paramagnetic Centers in Organometallic Nanosystems and their Application in Biomedical Research	Olena Aksimentyeva, Yuliia Horbenko	Nanomagnetism & Magnetic Materials (NMM)
674	P1-46	Structural and Magnetic Transitions in Aged Shape Memory Cu-Al-Mn and Cu-Al-Mn-Fe Alloys	Lesya Demchenko, Anatolii Titenko, Anatolii Kravets, Yurii Troshchenkov, Rostyslav Ponochovny, Oleksii Titenko	Nanomagnetism & Magnetic Materials (NMM)
691	P1-47	Switching of Ferromagnetic Nano-Triangles by MFM Tip	Tomáš Ščepka, Juraj Feilhauer, Jaroslav Tobik, Sergey Krylov, Tetiana	Nanomagnetism & Magnetic Materials (NMM)

ID	No	Title	Authors	Track
			Kalmykova, Michal Mruczkiewicz	
700	P1-48	Influence of Paramagnetic GGG Substrate on YIG Films at Millikelvin Temperatures	Rostyslav Serha, Andrey Voronov, David Schmoll, Roman Verba, Sabri Koraltan, Kristyna Davidkova, Barbora Budinská, Qi Wang, Oleksandr Dobrovolskiy, Michal Urbanek, Morris Lindner, Timmy Reimann, Carsten Dubs, Claas Abert, Dieter Suess, Sebastian Knauer, Andrii Chumak	Nanomagnetism & Magnetic Materials (NMM)
701	P1-49	Structural Evolution and Magnetic Properties of the Ni-Fe Nanocomposite Particles Synthesized by Annealed the Mixture of Metal Nitrates and Polyacrylonitriles	Chun-Rong Lin, Ying-Zhen Chen, Pei-Ying Chuang, Li-Huai Huang, Zi-Hao Huang, Kun-Yauh Shih	Nanomagnetism & Magnetic Materials (NMM)
710	P1-50	Propagating Spin-Wave Spectroscopy Studies in a Millikelvin Temperature Environment	David Schmoll, Sebastian Knauer, Rostyslav Serha, Roman Verba, Andrey Voronov, Carsten Dubs, Andrii Chumak	Nanomagnetism & Magnetic Materials (NMM)
711	P1-51	Ferromagnetic Resonance Study of Permalloy Nano-Rectangles	Pavol Neilinger, Tomáš Ščepka, Konstantin Bublikov, Ján Dérer, Miroslav Grajcar, Michal Mruczkiewicz	Nanomagnetism & Magnetic Materials (NMM)
713	P1-52	Non-reciprocal Magnonic Directional Coupler	Noura Zenbaa, Qi Wang	Nanomagnetism & Magnetic Materials
717	P1-53	Modification of Magnetic Semiconductors by Phosphorus Doping	Nataliia Tataryn, Oksana Yastrubchak, Sergii Mamykin, Volodymyr Romanyuk, Oleksandr Kolomys, Xinyu Liu, Jacek Furdyna, Badih A Assaf, Olga Kondratenko	Nanomagnetism & Magnetic Materials (NMM)
719	P1-54	2D Bent Nano-Conduits Made of Partially-Compensated Ga:YIG for Spin-Wave Transport	Andrey Voronov, Ondřej Wojewoda, Kristyna Davidkova, Qi Wang, Carsten Dubs, Michal Urbanek, Andrii Chumak	Nanomagnetism & Magnetic Materials (NMM)

ID	No	Title	Authors	Track
726	P1-55	Structural and Magnetic Properties of $Y_3Fe_5O_{12}$ Thin Films Grown on Metal Layers	Adam Krysztofik, Emerson Coy, Janusz Dubowik	Nanomagnetism & Magnetic Materials (NMM)
773	P1-56	The Influence of the Magnetic Field on the Morphology and Structural Characteristics of Thin-Film Granular Magnetic Systems Co-Ag and Co-Cu as Functional Elements of Spintronics	Ihor Shpetnyy, Tomáš Plecenik, Yurii Shkurdoda, Iryna Nakonechna, Uliana Shvets	Nanomagnetism & Magnetic Materials (NMM)
791	P1-57	Aging Impact on Crystal Structure and Magnetic Parameters of $KFeO_2$ Nanoparticles	Olesya Nakonechna, Gurmeet Singh Lotey, Iryna Sharai, Andrii Bodnaruk, Victor Kalita, Alexandr Tovstolytkin	Nanomagnetism & Magnetic Materials (NMM)
793	P1-58	Enhancement of LTP Crystallographic Phase in MnBi Alloy Systems	Tiberiu Roman, Marian Grigoras, Nicoleta Lupu	Nanomagnetism & Magnetic Materials (NMM)
836	P1-59	Semi-Analytical Model of Topological Magnonic Crystal	Juraj Feilhauer, Mateusz Zelent, Zhiwang Zhang, Johan Christensen, Michal Mruczkiewicz	Nanomagnetism & Magnetic Materials (NMM)
868	P1-60	Spin Wave's Dynamics in the Two-Sublattice Magnets	Olha Boliashova, Vladimir Krivoruchko	Nanomagnetism & Magnetic Materials (NMM)
880	P1-61	Characterization of Fe_3O_4 -Polyethyleneimine Nanocomposites for Magnetic Harvesting of Freshwater Microalgae	Kristína Gerulová, Alexandra Kucmanová, Zuzana Sanny, Zuzana Garaiová, Eugen Seiler, Mária Čaplovičová, Lubomír Čaplovič, Marián Palcut	Nanomagnetism & Magnetic Materials (NMM)
576	P1-62	Improving the Stability of Carbocyanine J-Aggregates in Layered Polymer Films	Polina Pisklova, Johannes Krause, Steffen Wolter, Tobias Korn, Svetlana Yefimova, Oleksandr Sorokin, Stefan Lochbrunner	Nanophotonics (NP)
587	P1-63	Interaction between J-Aggregates of Cyanine Dyes in Layered Polymer Films	Iryna Ropakova, Polina Pisklova, Svetlana Yefimova, Stefan Lochbrunner, Oleksandr Sorokin	Nanophotonics (NP)

ID	No	Title	Authors	Track
857	P1-64	Plasmonic Au Nanotube Array Absorber via Template-Assisted Secondary Deposition for Solar Energy Application	Hak-Jong Choi	Nanophotonics (NP)
865	P1-65	Environmentally-Conscious and Cost-Beneficial Selective Extraction of Single-walled Carbon Nanotubes by Conjugated Polymers	Patrycja Taborowska, Andrzej Dzień, Dawid Janas	Nanophotonics (NP)
867	P1-66	Solvatochromism of Single-Walled Carbon Nanotubes Suspended in Various Organic Media	Andrzej Dzień, Dominik Just, Dawid Janas	Nanophotonics (NP)

THURSDAY, SEPT. 14TH, 2023**POSTER SESSION # 2****NANOMATERIALS FOR ENERGY & ENVIRONMENT - NANOMATERIALS SYNTHESIS & SELF-ASSEMBLY - NANOSENSORS & NANODEVICES - SUPERCONDUCTIVITY IN NANOSCALE & MESOSCOPIC SYSTEMS****CONFERENCE ROOM "ROME"****5:30 – 7:30PM**

ID	No	Title	Authors	Track
467	P2-1	Improvement of Specific Capacity of Lithium Iron Phosphate Battery by Increasing the Surface Area and Electrical Conductivity of Cathode Electrode Using Graphene Foam	Piyaporn Surinlert, Akkawat Ruammitree	Nanomaterials for Energy & Environment (NEE)
514	P2-2	A Zr-MoF and Conductive Polymer Based Sensitive Electrochemical Detection of Nitrofurantoin Antibiotics in Water	SHALINI SINGH, Priyanshu Goel, Deepanshu Bhatt, Umesh Tiwari, Akash Deep	Nanomaterials for Energy & Environment (NEE)
816	P2-3	Comparing Heat Transfer Rates of Water Based Nanofluids Using a Figure of Merit	Tetiana Rymar, Myroslava Kazmiruk	Nanomaterials for Energy & Environment
583	P2-4	Experimental Study for the Enthalpy of the Diffuse Phase Transitions of Fullerene C60 Solutions in Industrial Paraffin Wax	Vitaly Zhelezny, Yana Hlek, Dmytro Ivchenko, Olga Khliyeva	Nanomaterials for Energy & Environment (NEE)
630	P2-5	Catalytic Activity Assessment of APS Glass Sprayed SnO ₂ /ZrO ₂ Coatings in the Light Activated Degradation of Eosin Y and Toluidine Blue	Alicja Duda, Bartosz Kopyciński, Monika Czerny, Krzysztof Pęcak, Marcin Lis, Adriana Wrona	Nanomaterials for Energy & Environment (NEE)
637	P2-6	Zinc Ferrite Nanoparticles as Electrode Material for Photo-Supercapacitor	PIYALI CHATTERJEE, Kousik Pradhan, Shobha Shukla, Sumit Saxena	Nanomaterials for Energy & Environment (NEE)
658	P2-7	Piezoelectric Nanogenerator Based on Flexible Polylactide/ Bismuth Ferrite 0-3 Type Polymer Composites	Olha Masiuchok, Marcin Godzierz, Sébastien Pruvost, Aurélien Roggero, Urszula Szeluga, Maksym Iurzhenko	Nanomaterials for Energy & Environment (NEE)

ID	No	Title	Authors	Track
664	P2-8	Effect of GaAs Substrate Orientations and Doping on the Electrical and Optical Properties of Ingap Solar Cell Structures	Saud Alotaibi, Mozart Correa Avila, Labeled Madani, Abdulaziz Almalki, Soltan Alhassan, Maryam Al Huways, Yara Galvao Gobato, Hassanet Soda-banlu, Masakazu Sugiyama, Helder Vinicius Avanco Galeti, Nouredine Sengouga, Mohamed Henini	Nanomaterials for Energy & Environment (NEE)
725	P2-9	Computational Fluid Dynamics (CFD) Approach Towards Atomic Layer Deposition (ALD) Process Optimization	Michal Pecz, Boris Hudec	Nanomaterials for Energy & Environment (NEE)
748	P2-10	Correlation of Electrophysical and Mechanical Properties of Polymer Nanocomposites Based on Epoxy Resin with Carbon Fibers	Oksana Lisova, Stanislav Makhno, Ruslana Mazurenko, Sergey Prokopenko, Yurii Sementsov, Mykola Kartel	Nanomaterials for Energy & Environment (NEE)
785	P2-11	Al:SrTiO ₃ @Fe ₂ O ₃ @void@SiO ₂ Nanoreactors for Efficient Visible Light-Driven Photocatalytic Water Splitting	Ioana Radu, Daniel Gherca, Georgiana Andreea Bulai, Adrian Iulian Borhan, Aurel Pui	Nanomaterials for Energy & Environment (NEE)
786	P2-12	Al:SrTiO ₃ /CoOOH Core-Shell Nanoarchitectures: A Promising Framework for Highly Efficient Adsorption of Tropaeolin 00 Dye and Oxacillin from Wastewater	Ioana Radu, Daniel Gherca, Adrian Iulian Borhan, Georgiana Andreea Bulai, Daniela Dirtu, Alin Constantin Dirtu, Aurel Pui	Nanomaterials for Energy & Environment (NEE)
799	P2-13	The Impact of Chemical Activation on the Structure and Surface Characteristics of Kaolin	Antonina Bondarieva, Viktoriia Tobilko	Nanomaterials for Energy & Environment

ID	No	Title	Authors	Track
850	P2-14	Acetylene Gas Pyrolyzed Carbon Structures for the Aqueous Supercapacitor Applications	Vishal Shrivastav, Wojciech Nogala, Shashank Sundriyal	Nanomaterials for Energy & Environment (NEE)
855	P2-16	Facile Fabrication of Flexible Zinc Oxide Nanostructured Materials for Applications in Thermoelectric Generators	Raitis Sondors, Margarita Baitimirova, Donats Erts, Jana Andzane	Nanomaterials for Energy & Environment (NEE)
859	P2-17	Fabrication of Cu ₂ O Nanowire Networks for Thermoelectric Applications	Davis Gavars, Raitis Sondors, Anatolijs Sarakovskis, Artis Kons, Donats Erts, Jana Andzane	Nanomaterials for Energy & Environment (NEE)
884	P2-18	Finite Element Analysis of Composite Materials Reinforced with Flawed Nano-Particles	Waleed Ahmed	Nanomaterials for Energy & Environment
466	P2-19	Facile One-Step Hydrothermal Synthesis of Monolayer and Turbostratic Bilayer <i>n</i> -Doped Graphene Quantum Dots Using Sucrose as a Carbon Source	Akkawat Ruammitree	Nanomaterials Synthesis & Self-assembly (NSS)
490	P2-20	Pulsed Laser Ablation Synthesis of CeAlO ₃ Nanocrystals	Volodymyr Vasylykovskiy, Iryna Bepalova, Mykola Slipchenko, Olena Slipchenko, Oleksandr Sorokin, Oleg Sidletskiy, Iaroslav Gerasymov, Pavlo Arhipov, Serhii Tkachenko	Nanomaterials Synthesis & Self-assembly (NSS)
503	P2-21	Nickel Nano-Particle Synthesis By RF Thermal Plasma Process	Chulwoong Han, Sung Cheol Park	Nanomaterials Synthesis & Self-assembly (NSS)
507	P2-22	Understanding the Properties of Nanoparticles Prepared using Solution Combustion Synthesis in a Closed Environment	ANCHU ASHOK, Luc Vechot, Mamoun Al-Rawashdeh	Nanomaterials Synthesis & Self-assembly (NSS)
520	P2-23	Nitrogen-Doped Graphene and Application as Electrocatalyst for Proton Exchange Membrane Fuel Cells	Adriana Marinoiu	Nanomaterials Synthesis & Self-assembly (NSS)

ID	No	Title	Authors	Track
528	P2-24	Silver-Containing Nanocomposites with Antimicrobial and Antiviral Activity	Valeriy Demchenko, Nataliya Rybalchenko, Tetiana Hnatiuk, Krystyna Naumenko, Svetlana Zahorodnia, Maksym Iurzhenko, Sergii Riabov	Nanomaterials Synthesis & Self-assembly (NSS)
530	P2-25	Design and Structural Characterization of Semiconducting ZnO/ZnS Hierarchical Nanostructures on the Surface of Porous Silicon	Yana Suchikova, Sergii Kovachov, Ihor Bohdanov	Nanomaterials Synthesis & Self-assembly (NSS)
572	P2-26	Electrochemical Fabrication of Poly(6-aminoindole)-Graphene Oxide Nanostructures on Transparent Electrodes	Yuliia Horbenko, Olena Aksimentyeva, Vasyl Kordan	Nanomaterials Synthesis & Self-assembly (NSS)
573	P2-27	Dissolution-Precipitation Synthesis, Structural and Biological Properties of Copper Whitlockite	Aleksej Zarkov, Diana Griestiute, Agne Kizalaite, Vytautas Klimavičius, Arita Dubnika, Tomoyo Goto, Tohru Sekino	Nanomaterials Synthesis & Self-assembly (NSS)
594	P2-28	Structure, Optical Properties and Photocatalytic Activity of Undoped, Y ₂ O ₃ -Doped ZnO Nanocomposites	Olga Chudinovych, Denys Myroniuk, Liliia Myroniuk, Ihor Danylenko	Nanomaterials Synthesis & Self-assembly (NSS)
607	P2-29	The Eco-Friendly Method Synthesis of MXenes Materials Using Surface Acoustic Wave	Joanna Sulej-Chojnacka, Joanna Pórolniczak, Grzegorz Kubicki, Ernest Brzozowski	Nanomaterials Synthesis & Self-assembly (NSS)
660	P2-30	Functionalization of Silica Particles with Polyisoprene or Methacrylate Groups to Improve Macroscopic Mechanical Properties of Thick Elastomeric Films	Olha Maikovych, Emilie Choppe, Anna Stasiuk, Serhii Varvarenko, Wasan Thaokotsee, Jean-Francois Bardeau, Pamela Pasetto	Nanomaterials Synthesis & Self-assembly (NSS)

ID	No	Title	Authors	Track
684	P2-31	Lithium-Induced Reorientation of Few-Layer MoS ₂ Films	Michaela Sojkova, Igor Piš, Jana Hrdá, Tatiana Vojteková, Lenka Pribusová Slušná, Karol Végső, Peter Šiffalovič, Peter Nádaždy, Edmund Dobročka, Miloš Krbal, Paul Fons, Frans Munnich, Elena Magnano, Martin Hulman, Federica Bondino	Nanomaterials Synthesis & Self-assembly (NSS)
685	P2-32	High Carrier Mobility PtSe ₂ Thin Films Grown by One-Zone Selenization on Various Substrates	Jana Hrdá, Tatiana Vojteková, Lenka Pribusová Slušná, Ondrej Pohorelec, Dagmar Gregušová, Martin Hulman, Michaela Sojkova	Nanomaterials Synthesis & Self-assembly (NSS)
789	P2-33	Synthesis and Thermal Decomposition of Magnesium Whitlockite	Ligita Valeikiene, Jonas Stadulis, Vytautas Klimavičius, Tomoyo Goto, Tohru Sekino, Aleksej Zarkov	Nanomaterials Synthesis & Self-assembly (NSS)
792	P2-34	Core@Shell@Shell Nano-Photo Reactors Development Using Al:SrTiO ₃ @FeOOH@SiO ₂ System for Photocatalytic Water Splitting	Ioana Radu, Tiberiu Roman, Adrian Iulian Borhan, Georgiana Andreea Bulai, Daniel Gherca, Aurel Pui	Nanomaterials Synthesis & Self-assembly (NSS)
800	P2-35	Chemical Vapor Deposition Growth of Monolayer and Few-Layer MoSe ₂	Magdalena Precnerova, Marián Precner, Peter Hutár, Viera Skákalová, Ján Šoltýs	Nanomaterials Synthesis & Self-assembly (NSS)
830	P2-36	FT-IR Spectroscopy of MoTe ₂ Thin Films	Tatiana Vojteková, Lenka Pribusová Slušná, Jana Hrdá, Michaela Sojkova, Martin Hulman	Nanomaterials Synthesis & Self-assembly (NSS)

ID	No	Title	Authors	Track
608	P2-37	Structural and Optical Characterization of MoS ₂ Nanocrystals Prepared by Green Colloidal Synthesis	Peter Hutár, Filip Zechel, Viliam Vretenár, Karol Végső, Peter Šiffalovič, Milan Sýkora	Nanoscale Characterization & Imaging (NCI)
549	P2-38	Influence of the Hydrogen Gas Concentration on the Resistive Switching in the Pt/TiO ₂ /Pt Memristor	Marek Vidiš, Michal Patrňciak, Martin Mosko, Andrej Plecenik, Leonid Satrapinskyy, Tomáš Roch, Pavol Ďurina, Tomáš Plecenik	Nanosensors & Nanodevices (NN)
614	P2-39	Hybrid Metasurfaces Based on Laser-Structured Substrates and Plasmonic Nanoparticles for the Enhancement of Adenosine Nucleotide Raman Spectra	Nataliya Berezovska, Igor Dmitruk, Oleg Yeshchenko, Vladislav Kudrya, Oleksandr Stanovyi, Sergii Golovynskyy, Anastasiya Tomchuk, Yevhen Hrabovskyy, Junle Qu	Nanosensors & Nanodevices (NN)
620	P2-40	Determination of Carbamazepine Using Luminescent Bifunctional Silica-Based Sensor	Halyna Yankovych, Inna Melnyk	Nanosensors & Nanodevices (NN)
627	P2-41	Response Characteristics of Hydrogen Gas Sensor Based on Pt-TiO ₂ -Pt Sandwich Structure With Nanoporous Top Electrode	Michal Patrňciak, Ľubomír Staňo, Marek Vidiš, Leonid Satrapinskyy, Tomáš Roch, Pavol Ďurina, Tomáš Plecenik	Nanosensors & Nanodevices (NN)
646	P2-42	SARS-COV-2 Spike Protein Detection Using Silver-Doped Zinc Oxide Tetrapods as SERS Substrate	Edgars Vanags, Ivita Bite, Annamarija Trausa, Karlis Vilks, Krisjanis Smits	Nanosensors & Nanodevices (NN)
697	P2-43	FinFETs versus GAAFETs Performances and Perspectives	Arezki Benfdila	Nanosensors & Nanodevices

ID	No	Title	Authors	Track
747	P2-44	PEI-ZIF-8 Overlay Filter to Enhance the Selectivity of Amine Functionalized Nb ₂ CT _x Sensor Towards NO ₂ Gas at Room Temperature	Naveen Kumar Arkoti, Kaushik Pal	Nanosensors & Nanodevices (NN)
802	P2-45	Application of Graphene-Based Nanostructures Enabling Signal Enhancement for Electrochemical Detection of Progesterone Hormone	Disha, Poonam Kumari, Raj Rani, Manoj Kumar Nayak	Nanosensors & Nanodevices (NN)
838	P2-46	Hydrogen Sensing Characteristics of TiO ₂ Thin Films Grown by Atomic Layer Deposition using TTIP Precursor with H ₂ O vs. O ₃ Reactants	Boris Hudec, Tomáš Ščepka, Matej Horský, Peter Nádaždy, Iulija Vetrova, Martin Predanoc, Pavol NEMEC, Róbert Andok, Michal Patrnčíak, Tomáš Plecenik	Nanosensors & Nanodevices (NN)
851	P2-47	Vertical Heterostructure TiO ₂ Gas Sensor for Low-Temperature Detection of H ₂ via Maskless UV Photolithography	Pavol Nemeč, Martin Predanoc, Róbert Andok, Jaroslava Škriniarová, Jaromír Klarák	Nanosensors & Nanodevices (NN)
688	P2-48	The Impact of Solution Treatment on the Properties of High-Temperature Superconductor YBa ₂ Cu ₃ O _{7-x}	Michal Bennar, Stefan Chromik, Marianna Španková, Marcel Talacko, Juraj Kronek	Superconductivity in Nanoscale & Mesoscopic Systems (SNMS)
645	P2-49	Study of Magnetic and Optical Properties of Mn ₂ CO ₂ MXene	Jiri Kalmar, Frantisek Karlicky	Theory & Modeling (TM)
772	P2-50	The Study of ZrO ₂ Materials with Different Crystalline Structure by Means of Infrared Reflection Spectroscopy	Oleksandr Melnichuk, Nadiia Korsunsk, Yuliia Polishchuk, Lyudmyla Melnichuk, Larysa Khomenkova	Theory & Modeling (TM)
856	P2-51	Modeling of Ti ₂ CO ₂ QDs: Influence of Edge Functionalization and Size on Their Properties	Barbora Venosova, Frantisek Karlicky	Theory & Modeling (TM)

ID	No	Title	Authors	Track
611	P2-52	Computational Study of the Thermal Transport Properties of Hollow-Core Si Nanowires	Vasyl Kuryliuk, Viktoria Shevchenko	Transport Properties in Nanoscale Systems (TPNS)
771	P2-53	Morphology and Optical Properties of Porous Silicon Filled with Luminescent Oxide Dielectric Nanoparticles	Alla Kuryliuk, Volodymyr Boyko, Olga Gomenyuk, Serhii Nediiko, Kateryna Terebilenko, Petro Teselko, Vasyl Scherbatskyi, Vadym Sheludko, Viktoria Shevchenko, Vitalii Chornii	Nanomaterials Synthesis & Self-assembly (NSS)
621	P2-54	Electrical Properties of Mo-W-C Nanocomposite Films	Piotr Gałaszkiwicz, Pawel Zukowski, Tomasz Koltunowicz, Alexander Pogrebnjak, Kateryna Smyrnova, Martin Sahul, Vitalii Bondariev	Transport Properties in Nanoscale Systems (TPNS)
521	P2-55	Iodine-doped Graphene as High Performance Electrocatalyst for Oxygen Reduction Reaction for PEM Fuel Cells	Adriana Marinoiu	Electrochemistry of Nanomaterials (EN)
545	P2-56	Development of Poly(3-Hydroxybutyrate) Based Biocomposites with Graphene Fillers of Various Structure for the Piezoresistive Sensors	Viktoriiia Talaniuk, Marcin Godzierz, Urszula Szeluga, Grazyna Adamus, Wanda Sikorska, Yevheniia Buinova, Maksym Iurzhenko, Yevgen Mamunya	Electrochemistry of Nanomaterials (EN)
693	P2-57	Facile Synthesis of PtNiCo/rGO and Its Electrochemical Properties for Direct Methanol Fuel Cells	Kun-Yauh Shih, Chun-Rong Lin, Ming-Chi Tsai	Electrochemistry of Nanomaterials (EN)

ID	No	Title	Authors	Track
478	P2-58	Synthesis and Identification of Fullerene-24 Adducts with Transition Metals and Lanthanides (by the Example of Zn, Co, and La)	Botogoz Shaimordanova, Josulan Shaimardanov, Natalia Kulenova, Marjan Sadenova, Ludmila Shushkevich, Nikolay Charykov, Victor Keskinov, Alexander Blokhin	Interdisciplinary & Miscellaneous Topics (IMT)
512	P2-59	Expanded Graphite – Carbon Nanotubes Nanocomposite Materials	Kateryna Ivanenko, Dongxing Wang, Evgeny Demianenko, Yuliia Grebel'na, Mykola Kartel, Yurii Sementsov	Interdisciplinary & Miscellaneous Topics (IMT)
568	P2-60	Antibacterial Application of ZnO and CuO Nanoparticles In Polyelectrolyte Multilayers	Nives Matijaković Mlinarić, Anamarija Zore, Aleksander Učakar, Klemen Bohinc	Interdisciplinary & Miscellaneous Topics (IMT)
579	P2-61	Bactericidal Properties Dependent with the Dimension of Nanopillars and Elastic Modulus on Polymeric Nanopillars	Ikki Shingeya, Takeshi Ito, Tomohiro Shimizu, Shoso Shingubara	Interdisciplinary & Miscellaneous Topics (IMT)
601	P2-62	Nano-Sized Chitosan and Plasma-Activated Water: Improving the Microbiological and Physicochemical Properties of Vetch (<i>Vicia sativa</i> L.) Bean Sprouts	Olha Olexandrivna Vasylenko, Tatyana Holovko, Mykola Golovko, Vasyl Pasichniy, Nadiia Lapytska, Qin Xuanxuan, Luo Yanghe	Interdisciplinary & Miscellaneous Topics (IMT)
864	P2-63	Nickel Nanowires Decorated with Palladium Nanoparticles as Powerful Catalysts Facilitating Synthesis of Polyfluorene Derivatives by Suzuki Polycondensation	Tomasz Wasiak, Dominik Just, Andrzej Dzieńia, Dariusz Łukowiec, Stanisław Wacławek, Anna Mielañczyk, Dawid Janas	Interdisciplinary & Miscellaneous Topics (IMT)

ID	No	Title	Authors	Track
889	P2-64	The Electrostatic Control of the Exciton Radiative Lifetime in Quasi Type-II CdSe/CdS Two-Headed Nanostar	Grigor Mantashian, Paytsar Mantashyan	Interdisciplinary & Miscellaneous Topics (IMT)
901	P2-65	Ultrasensitive p-n Heterostructured Thin Film Gas Sensors for N ₂ O Gas Detection	Amanzhol Turlybekuly, Yernar Shynybekov, Almagul Mentbayeva, Bakhtiyar Soltabayev	Nanosensors & Nanodevices (NN)
581	P2-66	Effect of the Adsorbed on the Nanoparticles Surface Air Components on the Nanofluid Colloidal Stability: An Experimental Study	Volodymyr Borysov, Bohdan Kvasnytskyi, Nikita Khliiev, Vitaly Zhelezny, Vladimir Gotsulskiy	Nanomaterials for Energy & Environment (NEE)
661	P2-67	An Experimental Investigation of the Caloric Properties for the Composite Phase-Change Material Paraffin Wax-Expanded Graphite	Vitaly Zhelezny, Dmytro Ivchenko, Yana Hlek, Olga Khliyeva	Nanomaterials for Energy & Environment (NEE)

WEDNESDAY, SEPT. 13TH, 2023**e-POSTERS SESSION****5:30 – 7:30 PM****(in Discord Platform, <https://discord.com>)**

ID	No	Title	Authors	Track
736	eP-1	Influence of Overvoltage During Electrodeposition of Thin Zn-Ni-Cu Alloy Films on Its Phase Composition	Anastasiia Khomenko, Igor Ryshchenko, Antonina Maizelis	Electrochemistry of Nanomaterials (EN)
504	eP-2	Additive Manufacturing of Bioresorbable Scaffolds Based on Polycaprolactone and Composites	Yaroslav Kravchenko, Maksym Pogorielov, Anton Taran, Maksym Kubakh, Yevhenia Husak	Interdisciplinary & Miscellaneous Topics (IMT)
518	eP-3	Formation of Nanostructures in the Weld Nugget Zone in Friction Stir Welding of Mg-Al Alloys	Valery Kostin, Julia Khokhlova, Maksym Khokhlov, Alexey Makhnenko, Oleksandr Puzrin	Interdisciplinary & Miscellaneous Topics (IMT)
544	eP-4	A Simple Electrochemical: Ultrasound Technique for Obtaining Biocidal Antiviral, Antibacterial and Antifungal Nanoparticles of Calcium Carbonate from the Eggshell Waste	Olga Bordunova, Rimma Dolbanosova, Valeriy Loboda, Yevgeniya Samokhina, Kovalenko Lidiia, Opara Victor, Chernyavska Tatyana, Andriy Stepanenko, Chivanov Vadym	Interdisciplinary & Miscellaneous Topics (IMT)
560	eP-5	Peculiarities of the Surface Structure of High-Speed Steel after Pulse-Plasma Treatment	Olga Kushnarova, Olena Berdnikova, Yuriy Tyurin, Oleg Kolisnichenko, Tetyana Alekseienco, Yevhenii Titkov	Interdisciplinary & Miscellaneous Topics (IMT)
746	eP-6	Bioluminescence as an Indicator of the Effectiveness of Static Magnetic Fields Influence on Living Organisms	Olena Gromozova, Victor Martyniuk, Ihor Hretskyi, Oleksandr Artemenko, Victoriia Kobernyk, Oleksandr Kisten, Yuliya Tseyslyer	Interdisciplinary & Miscellaneous Topics (IMT)
474	eP-7	About Some Physical Aspects of the Correct Representation for the State of a Nano-Scale Film	Andrii Sizhuk, Yevgen Oberemok, Sergey Savenkov, Xiaohong Chen, Zhenjie Zhao, Zhuo	Multifunctional Thin Films & Coatings (MTFC)

ID	No	Title	Authors	Track
			Sun, Volodymyr Malyshev, Oleksandr Prokopenko, Tatyana Rodionova	
523	eP-8	Electrical Properties of <i>n</i> -NiS ₂ / <i>p</i> -CdTe Heterojunction Obtained by Spray Pyrolysis Method	Ivan Orletskyi, Mariya Ilashchuk, Eduard Maistruk, Ivan Koziarskyi, Dmytro Koziarskyi	Multifunctional Thin Films & Coatings (MTFC)
547	eP-9	Electrical Properties of <i>p</i> -CuNiO ₂ / <i>n</i> -Si Heterojunction	Dmytro Koziarskyi, Ivan Koziarskyi, Eduard Maistruk	Multifunctional Thin Films & Coatings (MTFC)
585	eP-10	Phase Composition and Structure of Ultrathin Nanocrystalline Cu-Ni Film Alloys	Valeriy Loboda, Vladislav Zubko, Svitlana Khursenko, Vladimir Kravchenko, Andrey Chepizhnyi, Andrey Pastushenko	Multifunctional Thin Films & Coatings (MTFC)
604	eP-11	Surface Modification of Amorphous Alloys with Heterofunctional Oligoperoxide Metallic Complexes	Oksana Myronivna Hertsyk, Tetiana Heorhiivna Hula, Myroslava Oleksiivna Kovbuz, Olga Anatoliivna Ezerska, Myroslava Stepanivna Tashak	Multifunctional Thin Films & Coatings (MTFC)
690	eP-12	Effect of Interfaces Number on the Thermally-Induced Phase Transitions in Ni/Ti Stacks	Vlad Mohylko, Ivan Kruhlov, Svitlana Voloshko, Andrii Orlov	Multifunctional Thin Films & Coatings (MTFC)
766	eP-13	Corrosion Resistance of Tantalum-Based Coatings on Medical Implants	Stanislav Yakovin, Stanislav Dudin, Alexander Zykov, Nina Yefimenko, Oleksandr Dakhov	Multifunctional Thin Films & Coatings (MTFC)
783	eP-14	Corrosion Resistance Enhancement of Porous Titanium by Thermo-Chemical Treatment	Serhii Lavrys, Khrystyna Shliakhetka, Iryna Pohrelyuk	Multifunctional Thin Films & Coatings (MTFC)
812	eP-15	Study of Thermomechanical Properties of Multilayer Nanocomposite Film Systems	Oleksandr Goncharov, Alexei Vitalievych Khomenko, Anna Badalian, Dmitry Belous	Multifunctional Thin Films & Coatings (MTFC)
499	eP-16	Freeze-thawing Condition to Obtain the Chitosan-Calcium Phosphate Composites with Controllable Degradation Degree	Liudmyla Sukhodub, Mariia Kumeda, Leonid Sukhodub, Olexandr Tsyndrenko	Nanobiomedical Research & Applications (NRA)

ID	No	Title	Authors	Track
508	eP-17	Oxide Nanocrystals with Variable Valence Ions for Hydroxyl Radical Neutralization	Pavel Maksimchuk, Kateryna Hubenko, Yevhen Neuhodov, Vladyslav Seminko, Andrey Onishchenko, Iryna Bespalova, Vladimir Klochkov, Lesya Demchenko, Svetlana Yefimova	Nanobiomedical Research & Applications (NRA)
574	eP-18	Exposure of the Prooxidant Potential of CeO ₂ and GdYVO ₄ /Eu ³⁺ Nanoparticles in Model Systems Containing Low-Molecular Antioxidants	Vladimir Klochkov, Yuri Nikitchenko, Olga Sedyh, Yurii Kot, Nina Karpenko, Galyna Dudetskaya, Nataliya Kavok	Nanobiomedical Research & Applications (NRA)
580	eP-19	Dynamics of the Interaction of Rare-Earth-Based Nanoparticles with Glutathione at Physiological pH	Nataliya Kavok, Vladimir Klochkov, Olga Sedyh, Lesia Piliiai, Galyna Dudetskaya	Nanobiomedical Research & Applications (NRA)
553	eP-20	Kinetic Biopharmaceutical Studies of a New Paracetamol – Glucosamine Analgetic Drug	Olga Vashchenko, Olena Ruban, Igor Zupanets, Pavlo Vashchenko	Nanobiomedical Research & Applications (NRA)
609	eP-21	Nanobiotechnology in Medicine: Medical Students' Awareness	Nataliia Inshyna, Inna Chorna	Nanobiomedical Research & Applications (NRA)
562	eP-22	Structure and Properties of Visible-Light Active Binary TiO ₂ & Au Nanocomposites	Olena Mykolaivna Lavrynenko, Maksym Zahornyi Mykitovich, Olesja Pavlenko Yuriivna , Erwan Paineau	Nanomaterials for Energy & Environment (NEE)
624	eP-23	Features of Electrical Properties of Nanocomposite Antimicrobial Polymeric Materials with Silver Nanoparticles	Eduard Lysenkov, Olexander Strytsky, Iryna Lysenkova	Nanobiomedical Research & Applications (NRA)
837	eP-24	Investigation of the Therapeutic Potential of T ₂ C ₃ T _x MXene in the in-ovo Model	Sergiy Kyrylenko, Vyacheslav Oleksandrovych Kukurika, Artem Shmatkov, Volodymyr Deineka, Zhanna Klishchova, Roman Moskalenko, Oleksandr	Nanobiomedical Research & Applications (NRA)

ID	No	Title	Authors	Track
			Solodovnyk, Ivan Baginskyi, Veronika Zahorodna, Iryna Roslyk, Oleksiy Gogotsi, Maksym Pogorielov	
495	eP-25	Probabilistic Computing with Antiferromagnetic Spin Hall Oscillators	Denys Slobodianiuk, Oleksandr Prokopenko	Nanomagnetism & Magnetic Materials (NMM)
543	eP-26	Sub-terahertz Frequency Signal Source Based on an Array of Antiferromagnetic Tunnel Junctions	Oleh Shtanko, Oleksandr Prokopenko	Nanomagnetism & Magnetic Materials (NMM)
591	eP-27	Thermally-Stable Subterahertz Frequency Spectrum Analyzer Based on an Array of Antiferromagnetic Tunnel Junctions	Volodymyr Prokopenko, Oleksandr Prokopenko	Nanomagnetism & Magnetic Materials (NMM)
902	eP-28	The Influence of Temperature on the Processes of Spin-Dependent Electron Scattering in Metal Film Alloys	Larysa Odnodvoretz, Yurii Shabelnyk, Iryna Cheshko	Nanomagnetism & Magnetic Materials (NMM)
903	eP-29	Multicomponent Functional Materials: Kinetic and Magnetoresistive Properties	Serhiy Protsenko, Larysa Odnodvoretz, Yurii Shabelnyk, Olena Lobodiuk, Natalia Shumakova, Ivan Protsenko	Nanomagnetism & Magnetic Materials (NMM)
472	eP-30	Hectorite Nanoparticle as a Shear-thixotropic Plugging Agent in Water-based Drilling Fluids	Chunping GUO, Guancheng JIANG	Nanomaterials for Energy & Environment (NEE)
506	eP-31	Formation of Nanopores in Anodic Oxidized Aluminium Affected by Carbon Nanodots	Ludmila Ponomarova, Kateryna Kudelko, Olexander Dziazko, Ludmila Rozhdesvenska, Liudmila Kharkova	Nanomaterials for Energy & Environment (NEE)
563	eP-32	Structure and Properties of Visible-Light Active Binary TiO ₂ & Au Nanocomposites	Olena Lavrynenko, Maksym Zahornyi, Olesja Pavlenko, Erwan Paineau	Nanomaterials for Energy & Environment
672	eP-33	Effect of Photoelectron Traps on X-Ray Induced Luminescence of Polycrystals Sintered from Y ₂ O ₃ Nanopowder	Eugeniy Barannik, Sergiy Kononenko, Ogenes Kalanta-ryan, Vitaliy Zhurenko, Volodymyr Chishkala	Interdisciplinary & Miscellaneous Topics (IMT)

ID	No	Title	Authors	Track
617	eP-34	Pyroresistive Properties of Segregated Composites Based on PVC Containing Carbon Fillers	Oleksii Maruzhenko, Yevgen Mamunya, Maksym Iurzhenko, Roman Kolisnyk, Olha Masiuchok, Yevheniia Buinova, Marcin Godzierz, Sébastien Pruvost	Nanomaterials for Energy & Environment (NEE)
634	eP-35	The Effect of Hydrogen and Its Mixtures with Natural Gas on Structure of Technical Polyethylene	Maksym Kovalchuk, Maksym Iurzhenko, Valeriy Demchenko, Valeriy Verbovsky, Hennadiy Zhuk, Leonid Unigovskiy, Igor Gotsyk, Marcin Godzierz	Nanomaterials for Energy & Environment (NEE)
712	eP-36	Impact of Pulse Potential Amplitude of Substrate on the Structure and Mechanical Properties of Diamond-Like Films	Oksana Horobei, Yurii Nasieka, Volodymyr Strelnytskyi	Multifunctional Thin Films & Coatings (MTFC)
720	eP-37	Poly lactide Nanocomposites with Increased Performance Properties	Andrii Masyuk, Bozhena Kulish, Dmytro Kechur, Volodymyr Levytskyi	Nanomaterials for Energy & Environment (NEE)
723	eP-38	Preparation and Characterization of Ceramic-Based Thick Film Nanostructures for Sensor Applications	Yuriy Kostiv, Halyna Klym, Ivan Hadzaman	Nanomaterials for Energy & Environment (NEE)
804	eP-39	Optical and Photoelectric Properties of CdTe:In Thin Films Deposited by PVD Technique	Ivanna Vakaliuk, Rostyslav Yavorskyi, Bohdana Naidych, Lyubomyr Nykyruy, Lilia Katanova, Oksana Zamurueva	Nanomaterials for Energy & Environment (NEE)
558	eP-40	Nitrogen-Doped Porous Carbon Derived from Hemp Hurd as Electrode for Aqueous Supercapacitors	Volodymyra Boychuk, Bogdan Rachiy, Ruslan Zapukhlyak, Volodymyr Kotsyubynsky, Mykola Hodlevskiy, Rashad G Abaszade	Nanomaterials for Energy & Environment (NEE)
848	eP-41	Chitosan Cross-Linked Polymer Based Edible Coatings as Tool to Improve Quality and Shelf-	Raj Rani, Poonam Kumari, Disha Disha, Manoj Kumar Patel; Manoj Nayak	Nanomaterials for Energy & Environment

ID	No	Title	Authors	Track
		Life of Fresh Fruits	Kumar	(NEE)
858	eP-42	Beta Vulgaris-Derived Activated Carbon Electrode Coupled with a Redox Additive Electrolyte for Hybrid Supercapacitor	Ashwinder Kaur, Vishal Shrivastav, Shashank Sundriyal, Isha Mudahar, Sunita Mishra	Nanomaterials for Energy & Environment (NEE)
696	eP-43	Ceramic-Metal Nanocomposite Materials for Biomedical Applications	Svetlana Krivileva, Alexandr Zakovorotniy, Victor Moiseev, Ievgeniia Manoilo, Sergiy Kostenko	Nanobiomedical Research & Applications (NRA)
476	eP-44	Structure Property Relationships for Thermostable Nanocomposites Based on Poly(Benzoxazine-co-Cyanate Ester Resin) and Functionalized Polyhedral Oligomeric Silsesquioxanes	Diana Shulzhenko, Olga Starostenko, Olga Grigoryeva, Alexander Fainleib, Daniel Grande	Nanomaterials Synthesis & Self-assembly (NSS)
502	eP-45	Effect of Multi-Walled Carbon Nanotubes on the Microhardness of Iron-Copper Nanocomposites	Mykola Melnichenko, Sergiy Revo, Yaroslav Zhuk	Nanomaterials Synthesis & Self-assembly (NSS)
526	eP-46	Magnetic Field Induced Effect in the Surface Plasmon Resonance Band of Silver Nanoparticles	Roman Redko, Vitaliy Shvalagin, Grigorii Milenin, Svitlana Redko	Nanomaterials Synthesis & Self-assembly (NSS)
546	eP-47	Synthesis of Gold Nanoparticles by Sonogalvanic Replacement in Sodium Polyacrylate Solutions	Artur Mazur, Mariana Shepida, Galyna Zozulya, Orest Kuntiyi	Nanomaterials Synthesis & Self-assembly (NSS)
566	eP-48	The Nanostructured NiFeCrVMo High-Entropy Alloy Binder versus Traditional Co Binder for WC-based Hard Alloys	Serhii Nakonechnyi, Alexandra Yurkova	Nanomaterials Synthesis & Self-assembly (NSS)
632	eP-49	Design and Structural Investigation of CuIn(Ga)Se ₂ Films for Solar Energy Applications	Sergii Kovachov, Ihor Bohdanov, Natalia Tsybuliak, Hanna Lopatina, Anastasiia Popova, Yana Suchikova	Nanomaterials Synthesis & Self-assembly (NSS)
636	eP-50	Thermal Properties of Sulfur-Doped Graphene Oxide	Rashad G. Abaszade	Nanomaterials Synthesis & Self-assembly (NSS)

ID	No	Title	Authors	Track
663	eP-51	Size Effect of Wetting of Amorphous Carbon By Micron Particles of Tin	Sergey Petrushenko, Sergey Dukarov, Ruslan Sukhov, Sukhov Volodymyr, Mateusz Fijalkowski	Nanomaterials Synthesis & Self-assembly (NSS)
669	eP-52	DFT Computational and Experimental Studies of Cellulose Molecules Interaction with Carbon Nanostructures	Yuriy Hizhnyi, Tymur Isokov, Viktor Borysiuk, Serhii Nediilko, Yaroslav Zhydachevskyy	Nanomaterials Synthesis & Self-assembly (NSS)
724	eP-53	Electrical and Structural Properties of PEDOT:PSS Polymer Matrices Reinforced with Carbon Nanotubes	Illia Zhydenko, Halyna Klym, Dmytro Chalyy, Ivan Karbovnyk	Nanomaterials Synthesis & Self-assembly (NSS)
763	eP-54	Using Nanoparticles to Study the Axial Structure of a Gas Discharge	Valeriy Lisovskiy, Stanislav Dudin, Sergiy Bogatyrenko, Pavlo Platonov	Nanomaterials Synthesis & Self-assembly (NSS)
784	eP-56	Study of Defects in the ZnO/SiC/Porous-Si/Si Heterostructure	Valeriy Kidalov, O.Y. Gudimenko, Yuriy Bache-rikov, V.A. Baturin, Olga Okhrimenko, O.Yu. Karpenko, Sergei Simchenko	Nanomaterials Synthesis & Self-assembly (NSS)
826	eP-57	Morphological, Structural, Substructural Characteristics and Chemical Composition of Zn ₂ SnO ₄ Nanoparticles	Sergiy Lufar, Maksym Yermakov, Roman Pshenychnyi, Olga Berezna, Anatoliy Opanasyuk	Nanomaterials Synthesis & Self-assembly (NSS)
770	eP-58	Electrical Noise In ZnO Thin Films Obtained by the PLD Method	Ihor Virt, Mariush Bester, Bogumił Cieniek, Piotr Potera, Andrij Lozynsyi	Nanophotonics (NP)
722	eP-59	Structural and Free-Volume Characterization Y-doped BaTiO ₃ Ceramics	Halyna Klym, Yuriy Kostiv	Nanoscale Characterization & Imaging (NCI)
515	eP-60	Formation of Single-domain Structures in BaTiO ₃ upon Phase Transition	Olha Mazur, Leonid Stefanovich, Ken-ichi Tozaki	Theory & Modeling (TM)
516	eP-61	A Role of Diffusion of Adatoms between Layers in Nano-Structured Thin Films Growth at Condensation	Alina Dvornichenko, Vasyl Kharchenko, Dmitrii Kharchenko	Theory & Modeling (TM)
641	eP-	Computational Studies of Atomic and Electronic	Yuriy Hizhnyi, Vitalii Chornii, Serhii Nediilko,	Theory & Modeling (TM)

ID	No	Title	Authors	Track
	62	Structures of Phosphate-Molybdate and Phosphate-Tungstate-Vanadate Glass-Ceramics	Kateryna Terebilenko, Yaroslav Zhydachevskyy	
738	eP-63	Periodic Intermittent Mode of Ice Surface Softening During Friction at Deformational Defect of Ice Shear Modulus	Alexei Khomenko, Roman Chernushchenko, Oleksandr Goncharov, Kateryna Khomenko, Yaroslava Khyzhnya, Iryna Shuda	Theory & Modeling (TM)
774	eP-64	Martensite Transformations in Nanostructured ZrO ₂ Films Formed on Zr-based Alloys during Oxidation	Dmitrii Kharchenko, Vasyl Kharchenko, Olha Shchokotova, Lu Wu, Tianyuan Xin, Rongjian Pan	Theory & Modeling (TM)
475	eP-65	Asymmetric Magnetoresistance of Single-Walled Carbon Nanotubes Filled by Nickel	Denys Oleksandrovysh Shpylka, Iryna Ovsiienko, Tetiana Len, Liudmyla Matzui, Yuriy Prylutskyi, Tetiana Tsaregradskaya	Transport Properties in Nanoscale Systems (TPNS)
666	eP-66	Modified CdTe Layers	Tetiana Mazur, Myroslav Mazur	Nanomaterials for Energy & Environment
656	eP-67	A New Method of Study of Microwave Magnon-Plasmon-Polaritons	Oleksii Malyshev, Volodymyr Malyshev, Gennadii Melkov, Oleksandr Prokopenko	Nanomagnetism & Magnetic Materials (NMM)
892	eP-68	Analysis of the Possibilities of Using Spin-Valve Structures Based on Fe _x Co _{1-x} and Fe _x Ni _{1-x} and Cu as Functional Elements of Spintronics	Alla Saltykova, Dmytro Saltykov, Yurii Shkurdoda	Nanomagnetism & Magnetic Materials (NMM)
533	eP-69	Low Density Polyethylene Composites Filled With Iron (III) Oxide/Carbon Nanotubes Hybrid Nanoparticles	Anastasiia Kobylukh, Karolina Olszowska, Yevgen Mamunya, Marcin Godzierz, Marta Musioł, Sławomira Pusz, Urszula Szeluga	Nanomaterials Synthesis & Self-assembly (NSS)
536	eP-70	Segregated Polyethylene/Carbon Black Composites for Embedded Heating and Strain Sensing Elements	Yevheniia Buinova, Anastasiia Kobylukh, Oleksii Maruzhenko, Yevgen Mamunya, Maksym Iurzhenko, Marcin Godzierz, Sébastien Pruvost, Olha	Nanosensors & Nanodevices (NN)

ID	No	Title	Authors	Track
			Masiuchok, Roman Kolisnyk	
861	eP-71	Development of Fluorescent Silver Nanocluster Incorporated Hydrogel Platform for Detection of Antioxidants	Rocky Raj, Abhay Sachdev, Sunita Mishra	Nanosensors & Nanodevices (NN)
849	eP-72	Synthesis and Characterization of Magnetic Graphene Based Cation Exchanger for Adsorption of Methylene Blue	Poonam Kumari, Disha, Raj Rani, Manoj Nayak Kumar	Nanomagnetism & Magnetic Materials (NMM)
709	eP-73	Electrochemical Synthesis of Nickel-Rhenium Alloys	Oksana Bersirova	Electrochemistry of Nanomaterials (EN)
905	eP-74	Thin Film Deposition of Aluminum on a Silicon Substrate: Computational Modeling & Experimental Study	Rosalba Huerta, Weiling Xia, Owen Bellevage, Benjamin Church, Valentine Novosad	Multifunctional Thin Films & Coatings (MTFC)
612	eP-75	Fullerene C60@{H ₂ O} _n : Obtaining Stable Aqueous Solutions using Cryogenic Sublimation	Razet Basnukaeva, Alexandr Dolbin, Mykola Vinnikov	Nanomaterials Synthesis & Self-assembly (NSS)
853	eP-76	Composite Materials Based on Thermally Expanded Graphene and Metal Nanostructures in a Polymer Matrix for Solid-State Batteries	Alena Shumskaya, Alexander Kornev, Serhei Kostevich	Nanomaterials for Energy & Environment (NEE)

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Impact Factor: 3.5 (2022)

Journal Rank: 63/140 (Q2) in the Engineering, Chemical category

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**2023 IEEE 13th International Conference
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Signed for printing 18.08.2023. Format 60 x 84/16.

Offset paper. Offset printing

Conditional printed sheets 2.94.

Circulation of 300 copies. Order No. _____.

Sumy State University, 40007, Sumy, 2, R.-Korsakova, st.

Certificate of entry of the subject of the publishing business in the State Register

DK No. 3062 dated 12/17/2007.