



Silesian University of Technology
IEEE Nanotechnology Council
Sumy State University



2022 IEEE 12th INTERNATIONAL
CONFERENCE “NANOMATERIALS:
APPLICATIONS & PROPERTIES”

NANOMaterials: Applications & Properties -2022

CONFERENCE PROGRAM

Kraków, Poland
September 11-16, 2022

www.ieeenap.org
info@ieeenap.org

IEEE NAP Conference “Nanoscience as Art” Images Contest
Exclusively Sponsored by [ATLANT 3D Nanosystems](#)

Winning Images



“There’s plenty of room at the bottom: Earth”: Scanning Electron Microscopy image of SiO₂ particle synthesized through the hydrothermal method (false-colored).

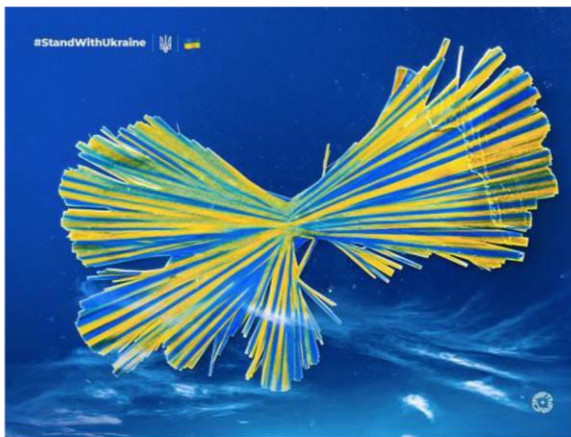
Submitted by [Naznin Shaikh](#) & Abhijit Ray,
Pandit Deendayal Energy University (India).



“Rising nano-star”: Scanning Electron Microscopy image of Ti surface (blue), treated by the hydroxyapatite granules (orange) using gas detonation technique (false-colored).

Submitted by [Bohdan Dryhval](#) & Maksym
Pogorielov, Sumy State University (Ukraine).

Conference General Chairs' Choice Special Award



“Free Bird”: Scanning Electron Microscopy image of crystallites formed on single crystal Si surface due to an electrochemical etching (false-colored).

Submitted by [Yana Suchikova](#) & Serhii Kovachov, Berdyansk State Pedagogical University (Ukraine).

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**2022 IEEE 12th International Conference
“Nanomaterials: Applications & Properties”
(IEEE NAP – 2022)**

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Kraków, Poland
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Information for the Participants

Welcome to Kraków!

We welcome you to the majestic city of **Kraków**, Poland, and hope that the IEEE NAP-2022 Conference will serve as an excellent international platform for an engaging and informal exchange of ideas that provides opportunities to strengthen existing collaborations and catalyze new partnerships, thus ultimately accelerating 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 goal is to bring together a broad international community of scientists, engineers, and educators who are already involved in defining a future where the understanding and controlling of matter at the nanoscale will ultimately lead to revolutionary technological and industrial advances.

The NAP-2022 Organizing Committee wishes you fruitful work and a pleasant stay at the Galaxy Hotel!

KRAKÓW CITY

Kraków also spelled Cracow, is the city, and capital of Małopolskie województwo (province), southern Poland, lying on both sides of the upper Vistula River. One of the largest cities in Poland (~1.4 million inhabitants if you include the surrounding communities), it is known primarily for its grand historic architecture and cultural leadership; UNESCO designated its old town area a World Heritage site in 1978. Its marketplace, Rynek Główny (Main Square), has existed since the 13th century, and a modern landscaped area is laid out on the site of past fortifications.

CONFERENCE VENUE

The Conference will be held on the 1st and ground floors of the Hotel Galaxy (Gęsia 22A, 31-535 Kraków, Poland). The hotel is located over the Vistula River in Kraków's Podgórze district. Galaxy Hotel is just a 10-minute walk from the Kazimierz Jewish District, full of atmospheric pubs and cafés. The walk to the Main Market Square takes only 25 minutes, while the Wawel Castle is a 20-minute walk from the hotel. The on-site restaurant overlooks the Vistula River and serves international cuisine from 4 PM until 10 PM. All rooms at the Galaxy are air-conditioned and modernly furnished, with LCD TV with satellite channels. The price of all rooms includes access to the hot tub, saunas, swimming pool, and fitness center (reservation may be required). Guests have access to a computer with a printer and an internet connection in the lobby.

CONFERENCE SESSIONS

The conference Welcome Reception will be held at the hotel on Sunday evening (Sept. 11th, 2022), and all technical sessions and networking events will follow on 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 Posters session will be held on Monday and Tuesday, 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 presentation on a flash drive. 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 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: presentation – 40 min., questions – 5 min.

Keynote & Invited Talks: presentation – 25 min., questions – 5 min.

Regular contributions: presentation – 12 min., questions – 3 min.

It is important to stay within the time limit so that other presenters will have an equal opportunity to present their papers and answer questions.

Recommended poster sizes for on-site presentations are A0 (84.1 cm × 118.9 cm).

E-Poster Session (5:00 PM – 7:00 PM on Wednesday) will be run online. Please check the details and requirements in one of the emails received from 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 paper, are eligible for these awards. The winners will receive a “*Rising Star in Nanoscience & Nanotechnology*” Award certificate.

BEST CONFERENCE PAPER AWARD, EXCLUSIVELY SPONSORED BY [NANOMATERIALS](#), an international open-access journal published online by MDPI. The paper(s) were selected after a thorough evaluation 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 2022 IEEE 12TH INTERNATIONAL CONFERENCE “NANOMATERIALS: APPLICATIONS & PROPERTIES” (PROC. IEEE NAP-2022)

Publisher: IEEE Publishing

ISBN: 978-1-6654-8982-9

Conference Chairs

Marek Przybylski	Academic Centre for Materials & Nanotechnology, AGH University of Science and Technology (Poland), Honorary Chair
Valentine Novosad	Argonne National Laboratory (USA), General Chair
Wojciech Simka	Silesian University of Technology (Poland), General Co-Chair & Local Organizing Committee Chair
Alexander Pogrebnjak	Sumy State University (Ukraine), General Co-Chair

International Scientific Advisory Board

Valentine Novosad, Chair (USA)	Yuko Ichiyanagi (Japan)	Tijana Rajh (USA)
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Ali Erdemir (USA)	Marek Przybylski (Poland)	Pawel Zukowski (Poland)
Yury Gogotsi (USA)	Serhiy Protsenko (Ukraine)	

Local Organizing Committee

Wojciech Simka	Silesian University of Technology (Poland), Local Organizing Committee Chair
Maksym Pogorielov	University of Latvia (Latvia), Sumy State University (Ukraine), Technical Program Chair
Maciej Sowa	Silesian University of Technology (Poland), Technical Program Co-Chair
Dawid Janas	Silesian University of Technology (Poland), Technical Program Co-Chair
Oleksandr Prokopenko	Taras Shevchenko National University of Kyiv (Ukraine), Technical Program Co-Chair
Taras Lyutyi	Sumy State University (Ukraine), Publication Chair
Joanna Michalska	Silesian University of Technology (Poland), Publication Co-Chair
Yurii Shabelnyk	Sumy State University (Ukraine), Secretary
Artur Maciej	Silesian University of Technology (Poland), Finance & Exhibits Chair
Oleksii Drozdenko	Sumy State University (Ukraine), Finance Co-Chair
Olena Tkach	Sumy State University (Ukraine), WiSE Chair
Anna Marchenko	Sumy State University (Ukraine), Awards & Grants Co-Chair
Alina Dvornichenko	Sumy State University (Ukraine), Awards & Grants Co-Chair
Alicja Kazek-Kęsik	Silesian University of Technology (Poland), Awards & Grants Co-Chair
Aleksander Olesiński	Silesian University of Technology (Poland), IT & Technical Support Chair
Kateryna Smyrnova	Sumy State University (Ukraine), Student & YP Activities Co-Chair
Marta Wala	Silesian University of Technology (Poland), Student & YP Activities Co-Chair
Matteo Bruno Lodi	University of Cagliari (Italy), Student & YP Activities Co-Chair



To:
Organizing Committee
IEEE NAP-2022
Krakow, Poland (Sept. 11-16, 2022)

Dear Distinguished Colleagues,

It is indeed an honor to extend my warmest congratulations for organizing the 2022 IEEE NAP (International Conference on Nanomaterials, Applications and Properties) as a hybrid event and reaching a wider audience than a conference can possibly include. Despite the pandemic due to COVID19 and the geopolitical instability due to the continuing war in Ukraine, it is truly inspiring to find researchers to congregate in Krakow and to actively participate in this event. I am certain that this will be a platform to gather and disseminate the latest knowledge in recent advancements in emerging areas of nanotechnology-based research fields. IEEE NAP 2022 will provide a platform for the participants to share experiences and knowledge, well aware that their contributions will have an impact on the technical community.

As IEEE NAP is in its 12th year of existence, I can attest that the IEEE NTC (Nanotechnology Council) will continue to strongly support this important event. It is my understanding that the funds supplied by the IEEE NTC and IEEE Magnetics Society have been crucial for funding the "East Meets West" program to provide a different kind of support to 83 people (75 from Ukraine, 55 female), including hotel accommodation for 41 participants (39 female); moreover, among those whose accommodation (w/breakfast included) is provided by the conference, there are 20 students (18 female) and these 20 student grantees also get free daily lunches.

As for the technical program, it is very impressive: four plenary talks and over 70 invited talks, with more than 400 participants, of which 300 on-site attendees (so more than 100 remote, including oral and e-Poster presentations). This is yet a further proof that IEEE NAP continues to flourish and attract a large audience.

Overall I can only reiterate my appreciation for your work, because everything looks and sounds extremely good; my only regret is not being able to participate in person, so I do sincerely hope to meet you soon.

Sincerely

A handwritten signature in black ink, appearing to read 'Thomas Barabasz'.

2022-23 IEEE Nanotechnology Council President and ITC Endowed Chair Professor
Department of Electrical and Computer Engineering, Northeastern University
Boston, Ma 02115, USA



MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE
SUMY STATE UNIVERSITY



2 Rymsky-Korsakov St., 40007 Sumy Ukraine

August 26, 2022

Dear Colleagues,

Ukrainians stay united in the face of unprovoked aggression from Russian Federation. While, with the support from our friends and international partners, Ukraine fights back and will win on the battlefield. We also think about our next steps toward the future as a free, democratic, and prosperous country in the European Union family. The top priorities for Sumy State University staff are educating and training the next generation of scientists and engineers, disseminating scientific results, and expanding our collaborative networks. Within the spirit of openness and global engagement, we were happy to partner with the IEEE Nanotechnology Council (USA) and the Silesian University of Technology (Poland) to organize the IEEE International Conference “NANOMATERIALS: APPLICATIONS & PROPERTIES,” to be held in Kraków on Sept. 11-16, 2022. During this conference week, you will be able to attend many outstanding lectures and poster presentations and learn firsthand about the most recent trends and developments in the rapidly evolving field of nanoscience and nanotechnology. I encourage and applaud your active participation in all scientific and social events at the Conference.

Having this opportunity, I would like to thank our conference sponsors and partners, whose generous support helped to fund the participation of many early-career Ukrainian participants, including over 20 Ph.D. students. I also would like to extend my thanks to all members of the IEEE NAP-2022 Organizing Committee for their hard work, and especially the Conference General Chairs: Prof. Wojciech Simka (Silesian University of Technology, Poland), Prof. Alexander Pogrebnyak (Sumy State University, Ukraine) and Dr. Valentine Novosad (Argonne National Laboratory, USA) for courage and exemplary leadership.

I wish you fruitful work at the Conference, new scientific results, and unforgettable memories of the majestic city of Kraków!

Sincerely,

Prof. Vasyl Karpusha
Rector of Sumy State University



Faculty of Chemistry
Dean's Office

Janusz Wójcik PhD, DSc
Vice-dean for overall affairs

Gliwice, 29.08.2022 r.

Dear Participants,

It is my great pleasure to welcome all of you to the IEEE International Conference on "Nanomaterials: Applications & Properties" to be held in Poland for the first time, in the beautiful city of Kraków on September 11–16, 2022.

Taking into account the ongoing and unfounded military aggression undertaken by Russia on the Ukrainian Nation it is our unprecedented honor to greet our eastern neighbors to host this renowned conference, traditionally organized in Ukraine. This scientific meeting is a joint effort together with IEEE and Sumy State University which will take place for the 12th time. It is my hope that this collaboration bears fruit and intensifies the scientific discourse between researchers from Ukraine, Poland and other countries worldwide who decided to attend the conference. Seeing that there are over 300 confirmed participants, I strongly believe that it will spark many thought-provoking ideas and tie in new partnerships that will result in further scientific and engineering progress. Moreover, the hybrid mode of the meeting will likely boost its overall impact and help to reach the enthusiasts of this branch of science even in the most remote places.

It is also very encouraging to see so many young scientists attending the conference. As the field of nanomaterials is the science of the future, it is you who will pave the way for new discoveries that will gradually fill the "Plentiful Room at the Bottom".

I am certain that you will feel yourselves at home in the city of Kraków, the birthplace of the first Polish University. There is also some symbolism to the joint effort with our Ukrainian colleagues. It is connected to the origins of my own University, founded in May 1945 by academics that hailed from Lviv Polytechnic National University before World War II. It is why we are all happier to hold this conference together with Sumy State University.

On behalf of the scientific community of the Silesian University of Technology and other scientific entities in Poland, I wish you a pleasant stay and many memorable moments.

with compliments
PRODZIEKAN
ds. Ogólnych
dr hab. inż. Janusz Wójcik, prof. PŚ

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Program-at-a-Glance

[illegible]

Conference Program

SUNDAY, SEPTEMBER 11, 2022

4:00 PM – 6:00 PM ATTENDEES ARRIVAL & REGISTRATION

Registration desk working hours: Monday-Wednesday, 10 AM -NOON & 2 PM-5 PM

8:00 PM – 10:00 PM IEEE NAP CONFERENCE GENERAL CHAIRS' WELCOME RECEPTION

(@Hotel Galaxy, Planetarium Terrace, 1st floor)

MONDAY, SEPTEMBER 12, 2022

MONDAY MORNING SESSION**IEEE NAP-2022 CONFERENCE OPENING & PLENARY SESSION
(CONFERENCE HALL “GEMINI” & in ZOOM)**

- 8:45AM – 9:00AM Welcome to the IEEE NAP-2022 Conference!
Prof. Wojciech Simka (Poland), **Prof. Marek Przybylski** (Poland),
Prof. Alexander Pogrebnjak (Ukraine), **Dr. Valentine Novosad** (USA),-
IEEE NAP-2022 Conference Chairs.
- 9:00AM – 9:45AM **Plenary Talk 1**
Prof. Yury Gogotsi, *Drexel University, USA*
Mixing Atoms in 2D Space or MXene Alloys of the Future (ID #442)
- 9:45AM – 10:30AM **Plenary Talk 2**
Prof. Sandro Carrara, *Swiss Federal Institute of Technology, Switzerland*
Discovery of Memristive Biomaterials for Sensory Aims (ID #444)
- 10:30AM – 11:00AM **Coffee break** (*Planetarium Terrace*)
- 11:00AM – 11:45AM **Plenary Talk 3**
Prof. Nicola Pinna, *Humboldt University of Berlin, Germany*
Role of Heterojunctions in Metal Oxide Heterostructures for Energy and Environmental Applications (ID #443)
- 11:45PM – 12:30PM **Plenary Talk 4**
Prof. Laura H. Greene, *Florida State University & National High Magnetic Field Laboratory, USA*
The National MagLab: A powerhouse of innovation and International Science Diplomacy (ID #453)
- 12:30PM – 12:45PM **Group Photo** (*in front of GALAXY hotel*)
-
- 1:00PM – 3:00PM **Lunch break (at your own expense)**
-

MONDAY AFTERNOON SESSIONS

3:00PM – 4:00PM

IEEE NAP-2022 YP & STUDENT ACTIVITIES CHAIRS present:
“Meet the Editors” Round Table & International Networking Event.

Panelists:

Prof. Yury Gogotsi, *Drexel University, USA*
Prof Philiswa Nomngongo, *University of Johannesburg, South Africa*
Prof. Sandro Carrara, *Swiss Federal Institute of Technology, Switzerland*
Prof. Nicola Pinna, *Humboldt University of Berlin, Germany*

Moderators:

Matteo B. Lodi, *University of Cagliari, Italy*
Marta Wala, *Silesian University of Technology, Poland*
Kateryna Smyrnova, *Sumy State University, Ukraine*

4:00 PM – 5:00 PM

IEEE NAP-2022 Special Session “Sponsors at the Spotlight”

Highlight talks by: IEEE NTC, IEEE MagSoc, Angstrom Engineering, Atlant 3D Nanosystems, U.S. Ukraine Foundation, MDPI Nanomaterials & MDPI Processes, ISE, IUPAP.

5:30PM – 7:30PM

Poster Session # 1 (*Planetarium Terrace*)

TUESDAY, SEPTEMBER 13, 2022

TUESDAY MORNING SESSIONS**ORAL SESSION #1A****SPIN WAVES & MAGNETIZATION DYNAMICS****(CONFERENCE HALL A – “MERCURY” & in ZOOM)**

9:00AM – 9:30AM

Invited Talk 1**Prof. Andrii Chumak**, *University of Vienna, Austria*

Nonlinear Spin-wave Phenomena in Nano-waveguide (ID #398)

9:30AM – 9:45AM

Contributed Talk 1**Adam Krysztofik**, *Sevgi Özoğlu, Robert D McMichael, Emerson Coy /**Nonlinear FMR Linewidth Dependence on Frequency in Strained Garnet Films* (ID #323)

9:45AM – 10:00AM

Contributed Talk 2**Wojciech Rudzinski**, *Mirali Jafari, Anna Dyrdał, Józef Barnaś / Spin**Waves in Bilayers of Vanadium Dichalcogenides* (ID #66)

10:00PM – 10:30PM

Invited Talk 2**Dr. Bivas Rana**, *Adam Mickiewicz University, Poland*Electric Field Induced Manipulation of Spin Waves (ID #376) (*in Zoom*)

10:30AM – 11:00AM

Coffee break (*Planetarium Terrace*)

11:00AM – 11:30AM

Invited Talk 3**Prof. Gleb Kakazei**, *University of Porto, Portugal*

Gleb Kakazei, Sergiy Bunuyayev, Kostyantyn Gusliyenko, Andrii Chumak, Oleksandr Dobrovolskiy, Michael Huth / Probing Spin Waves in Individual Magnetic Nanoelements (ID #404)

11:30AM – Noon

Invited Talk 4**Dr. Roman Verba**, *Institute of Magnetism, NASU & MESU, Ukraine*Roman Verba, Vasyl Tyberkevych, Andrei Slavin/ Nonreciprocal Acoustic Waves in Hybrid Magnetoelastic Microstructures (ID #157) (*in Zoom*)

Noon – 12:15PM

Contributed Talk 3**Denys Slobodianiuk**, *Oleksandr Prokopenko / Stochastic Generation**Regime of an Antiferromagnetic Spin Hall Oscillator* (ID #73) (*in Zoom*)

12:30PM – 2:00PM

Lunch break (at your own expense)

TUESDAY AFTERNOON SESSIONS

ORAL SESSION #1B**SPIN TEXTURES & MAGNONICS****(CONFERENCE HALL A – “MERCURY” & in ZOOM)**

2:00PM – 2:30PM

Invited Talk 5**Dr. Oleg Tretiakov**, *University of New South Wales, Australia*Oleg Tretiakov, Daichi Kurebayashi / Skyrmion Nucleation on a Surface of Topological Insulators (ID #243) ([in Zoom](#))

2:30PM – 3:00PM

Invited Talk 6**Dr. Dieter Suess**, *University of Vienna, Austria*

Dieter Suess, Sebastian Zeilinger / Low Noise TMR Sensors Utilizing Spin-torque (ID #433)

3:00PM – 3:15PM

Contributed Talk 4**Oleksii Volkov**, Oleksandr Pylypovskyi, Florian Kronast, Claas Abert, Eduardo Sergio Oliveros Mata, Pavlo Makushko, Mohamad-Assaad Mawass, Volodymyr Kravchuk, Denis Sheka, Juergen Fassbender, Denys Makarov / Dzyaloshinskii-Moriya Interaction and Domain Wall Damping in Ultrathin Nanostripes (ID #207)

3:15PM – 3:30PM

Contributed Talk 5**Oleksandr Pylypovskyi**, Denys Kononenko, Yelyzaveta Borysenko, Artem Tomilo, Kostiantyn Yershov, Ulrich Roessler, Juergen Fassbender, Jeroen van den Brink, Denis Sheka, Denys Makarov / Chiral Effects in Curvilinear 1D Antiferromagnets (ID #178)

3:30PM – 4:00PM

Coffee break (*Planetarium Terrace*)

4:00PM – 4:30PM

Invited Talk 7**Prof. Kostyantyn Gusliyenko**, *University of the Basque Country, Spain*

2D and 3D Magnetic Topological Charges: from Skyrmions to Hopfions (ID #367)

4:30PM – 5:00PM

Invited Talk 8**Dr. Huaiyang Yuan**, *Utrecht University, The Netherlands*Quantum Magnonics: When Magnon Spintronics Meets Quantum Information Science (ID #372) ([in Zoom](#))

5:00PM – 5:30PM **Invited Talk 9**

Dr. Yi Li, *Argonne National Laboratory, USA*

Coherent Coupling of Two Remote Magnonic Resonators Mediated by Superconducting Circuits (ID #300) (*in Zoom*)

5:30PM – 7:30PM **Poster Session #2** (*Planetarium Terrace*)

7:30PM – 10:00PM **Social Mixer** (*Planetarium Terrace*)

TUESDAY MORNING SESSIONS

ORAL SESSION #2A

NANOBIOMEDICAL RESEARCH & APPLICATIONS

(CONFERENCE HALL F – “NEPTUNE” & *in ZOOM*)

8:30AM – 9:00AM **Invited Talk 10**

Dr. Monika Golda-Cepa, *Jagiellonian University, Poland*

Monika Golda-Cepa, Kamil Drozd, Paulina Chytrosz, Monika Brzychczy-Wloch, Andrzej Kotarba / Prevention of Biomaterial-Centered Infections by Nanoscale Surface Functionalization (ID #290)

9:00AM – 9:30AM **Invited Talk 11**

Dr. Agnieszka Kyzioł, *Jagiellonian University, Poland*

Agnieszka Kyzioł / Nanomedicine Strategies to Target Anticancer and Antimicrobial Therapies (ID #384)

9:30AM – 9:45AM **Contributed Talk 6**

Yevheniia Husak, Sergiy Kyrylenko, Bojan Petrovic, Pal Terek, Sanja Kojic, Zoran Bobic, Yuliia Varava, Artem Shmatkov, Maksym Pogorielov, Wojciech Simka / Three-Dimensional Bioactive Surface Structure on Ti-based Implants (ID #130)

9:45AM – 10:00AM **Contributed Talk 7**

Viktoria Shevchenko, Olexandr Datsenko, Petro Teselko / Surface Modification of Luminescent Porous Silicon by Aqueous Solutions of Amino Acids (ID #341)

10:00AM – 10:15AM **Contributed Talk 8**

Alicja Kazek-Kęsik, Weronika Maciak, Miriam Dróżdż, Monika Śmiga-Matuszowicz, Wojciech Simka / Analysis of Amoxicillin Stability in Polymers Used for Formation of Antibacterial Coatings on Titanium Implants (ID #263)

10:15AM – 10:30AM *Contributed Talk 9*

Daryna Sahalai, Volodimir Lebedev, Denis Miroshnichenko, Daria Bilets, Vsevolod Mysiak, Anastasia Sinitsyna / Hybrid Biopolymer Nanocomposite Materials for Ecological and Biomedical Applications (ID #168) (*in Zoom*)

10:30AM – 11:00AM *Coffee break* (Planetarium Terrace)**11:00AM – 11:30AM *Invited Talk 12***

Prof. Gwendolen Reilly, *The University of Sheffield, United Kingdom*
Gwendolen Reilly, Tugba Cebe, Alice Hann
Electrospun Scaffolds with Hydroxyapatite for Guiding Bone Regeneration (ID #355)

11:30AM – Noon *Invited Talk 13*

Prof. Mikhael Bechelany, *Institut Européen des Membranes, France*
Bionanomaterials: Design and Applications
(ID #147)

Noon – 12:15PM *Contributed Talk 10*

Urszula Stachewicz / Designing Patches with Nano and Microfiber Membranes Delivering Topically Oil and Drugs for Atopic Skin Treatment (ID #36)

12:15PM – 12:30PM *Contributed Talk 11*

Karlis Grundsteins, Viktoriia Korniienko, Kateryna Diedkova, Una Riekstina, Roman Viter, Viktoriia Fedorenko, Kaspars Jekabsons, Muhammad Saqib, Anita Stoppel, Sascha Balakin, Joerg Opitz, Natalia Beshchasna, Wojciech Simka, Maksym Pogorielov / Detonation Nanodiamond-Decorated Nitinol after Plasma Electrolytic Oxidation for Vascular Stent Development (ID #148)

12:30PM – 12:45PM *Contributed Talk 12*

Agnieszka Grabarek, Lukasz Walczak, Piotr Cyganik / The Odd-Even Effect in Peptide SAMs – Competition of Secondary Structure and Molecule-Substrate Interaction (ID #103)

12:45PM – 1:00PM *Contributed Talk 13*

Marija Vejin, Miroslav Đočoš, Milica Pojic, Pal Terek, Sanja Kojic, Zoran Bobic, **Bojan Petrovic**, Goran Stojanović / Edible Sensor for Electric Impedance Spectroscopic Analysis of Bioactive Liquids Containing Silver Nanoparticles (ID #292)

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

TUESDAY AFTERNOON SESSIONS

ORAL SESSION #2B**NANOBIOMEDICAL RESEARCH & APPLICATIONS****(CONFERENCE HALL F – “NEPTUNE” & [in ZOOM](#))****2:00PM – 2:30PM *Invited Talk 14***

Prof. Oleg Lupan, *Technical University of Moldova, Republic of Moldova*
Oleg Lupan, Nicolae Magariu, Helge Krüger, Alexandr Sereacov, Nicolai Ababii, Serghei Railean, Lukas Zimoch, Rainer Adelung, Sandra Hansen / Nano-Heterostructured Materials - Based Sensors for Safety & Biomedical Applications (ID #149) ([in Zoom](#))

2:30PM – 3:00PM *Invited Talk 15*

Prof. Robert Bogdanowicz, *Gdansk University of Technology, Poland*
Functionalized Nanodiamond-Rich Interfaces for Biosensing Applications (ID #37)

3:00PM – 3:30PM *Invited Talk 16*

Dr. Paolo Bollella, *University of Bari “A. Moro”, Italy*
“Chimeric” Enzymes: A New Era for Enzyme-based Amperometric Biosensors (ID #68) ([in Zoom](#))

3:30PM – 4:00PM *Coffee break* (*Planetarium Terrace*)**4:00PM – 4:30PM *Invited Talk 17***

Prof. Judith Klein-Seetharaman, *Arizona State University (USA)*
The Synthetic Coral: Opportunities for Nanomaterials in Coral Biology (ID #446)

4:30PM – 4:45 PM *Contributed Talk 14*

Oksana Sulaieva, **Emily Anderson** / Research Ethics and Nanomedicine: Framing Responsible Conduct of Nano-Studies (ID #347) ([in Zoom](#))

4:45PM – 5:00PM *Contributed Talk 15*

Anastasiia Denysenko, Oleksandr Pylypenko, Yevgen Kuzenko, Roman Moskalenko / Nanoscale Calcification of the Dura Mater (ID #4)

5:00PM – 5:15PM *Contributed Talk 16*

Svetlana Yefimova, Pavel Maksimchuk, Vladyslav Seminko, Kateryn Hubenko, Alexander Sorokin, Anton Tkachenko, Anatolii Onishchenko / Control of ROS-Regulating Properties of (Gd,Y)VO₄:Eu³⁺ Nanoparticles (ID #31)

5:15PM – 5:30PM **Contributed Talk 17**

Laura Fusco, Arianna Gazzi, Christopher Shuck, Marco Orecchioni, Yuri Gogotsi, Lucia Delogu / Immune Interactions of V_4C_3 MXene (ID #337)
(*in Zoom*)

5:30PM – 7:30PM **Poster Session #2 (Planetarium Terrace)**

7:30PM – 10:00PM **Social Mixer (Planetarium Terrace)**

TUESDAY MORNING SESSIONS

ORAL SESSION #3A

THIN FILMS & COATINGS

(CONFERENCE HALL B+C – “MARS”+”JUPITER” & *in ZOOM*)

9:00AM – 9:30AM **Invited Talk 18**

Prof. James Morris, *Portland State University, USA*
Electron Transport in Discontinuous Metal Thin Films (ID #...)

9:30AM – 10:00AM **Invited Talk 19**

Prof. Mathieu Salaün, *Université Grenoble Alpes, France*
Abdrahamane Thiam, Mathieu Salaün, Benoit Boulanger / Elaboration of Epitaxial Rubidium Titanyl Phosphate (RTP) Thin Films By Pulsed Laser Deposition (PLD) (ID #385)

10:00AM – 10:30AM **Invited Talk 20**

Dr. Maksym Plakhotnyuk, ATLANT 3D Nanosystems, Denmark
Maksym Plakhotnyuk, Ivan Kundrata, Julien Bachmann / Direct Writing of Atomically Precise Elements for Optical and Sensor Applications (ID #456)

10:30AM – 11:00AM **Coffee break (Planetarium Terrace)**

11:00AM – 11:15AM **Contributed Talk 18**

Maciej Sowa, Aleksander Olesiński, Marta Wala, Piotr Jeleń, Maciej Bik, Magdalena Stec, Wojciech Simka / Chemical Conversion Coatings Pre-Treatment as a Viable Method for Influencing The Properties of Oxide Films Produced by Plasma Electrolytic Oxidation of Light Metal Alloys (ID #226)

11:15AM – 11:30AM **Contributed Talk 19**

Aleksander Olesiński, Marta Wala, Maciej Sowa, Wojciech Simka, Piotr Jeleń, Maciej Bik / Dying Method for Oxide Coatings Produced by Plasma Electrolytic Oxidation of Magnesium and Aluminium Alloys (ID #225)

11:30AM – 11:45AM Contributed Talk 20

Marta Wala, Aleksander Olesiński, Piotr Jeleń, Maciej Bik, Maciej Sowa, Wojciech Simka / Superior Corrosion Resistance of the Oxide Coatings Produced by Plasma Electrolytic Oxidation of Aluminium and Magnesium Alloys Modified by Selected Corrosion Inhibitors (ID #227)

11:45AM – Noon Contributed Talk 21

Ilona Stabrawa, Dariusz Banaś, Aldona Kubala-Kukuś, Lukasz Jablonski, Pawel Jagodzinski, Daniel Sobota, Karol Szary, Marek Pajek, Ewaryst Mendyk, Krzysztof Skrzypiec, Michał Borysiewicz, Milena Majkić, Natasa Nedeljković / Nanostructures Formed on a Gold Nanolayer Surface as a Result of the Impact of Highly Charged Xe Ions (ID #311)

Noon – 12:15PM Contributed Talk 22

Kinga Freindl, Ewa Madej, Dorota Wilgocka-Ślęzak, Józef Korecki, Nika Spiridis / Oxidation Resistance of Fe on Ru(0001) – the Role of the Substrate and Preparation Conditions (ID #217)

12:15PM – 12:30PM Contributed Talk 23

Yevheniia Husak, Vladlens Grebnevs, Sahin Altundal, Alicja Kazek-Kęsik, Anna Yanovska, Viktoriia Kornienko, Roman Viter, Maksym Pogorielov, Wojciech Simka / Effect of CaP-particles on Ceramic-Like Coatings Formed on Magnesium via Anodisation (ID #238)

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

TUESDAY AFTERNOON SESSIONS

ORAL SESSION #3B**THIN FILMS & NANOSTRUCTURES****(CONFERENCE HALL B+C – “MARS”+”JUPITER” & in ZOOM)****2:00PM – 2:30PM Invited Talk 21**

Prof. Alla Zak, *Holon Institute of Technology, Israel*
 Alla Zak, Saptarshi Ghosh, Pallelappa Chithaiah, Yoshihiro Iwasa, Antonio Di Bartolomeo, Volker Bruser, Ifat Kaplan-Ashiri / WS₂ & MoS₂ from 3D to 1D Structures: Curvature and Chirality Induced Properties of Nanotubes (ID #358)

2:30PM – 2:45PM Contributed Talk 24

Luca Anzi, Artur Tuktamyshev, Amaia Zurutuza, Alexey Fedorov, Stefano Sanguinetti, Roman Sordan / Reconfigurable Graphene-GaAs FETs for Digital Electronics (ID #79) (*in Zoom*)

2:45PM – 3:00PM

Contributed Talk 25

Cem Odaci, Wolfgang Muehleisen, Umut Aydemir, Ali Roshanghias/
Highly Sensitive Printed Phototransistors with Liquid-Phase Exfoliated
GaSe Nanoflakes (ID #88)

3:00PM – 3:30PM

Invited Talk 22

Prof. Maksym Strikha, T. Shevchenko *Kyiv National University, Ukraine*
Maksym Strikha, Anna Morozovska / Stable Negative Capacitance in
MOSFET Transistors: Possible or Not? (ID #143) ([in Zoom](#))

3:30PM – 4:00PM

Coffee break (*Planetarium Terrace*)

4:00PM – 4:15PM

Contributed Talk 26

Olga Maksakova, Vyacheslav Beresnev, Serhiy Lytovchenko, Denys
Horokh / Improvement on the Microstructural and Nanomechanical
Properties of (TiAlZrNbY)N-based Multiphase Coatings by
Compositional and Structural Design (ID #262)

4:15PM – 4:45PM

Invited Talk 23

Prof. José Miguel García-Martín, *Instituto de Micro y Nanotecnología,
IMN-CNM, CSIC, Spain*
Nanocolumnar Films by Magnetron Sputtering: Fundamentals and
Applications in Medicine, Energy and Aerospace Industry (ID #40)

4:45PM – 5:15PM

Invited Talk 24

Paola Russo, *Angstrom Engineering Inc., Canada*
Low Temperature Alternatives for Reactive Sputtering High-Quality
Stoichiometric Metal Nitride Films (ID #439) ([in Zoom](#))

5:30PM – 7:30PM

Poster Session #2 (*Planetarium Terrace*)

7:30PM – 10:00PM

Social Mixer (*Planetarium Terrace*)

TUESDAY MORNING SESSIONS

ORAL SESSION #4A

NANOCOMPOSITES SYNTHESIS & SELF-ASSEMBLY

(CONFERENCE HALL D+E – “SATURN”+“URANUS” & [in ZOOM](#))

9:00AM – 9:30AM

Invited Talk 25

Prof. Joanna Cybińska, *University of Wroclaw, Poland*
Joanna Cybińska, Maria Zdończyk, Jakub Pawłó, Kacper Albin Prokop,
Małgorzata Guzik, Krzysztof Rola, Yannick Guyot, Georges Boulon, Anja-
Verena Mudring / Using Ionic Liquids for Nanoparticles Synthesis and
Nanostructures Fabrication. Challenges and Perspectives (ID #415)

9:00AM – 9:30AM *Invited Talk 26***Dr. Svitlana Kopyl**, *University of Aveiro, Portugal*

Abdrahamane Thiam, Mathieu Salaün, Benoit Boulanger / Self-assembled Peptide Nanotubes of Different Chirality: Properties and Applications (ID #363)

10:00AM – 10:15AM *Contributed Talk 27***Jiyong Kim**, Yohan Kim, Christine Boeffel, Hyung Seok Choi, Andreas Taubert, Armin Wedel / The Stability of InP/ZnSe/ZnS Quantum Dots with Thick or Thin ZnS Shell, and their lifetimes in Light-Emitting Diodes: Relation of Shell Thickness and Surface Chemistry (ID #32)**10:15AM – 10:30AM *Contributed Talk 28*****Simran Lambora**, Asha Bhardwaj / Optimization of Ligand Concentration on the Optical Properties of Colloidal MoS₂ Quantum Dots (ID #81)**10:30AM – 11:00AM *Coffee break* (Planetarium Terrace)****11:00AM – 11:15AM *Contributed Talk 29*****Maksym Chylii**, Liudmila Loghina, Anastasia Kaderavkova, Jakub Houdek, Miroslav Vlcek / The Thermal Mode Crucial Influence on the ZnSeS QDs Formation (ID #60) ([in Zoom](#))**11:15AM – 11:30AM *Contributed Talk 30*****Liudmila Loghina**, Maksym Chylii, Anastasia Kaderavkova, Jakub Houdek, Miroslav Vlcek / The Versatile Synthesis of Polyhedron Core-Shell Cd_{0.1}Zn_{0.9}Se/CdxZn_{1-x}S/ZnS Quantum Dots (ID #41)**11:30AM – 11:45AM *Contributed Talk 31*****Daria Cegiełka**, Piotr Cyganik / Self-assembled Monolayers on Aluminium – Optimization of Structure and Stability (ID #92)**11:45AM – Noon *Contributed Talk 32*****Kacper Albin Prokop**, Elżbieta Tomaszewicz, Miłosz Siczek, Sandrine Dankic-Cottrino, Vincent Garnier, Gilbert Fantozzi, Yannick Guyot, Georges Boulon, Małgorzata Guzik / Un-Expected Dominant Substitution of Ba²⁺ Site Instead of La³⁺ One in Cubic Nd³⁺-Doped BaLaLiWO₆ Perovskites - Promising Host Lattice for Transparent Ceramics (ID #424)**Noon – 12:15PM *Contributed Talk 33***Mateusz Wróbel, Daria Cegiełka, Andika Asyuda, Krzysztof Koziel, Michael Zharnikov, **Piotr Cyganik** / N-heterocyclic Carbenes - the Design Concept for Densely Packed and Thermally Ultra-stable Aromatic Self-assembled Monolayers (ID #95)

12:15PM – 12:30PM **Contributed Talk 34**

Iryna Bespalova, Svetlana Yefimova, Pavel Maksimchuk, Vladyslav Seminko, Kateryna Hubenko / Effect of the Synthetic Route on the Defect Structure and Redox Activity of TiO₂-x Nanocrystals (ID #65)

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

TUESDAY AFTERNOON SESSIONS

ORAL SESSION #4B**SYNTHESIS & SELF-ASSEMBLY****(CONFERENCE HALL D+E – “SATURN”+“URANUS” & in ZOOM)**2:00PM – 2:30PM **Invited Talk 27**

Prof. Tomasz Dietl, *Institute of Physics, Polish Academy of Sciences, Poland*
Phase Separations and Nematicity of Transition Metal Impurities (ID #397)

2:30PM – 2:45PM **Contributed Talk 35**

Ihor Veremchuk, Maciej Oskar Liedke, Pavlo Makushko, Tobias Kosub, Natascha Hedrich, Oleksandr Pylypovskyi V, Fabian Ganss, Maik Butterling, René Hübner, Eric Hirschmann, Ahmed Attallah G, Andreas Wagner, Kai Wagner, Brendan Shields, Patrick Maletinsky, Juergen Fassbender, Denys Makarov / Defect Nanostructure and Its Impact on Magnetism of α -Cr₂O₃ Thin Films (ID #219)

2:45PM – 3:00PM **Contributed Talk 36**

Małgorzata Nadolska, Mariusz Szkoda, Konrad Trzciński, Andrzej Nowak, Jacek Ryl, Marta Przeźniak-Welenc / Ammonium Vanadate/Reduced Graphene Oxide Composites: From Fabrication to Application (ID #229)

3:00PM – 3:15PM **Contributed Talk 37**

Maciej Czajkowski / Fabrication of Various Photonic Systems Based on Self-assembled Nanospheres (ID #394)

3:15PM – 3:30PM **Contributed Talk 38**

Silvia Ďurišová, Mariana Pajtášová, Róbert Janík, Andrej Dubec, Jana Šulcová, Iveta Papučová, Jana Pagáčová, Darina Ondrušová / The Concept of Miscellaneous DCSBD Plasma Technique Conditions to Accomplish Suitable Structural Properties of Tire Rubber (ID #136) (*in Zoom*)

3:30PM – 4:00PM **Coffee break (Planetarium Terrace)**

4:00PM – 4:15PM *Contributed Talk 39*

Katarzyna Siuzdak, Katarzyna Grochowska, V Stranak, J Hanus, P Sezemsky, Ondrej Kylian, R. Simerova / Fabrication and Characterization of Unique Double-sided Semitransparent Photoelectrode Composed of Ordered Nanotubes (ID #185)

4:15PM – 4:30PM *Contributed Talk 40*

Piotr Konarski, Joachim Ażgin, Martin Kasik, Hidde H. Brongersma / Sub-Monolayer Coatings of Molybdenum Oxide Used for Relative Sensitivity Factors Determination in “Storing Matter” Secondary Ion Mass Spectrometry (ID #260)

4:30PM – 4:45PM *Contributed Talk 41*

Łukasz Otulakowski, Mariusz Gadzinowski, Maciej Kaspro, Teresa Basinska, Stanisław Słomkowski, Barabara Trzebicka / Effect of Hydrophilic Chain Topology on Aggregation of Amphiphilic Block Copolymers of Glicidol and Styrene (ID #336) ([in Zoom](#))

4:45PM – 5:00PM *Contributed Talk 42*

Marta Prześniak-Welenc, Małgorzata Nadolska, Mariusz Szkoda, Konrad Trzciński, Jacek Ryl / Efforts in Searching for an Efficient Photocatalyst - a New Synthesis Path of Potassium Vanadate with Controllable Microstructure and Morphology (ID #58)

5:00PM – 5:15PM *Contributed Talk 43*

Tiberiu Roman, Ioana Radu, Aurel Pui / Synthesis Through Wet Chemical Route and Structural Behaviour of Cerium Doped Copper Ferrites (ID #45)

5:30PM – 7:30PM **Poster Session #2 (*Planetarium Terrace*)****7:30PM – 10:00PM **Social Mixer** (*Planetarium Terrace*)**

WEDNESDAY, SEPTEMBER 14, 2022

WEDNESDAY MORNING SESSIONS

ORAL SESSION #1A**MAGNETIC PHENOMENA, MATERIALS & DEVICES****(CONFERENCE HALL A – “MERCURY” & [in ZOOM](#))**

9:00AM – 9:30AM

Invited Talk 28**Dr. Sebastian Wintz**, *Max Planck Institute for Intelligent Systems, Germany*

Sebastian Wintz, Sabine Mayer, Simone Finizio, Jonathan Leliaert, Markus Weigand, Frank Schulz, Joachim Gräfe, Carsten Dubs, Joe Bailey, Joakim Reuteler, Bartel Van Waeyenberge, Hermann Stoll, Gisela Schütz, Jörg Raabe / Imaging Spin Waves in a Low-damping Ferrimagnet with Low Magnetization (ID #438)

9:30AM – 10:00AM

Invited Talk 29**Dr. Michal Urbanek**, *CEITEC Nano Group, Czech Republic*

Brillouin Light Scattering Measurements of Nanoscale Spin Waves (ID #399)

10:00AM – 10:15AM

Contributed Talk 44**Anna Kosogor**, Victor A L'vov, Rie Y Umetsu, Xiao Xu, Ryosuke Kainuma / Strong Influence of Magnetic Order on the Low-Temperature Specific Heat of Heusler Alloys (ID #240)

10:15AM – 10:30AM

Contributed Talk 45**Anthoula Poulia**, Aleksander Larsen, Joachim Graff, Spyridon Diplas, Anette Eleonora Gunnæs, Pavlo Mikheenko / Imagining Magnetic Domain Structure of a High Entropy Alloy: Effect of Applied Magnetic Field (ID #29) ([in Zoom](#))

10:30AM – 11:00AM

Coffee break (*Planetarium Terrace*)

11:00AM – 11:30AM

Invited Talk 30**Prof. Giovanni Finocchio**, *University of Messina, Italy*Computing with Spintronic Devices & Probabilistic Bits (ID #352) ([in Zoom](#))

11:30AM – Noon **Invited Talk 31****Dr. Claas Abert**, *University of Vienna, Austria*

Claas Abert, Sabri Koraltan, Florian Bruckner, Florian Slanovc, Juliana Besler, Pavlo Omelchenko, Erol Girt, Dieter Suess / Noncolinear Coupling in Magnetic Multilayers: Modelling and Applications in Spintronics (ID #407)

Noon – 12:15PM **Contributed Talk 46**

Eduardo Sergio Oliveros Mata, Minjeong Ha, Clemens Voigt, Gilbert Santiago Cañón Bermúdez, Tobias Kosub, Yevhen Zabila, Rico Illing, Nestor Miguel Valdez-Garduño, Marco Fritsch, Sindy Mosch, Mihails Kusnezoff, Juergen Fassbender, Mykola Vinnichenko, Denys Makarov / Printed Magnetic Field Sensors: From Wearable Devices to Interactive Surfaces (ID #222)

12:15 – 12:30PM **Contributed Talk 47**

Yüksel Akinay, Ihsan Akkus Nuri / Novel Sb_2O_3 and SnO_2 Nanoparticles Decorated Talc Pigments for Broadband Electromagnetic Wave Absorption (ID #370)

12:30PM – 2:00PM

Lunch break (at your own expense)

WEDNESDAY AFTERNOON SESSIONS

ORAL SESSION #1B**MAGNETIC FILMS & NANODEVICES****(CONFERENCE HALL A – “MERCURY” & in ZOOM)**2:00PM – 2:30PM **Invited Talk 32****Prof. Sofia Kantorovich**, *University of Vienna, Austria*

In silico Investigations of Magnetic Soft Matter (ID #450)

2:30PM – 3:00PM **Invited Talk 33****Dr. Juraj Feilhauer**, *Institute of Electrical Engineering, Slovak Academy of Sciences, Slovakia*

Juraj Feilhauer, Michal Mruczkiewicz, Ján Šoltýs, Mateusz Zelent, Iuliia Vetrova, Sergey Krylov, Jaroslav Tóbič, Konstantin Bublikov, Tomáš Ščepka, Ján Fedor, Ján Déder, Vladimír Cambel / Noncollinear Magnetic Nanostructures as Building Blocks of Topological Magnonic Crystals and Magnetic Force Microscopy Probes (ID #377)

3:00PM – 3:15PM **Contributed Talk 48**

Dariia Popadiuk, Kharlan Julia, Vladimir Golub, P. Štrichovanec, José A. Pardo, P.A. Algarabel, B. Postolnyi, S. Bunuyaev, Gleb Kakazei, A. Vovk, J.P. Araujo / Control of Structural and Magnetic Properties of Epitaxial Co_2FeGe Films by Deposition and Annealing Temperatures (ID #126)

- 3:15PM – 3:30PM **Contributed Talk 49**
Suchandra Goswami, Manashi Chakraborty, Debajyoti De/ Origin of Exchange Bias in Nanocrystalline CoCr_2O_4 (ID #100)
- 3:30PM – 4:00PM **Coffee break** (Planetarium Terrace)
- 4:00PM – 4:30PM **Invited Talk 34**
Prof. Alexander Serga, TU Kaiserslautern, Germany
 Control of the Bose-Einstein Condensation of Magnons in Nanosized YIG Films by the Spin Hall Effect (ID #98)
- 4:30PM – 5:00PM **Invited Talk 35**
Dr. Eric Arturo Montoya, University of California, Irvine, USA
 Recent Advances in Nanowire Spin Hall Oscillators (ID #409) ([in Zoom](#))
- 5:00PM – 5:30PM **Invited Talk 36**
Dr. Dmytro Bozhko, University of Colorado Colorado Springs, USA
 Dmytro Bozhko, Renju Peroor / Heralded Parametric Single Magnon Source (ID #371) ([in Zoom](#))
- 5:30PM – 7:30PM **e-POSTERS SESSION** ([in Discord Platform](#))
- 8:00PM – 12:00PM **CONFERENCE GALA DINNER** (GEMINI Hall)

WEDNESDAY MORNING SESSIONS

ORAL SESSION #2A

NANOBIOMEDICAL RESEARCH & APPLICATIONS

(CONFERENCE HALL F – “NEPTUNE” & [in ZOOM](#))

- 8:30AM – 9:00AM **Invited Talk 37**
Dr. Oksana Sulaieva, CSD Medical Laboratory, Ukraine
 Discovering in Vivo Host Response to Nanomaterials (ID #282) ([in Zoom](#))
- 9:00AM – 9:30AM **Invited Talk 38**
Dr. Valerio Voliani, Italian Institute of Technology, Italy
 Hybrid Plasmonic Nano-Architectures: Biokinetics and Potential Oncological Applications (ID #142)
- 9:30AM – 9:45AM **Contributed Talk 50**
Julia Matysik, Olga Długosz, Krzysztof Szostak, Wiktoria Matyjasik, Marcin Banach / Biocatalytic Properties of “Enzyme-Nano Complexes” Based on ZnO/Ag And ZnO/Fe Nanoparticles With Immobilized Peroxidase (ID #459)

9:45AM – 10:00AM Contributed Talk 51

José Rodrigues, Laura Grillini, Riccardo Bendoni, Lucia Forte, Gwendolen Reilly, Frederik Claeyssens / Optimizing the Osteogenic Potential of TiO₂/Hydroxyapatite Coatings with Design of Experience (ID #431)

10:00AM – 10:15AM Contributed Talk 52

Weronika Mazur, Ewa Stodolak-Zych, Marcin Kudzin, Aleksandra Weselucha-Birczyńska, Maciej Boguń, Artur Krzyżak / Carbon Fibers Surface with Active Metallic Nanometric Layer to Support Cartilage Regeneration Process (ID #309)

10:15AM – 10:30AM Contributed Talk 53

Anton Roshchupkin, Ilya Yanko, Yevheniia Husak, Sergiy Kyrylenko, Muhammad Saqib, Natalia Beshchasna, Joerg Opitz, Leonardo Orazi, Maksym Pogorielov / Periodic Surface Nanopatterns Can Determine Cellular Shape and Orientation (ID #160) ([in Zoom](#))

10:30AM – 11:00AM Coffee break (Planetarium Terrace)**11:00AM – 11:30AM Invited Talk 39**

Part A – Prof. Maksym Pogorielov, Sumy State University, Ukraine
Application of Pulsed NIR Laser for MXene Assisted Tumor Cell Ablation
Part B – Prof. Lucia Gemma Delogu, University of Padua, Italy
Biomedical Applications of Two-Dimensional Materials: MXene Immunocompatibility (ID #345) ([in Zoom](#))

11:30AM – Noon Invited Talk 40

Prof. Hariharan Srikanth, *University of South Florida, USA*
Anisotropic Magnetic Nanoparticles for Biomedical Applications (ID #451)

Noon – 12:15PM Contributed Talk 54

Maciej Serda, Julia Korzuch, Paweł Nalepa, Patryk Rurka, Grzegorz Szewczyk, Maciej Zubko, Katarzyna Balin, Katarzyna Malarz, Anna Mrozek-Wilczkiewicz, Robert Musioł / Towards Water-Soluble Fullerene Nanomaterials for Pancreatic Cancer Treatment (ID #253)

12:15PM – 12:30PM Contributed Talk 55

Kateryna Diedkova, Viktoriia Korniienko, Sergiy Kyrylenko, Anton Roshchupkin, Yuliia Varava, Yevhen Samokhin, Veronika Zahorodna, Oleksiy Gogotsi, Ivan Baginskyi, Maksym Pogorielov / The Multistep Process of Coating PCL Membranes with MXene Solution (ID #317)

12:30PM – 2:00PM

Lunch break (at your own expense)**WEDNESDAY AFTERNOON SESSIONS****ORAL SESSION #2B****NANOBIOMEDICAL RESEARCH & APPLICATIONS****(CONFERENCE HALL F – “NEPTUNE” & [in ZOOM](#))**

2:00PM – 2:15PM

Contributed Talk 56

Olesia Tverezovska, Viktoriia Holubnycha, Rafal Banasiuk, Yevheniia Husak, Anton Savchenko, Viktoriia Korniienko / The Effect of Silver Nanoparticles Against Formation of Enterococcus Faecalis Biofilms (ID #167)

2:15PM – 2:30PM

Contributed Talk 57

Denata Sylva, Laura Grillini, Lucia Forte, Boyang Liu, Frederik Claeysens, Gwendolen Reilly / Printable Magnesium and Strontium Substituted Hydroxyapatite-Polycaprolactone Composites (ID #445)

2:30PM – 2:45PM

Contributed Talk 58

Ilya Yanko, Anton Roshchupkin, Yevheniia Husak, Sergiy Kyrilenko, Maksym Pogorielov, Leonardo Orazi, Muhammad Saqib, Natalia Beshchasna, Joerg Opitz / Biocompatibility of the Materials with Laser Induced Periodic Surface Structure (ID #172) ([in Zoom](#))

2:45PM – 3:00PM

Contributed Talk 59

Alexander Sorokin, Volodymyr Prokopiuk, Iryna Grankina, Igor Borovoy, Anton Tkachenko, Svetlana Yefimova / Amphi-PIC J-Aggregate – Protein Complexes: Stability in Blood and Toxicity to Cell Cultures (ID #53) ([in Zoom](#))

3:00PM – 3:15PM

Contributed Talk 60

Vladyslav Seminko, Pavel Maksimchuk, Ganna Grygorova, Svetlana Yefimova / Photocatalytic and Antioxidant Properties of Nanoceria at UV Irradiation/Pre-irradiation (ID #30) ([in Zoom](#))

3:15PM – 3:30PM

Contributed Talk 61

Agne Kizalaite, Hanna Klipan, Vytautas Klimavičius, Gediminas Niaura, Aleksej Zarkov / Synthesis, Structural Properties and Thermal Stability of Nanoscale Magnesium Whitlockite (ID #74)

3:30PM – 4:00PM

Coffee break (*Planetarium Terrace*)

4:00PM – 4:15PM

Contributed Talk 62

Željko Janičijević, Trang-Anh Nguyen-Le, Rugilė Žilėnaitė, Manja Kubeil, Michael Bachmann, Larysa Baraban / Optimization of the Extended Gate Field-Effect Transistor-Based Biosensing Platform for the Detection of Biomolecular Interactions (ID #76)

4:15PM – 4:30PM *Contributed Talk 63*

Chhavi Sharma, Amit Kumar Kesharwani, Divya Rehani, Ritu Kesarwani, Dinesh Singh, Shailesh Narain Sharma, Ritu Srivastava / Synergistic Antibacterial Effects of Cellulose:TiO₂ Nanocomposite Against Phytopathogens (ID #382)

4:30PM – 4:45PM *Contributed Talk 64*

Sylwia Golba, Justyna Jurek-Suliga, Sara Krawczyk, Aleksandra Urbaniec, Maciej Zubko, Izabela Matula / A Highway for Nanostructure Polypyrrole Formation – Dye – assisted Synthesis with Methylene Orange as Effective Structure Guiding Agent (ID #340)

4:45PM – 5:00PM *Contributed Talk 65*

Diellza Bajrami, Syed Imdadul Hossain, Maria Sportelli Chiara, Rosaria Picca Anna, Nicola Cioffi, Francesco Mastrolonardo, Nicola Antonio Colabufo, Alexia Chiara Barbarossa, Antonio Rosato, Boris Mizaikoff / Development of Silver Chloride Based Antimicrobial and Antibiofilm Hard Coatings for Food Packaging Industries (ID #117)

5:00PM – 5:15PM *Contributed Talk 66*

Kamil Kleszcz, Krzysztof Mars, Mateusz Marzec, Agnieszka Kyzioł, Wiktor Niemiec, Marek Hebda, Halina Krawiec, Karol Kyzioł / Gradient (Si,N):DLC Layers for Improved Performance of Hip Joint Replacement Implants (ID #223)

5:15PM – 5:45PM *Invited Talk 41*

Prof. Rodolphe Antoine, *Institut Lumière Matière, France*
The Marriage of Atomically Precise Nanoclusters with Biomolecules: Interfacial Chemistry & Biological Applications (ID #152)

5:45PM – 6:15PM *Invited Talk 15_1*

Prof. Robert Bogdanowicz, *Gdansk University of Technology, Poland*
Functionalized Nanodiamond-Rich Interfaces for Biosensing Applications (ID #37)

5:30PM – 7:30PM **e-POSTERS SESSION (*in Discord Platform*)****8:00PM – 12:00PM **CONFERENCE GALA DINNER** (*GEMINI Hall*)**

WEDNESDAY MORNING SESSIONS

ORAL SESSION #3A**NANOMATERIALS FOR ENERGY****(CONFERENCE HALL B+C – “MARS”+“JUPITER” & in ZOOM)****9:00AM – 9:30AM *Invited Talk 42***

Prof. Emerson Coy, *Adam Mickiewicz University, Poland*
Emerson Coy, Jakub Szewczyk, Daniel Aguilar-Ferrer / Easily
Transferable Polydopamine Coatings for Energy Applications with
Robust Mechanical Response (ID #427)

9:30AM – 10:00AM *Invited Talk 43*

Dr. Eugene Katz, *Ben-Gurion University of the Negev, Israel*
Third Perovskite Revolution: Why, What and Why Not as Yet?
(ID #408)

10:00AM – 10:15AM *Contributed Talk 67*

Kaja Spilarewicz-Stanek, Kamil Urbanek, Mariola Kądziołka-Gaweł,
Jiaguo Yu, Wojciech Macyk / Nanoengineered Photocatalysts for
Selective Reduction of CO₂ (ID #252)

10:15AM – 10:30AM *Contributed Talk 68*

Karolina Syrek, Marta Zych, Grzegorz Sulka / Anodic Tungsten Oxide:
Synthesis & Photoelectrochemical Properties (ID #320)

10:30AM – 11:00AM *Coffee break* (Planetarium Terrace)**11:00AM – 11:30AM *Invited Talk 44***

Dr. Audrey Potdevin, *Université Clermont Auvergne, France*
Audrey Potdevin, Pierre Martin, Genevieve Chadeyron, Damien Boyer /
Development of Nanophosphors Suitable for MicroLEDs (ID #406)

11:30AM – 11:45AM *Contributed Talk 69*

Ioana Radu, Adrian Borhan Iulian, Daniela Dirtu, Aurel Pui / Self-
assembled FeOOH (OXY)Hydroxide on Colloidal Al:SrTiO₃ Perovskite as
Solar Light-Driven Photocatalyst for Antibiotics Degradation (ID #43)

11:45AM – Noon *Contributed Talk 70*

Saud Alotaibi, Abdulaziz Almalki, Amjad Almunyif, Amra Alhassni,
Sultan Alhassan, Maryam Al Huwayz, Suho Park, Sang Jun Lee, Yeongho
Kim, Mohamed Henini / The Effect of the Substrate Orientation on the
Electrical Properties of InGaP Solar Cells (ID #432)

Noon – 12:15PM **Contributed Talk 71**

David Cabaleiro, Sonia Losada-Barreiro, Filippo Agresti, Carolina Hermida-Merino, Laura Fedele, Luis Lugo, Simona Barison, Manuel M. Piñeiro / Fatty Alcohol Nanoemulsions as Latent Functional Thermal Fluids for Energy Management (ID #101)

12:30PM – 2:00PM

Lunch break (at your own expense)

WEDNESDAY AFTERNOON SESSIONS

ORAL SESSION #3B

NANOMATERIALS FOR ENERGY

(CONFERENCE HALL B+C – “MARS”+“JUPITER” & [in ZOOM](#))

2:00PM – 2:30PM **Invited Talk 45**

Dr. Muralidhar Chourashiya, *Guangdon Technion – Israel Institute of Technology, China*

Muralidhar Chourashiya, Aleksandra Baron-Wiechec / Oxide Supported Anode-electrocatalysts for Proton Exchange Membrane (PEM) Based Water Electrolysis (ID #86)

2:30PM – 3:00PM **Invited Talk 46**

Dr. Larysa Khomenkova, *V. Lashkaryov Institute of Semiconductor Physics, NASU, Ukraine*

Nadiia Korsunskia, Iryna Brodnikovska, Yuliia Polishchuk, Oleg Marchylo, Xavier Portier, Olivier Marie, Igor Vorona, Dmytro Brodnikovskiy, Yegor Brodnikovskiy, Ihor Polishko, Natalia Lysunenko, Oleksandr Vasylyev, Semen Ponomaryov, Lyudmyla Melnichuk, Oleksandr Melnichuk, Larysa Khomenkova / ZrO₂-Based Nanopowders for Fuel Cells and Catalysis (ID #364)

3:00PM – 3:15PM **Contributed Talk 72**

Ivan Kruhlov, Andrii Orlov, Vitalii Yanchuk, Svitlana Voloshko, Abdalla Alghfeli, Timothy Fisher, Sergey Prikhodko / Direct-Indirect Graphene Fabrication of Cu-Based Solar Cells Contacts (ID #303) ([in Zoom](#))

3:15PM – 3:30PM **Contributed Talk 73**

Igor Iatsunskiy / Nanocomposites Based on Electrospun Polyamide Nanofibers Modified by Metal Oxide Nanowires - MXene Towards Photocatalytic Applications (ID #153)

3:30PM – 4:00PM **Coffee break (Planetarium Terrace)**

ORAL SESSION #3B

NANOMATERIALS FOR ENVIRONMENT

(CONFERENCE HALL B+C – “MARS”+”JUPITER” & in ZOOM)

- 4:00PM – 4:15PM **Contributed Talk 74**
Hasanthi L. Senevirathna, Cathie Lee, Shunnian Wu, Ping Wu / Facile Synthesis of Dopant Assisted MgO-Mg(OH)₂ Nanocomposites for Room Temperature Carbon Dioxide Capture (ID #10)
- 4:15PM – 4:30PM **Contributed Talk 75**
Yuliia Bondar, Svetlana Kuzenko, Andrii Melnyk / Novel Nanocomposite Polymer Granules for Selective Removal of Cesium Radionuclides (ID #259)
- 4:30PM – 5:00PM **Invited Talk 47**
Prof. Philiswa Nomngongo, *University of Johannesburg, South Africa*
Role of Porous Nanocomposite for Environmental Monitoring and Remediation (ID #436)
- 5:00PM – 5:15PM **Contributed Talk 76**
Olga Długosz, Wiktoria Matyjasik, Julia Matysik, Marcin Banach / Metal Nanoparticles in Natural Deep Eutectic Solvent (NDES) (ID #458)
- 5:15PM – 5:30PM **Contributed Talk 77**
Bence Solymosi / Development of Inexpensive, High-Performance Carbon Supported Catalyst Nanomaterials for Iron-free Fenton-like Catalytic Water Treatment (ID #417)
- 5:30PM – 5:45PM **Contributed Talk 78**
Naznin Shaikh Mohammed Usman, Abhijit Ray / Electrocatalytic Performance of Bimetallic Ni-Mo Alloy with Thermally Modulated Microstructure for Hydrogen Generation at Ultra-Low Overpotential in Acidic Media (ID #387) (*in Zoom*)
- 5:30PM – 7:30PM **e-POSTERS SESSION** (*in Discord Platform*)
- 8:00PM – 12:00PM **CONFERENCE GALA DINNER** (*GEMINI Hall*)

WEDNESDAY MORNING SESSIONS

ORAL SESSION #4A**NANOCOMPOSITES SYNTHESIS & SELF-ASSEMBLY****(CONFERENCE HALL D+E – “SATURN”+”URANUS” & in ZOOM)****9:00AM – 9:15AM *Contributed Talk 79***

Olena Lavrynenko, Maksim Zahornyi, Olesja Pavlenko, Sergii Korichev / Characteristics of Nanostructures Formed during the Heat Treatment of Titanium (IV)isopropoxide Precipitates in the Presence of Noble Metals (ID #368) (*in Zoom*)

9:15AM – 9:30AM *Contributed Talk 80*

Mariya Shamzhy / Germanosilicates as Extended Building Units for the Rational Synthesis of New Zeolite Catalysts (ID #201)

9:30AM – 9:45AM *Contributed Talk 81*

Błażej Scheibe, Jacek Wychowaniec, Barbara Peplińska, Claudia Aparicio, Magdalena Scheibe, Magda Kulpa-Greszta, Robert Pązik, Varun Natu, Michel Barsoum, Artur Bartkowiak, Michal Otyepka / A MXene Modified Magnetic Alginate Hydrogels – An Application of Photothermal Effect in Enzymatic Catalysis (ID #449)

9:45AM – 10:00AM *Contributed Talk 82*

Mateusz Tomczyk, Masafumi Minoshima, Kazuya Kikuch, Agata Blacha-Grzechnik, Zbigniew Starosolski, Rohan Bhavane, Mariusz Zalewski, Nikodem Kuźnik / Hybrid VIS and NIR Emission of (6,5) SWCNTs Modified with Fluorescein Through Aryl Diazonium Salt Chemistry (ID #82)

10:00AM – 10:15AM *Contributed Talk 83*

Alicja Bosacka, Viktoriia Paientko, Alexander Matkovsky, Vlad M Gun'ko, Anna Derylo-Marczewska / Preparation of Kaolin-Carbon-Orange Peel Powder Nanocomposites by Knife- or Planetary Ball-Milling (ID #314) (*in Zoom*)

10:15PM – 10:30PM *Contributed Talk 84*

Monidipa Pramanik, Mukta Limaye Vinayak, Shashi Singh Bhushan / Composite of Polydimethylsiloxane (PDMS) and 2D Vanadium Carbide MXene(V2CTx) Films as a Flexible and Free-Standing Surface Enhanced Raman Scattering Substrate (ID #338) (*in Zoom*)

10:30AM – 11:00AM *Coffee break* (Planetarium Terrace)

11:00AM – 11:15AM *Contributed Talk 85*

Maksym Opanasenko / Switchable Crystal Growth Mechanism in Zeolite Systems (ID #144)

11:15AM – 11:30AM *Contributed Talk 86*

Aleksandra Cebrat, Bahaaeddin Irziqat, Karl-Heinz Ernst / STM Study of Stereospecific on-Surface Cyclodehydrogenation and Planarization of Bispentahelicenes on Au(111) Surface (ID #63)

11:30AM – 11:45AM *Contributed Talk 87*

Adam Aberra Challa, Adam Aberra Challa, Nabanita Saha, Nabanita Saha, Fahanwi Asabuwa Ngwabebhoh, Fahanwi Asabuwa Ngwabebhoh, Hau Trung Nguyen, Hau Trung Nguyen, Pavel Urbánek, Pavel Urbánek, Haojie Fei, Petr Saha / Synthesis and Characterization of Graphene Oxide from Residual Biomass (ID #62)

11:45AM – Noon *Contributed Talk 88*

Iris Weitz / Spatially Nanoconfined Assembly of Indigo Carmine by Double Emulsion Technique (ID #107)

12:30PM – 2:00PM

Lunch break (at your own expense)

WEDNESDAY AFTERNOON SESSIONS

ORAL SESSION #4B**OPTICAL PROPERTIES**

(CONFERENCE HALL D+E – “SATURN”+”URANUS” & ZOOM)

2:00PM – 2:30PM *Invited Talk 48*

Prof. Dmitri Lioubtchenko, KTH Royal Institute of Technology, Sweden
Dmitri Lioubtchenko, Nikolaos Xenidisa, James Campiona, Serguei Smirnov, Joachim Oberhammer, Aleksandra Przewłoka, Aleksandra Krajewska, Piotr Drózdź / Ultra-Wideband Graphene-based Absorbers for THz Integrated Waveguide Systems (ID #177)

2:30PM – 3:00PM *Invited Talk 49*

Prof. Wiktor Lewandowski, University of Warsaw, Poland
Liquid Crystal Templated Chiral Plasmonic and Circularly Polarized Luminescent Films with Dynamic Tunability and Moldability
(ID #410)

3:00PM – 3:30PM **Invited Talk 50**

Prof. Lauro June Queiroz Maia, *Federal University of Goiás, Brazil*
Photoluminescence and Nonlinear Optical Properties of Rare-earth Doped Borate and Germanate Nanomaterials
(ID #441)

3:30PM – 4:00PM **Coffee Break** (*Planetarium Terrace*)

4:00PM – 4:30PM **Invited Talk 51**

Dr. Sebastian Maćkowski, *Nicolaus Copernicus University, Poland*
Silver Nanowire – Plasmonic Magic Wand
(ID #414)

4:30PM – 5:00PM **Invited Talk 52**

Prof. Kremena Makasheva, *Toulouse III – Université Paul Sabatier, France*
Kremena Makasheva, Christina Villeneuve-Faure, Laurent Boudou, Gilbert Teyssedre / Multifunctionality of Silver Nanoparticles Embedded in Dielectric Matrices for Optical, Electrical Engineering and Microbiology Applications (ID #405) (*in Zoom*)

5:00PM – 5:15PM **Contributed Talk 89**

Oleh Yermakov, Sergey Polevoy / Merging Polarization Degeneracy and High Localization with All-dielectric and Self-complementary Metasurfaces (ID #328) (*in Zoom*)

5:30PM – 7:30PM **e-POSTERS SESSION** (*in Discord Platform*)

8:00PM – 12:00PM **CONFERENCE GALA DINNER** (*GEMINI Hall*)

THURSDAY, SEPTEMBER 15, 2022

THURSDAY MORNING SESSIONS

ORAL SESSION #1A**SUPERCONDUCTING & MAGNETIC MATERIALS****(CONFERENCE HALL A – “MERCURY” & ZOOM)**

9:00AM – 9:30AM

Invited Talk 53

Dr. Michał Piotr Nowak, *AGH University of Science and Technology, Poland*

Electronic Transport Properties of Nanoscopic Josephson Junctions (ID #84)

9:30AM – 10:00AM

Invited Talk 54

Dr. Michał Zegrodnik, *AGH University of Science and Technology, Poland*

Michał Zegrodnik, Paweł Wójcik, Michał Nowak Piotr / Thermal Unconventional Superconductivity in the 2D Electron Gas at the LaAlO₃/SrTiO₃ Interfaces (ID #85)

10:00AM – 10:30AM

Invited Talk 55

Dr. Denys Makarov, *Helmholtz-Zentrum Dresden-Rossendorf e.V., Germany*

Curvilinear Magnetism: Fundamentals and Applications (ID #373)

10:30AM – 11:00AM

Coffee break (*Planetarium Terrace*)

11:00AM – 11:30AM

Invited Talk 56

Dr. Witold Skowronski, *AGH University of Science and Technology, Poland*, Dieter Suess, Sebastian Zeilinger / Spin-orbit Coupling Related Phenomena in Thin Film Heterostructures (ID #356) (*in Zoom*)

11:30AM – 11:45AM

Contributed Talk 90

Pavlo Makushko, Eduardo Sergio Oliveros Mata, Gilbert Santiago Cañón Bermúdez, Mariam Hassan, Sara Laureti, Christian Rinaldi, Federico Fagiani, Gianni Barucca, Nataliia Schmidt, Yevhen Zabila, Tobias Kosub, Rico Illing, Oleksii Volkov, Igor Vladymyrskyi, Juergen Fassbender, Manfred Albrecht, Gaspard Varvaro, Denys Makarov / Flexible Magnetoreceptive Switch for On-Skin Touchless Human-Machine Interaction (ID #214) (*in Zoom*)

11:45AM – Noon *Contributed Talk 91*

Dovydas Karoblis, Aleksej Zarkov, Edita Garskaite, Dalis Baltrunas, Kestutis Mazeika, Gediminas Niaura, Aldona Beganskiene, Aivaras Kareiva / Morphological, Structural, and Magnetic Properties of Perovskite-type Solid Solutions (ID #77)

Noon – 12:15PM *Contributed Talk 92*

Eduardo Sergio Oliveros Mata, Minjeong Ha, Gilbert Santiago Cañón Bermúdez, Jessica A-C Liu, Benjamin A Evans, Joseph B Tracy, Denys Makarov / Magnetic Electronic Skins for Self-Supervised Origami Soft Actuators (ID #236)

12:15PM – 12:30PM *Contributed Talk 93*

Pavlo Mikheenko, Manoel Jacquemin, Masih Mojarad, Fredric Mercier / Controlling Dendritic Flux Avalanches by Nanostructure of Superconducting Films (ID #18)

12:30PM – 12:45PM *Contributed Talk 94*

Rajat Sharma, Victor Chechik / Magnetically - Triggered Protein Release Using Iron Oxide Core - PNIPMAM Shell Nanoparticles (ID #437) (*in Zoom*)

12:30PM – 2:00PM *Lunch break (at your own expense)***3:00PM - *FREE TIME or EXCURSIONS (if prepaid in advance)***

THURSDAY MORNING SESSIONS

ORAL SESSION #2A**ELECTROCHEMISTRY OF NANOMATERIALS****(CONFERENCE HALL F – “NEPTUNE” & *in ZOOM*)****9:00AM – 9:30AM *Invited Talk 57***

Prof. Jacek Ryl, *Institute of Nanotechnology and Materials Engineering, Gdańsk University of Technology, Poland*
Jewelry or Science: Impedimetric Monitoring of Molecular Recognition Systems Based on Diamond and Gold Surfaces (ID #212)

9:30AM – 9:45AM *Contributed Talk 95*

Shi Wun Tong, Darren Chi Jin Neo, Wei Peng Goh, Changyun Jiang / Stable Molecular-Organic Framework Based Electrode for Electrochemical Applications (ID #15) (*in Zoom*)

9:45AM – 10:00AM *Contributed Talk 96*

Adrian Olejnik, Katarzyna Siuzdak, Robert Bogdanowicz / Modification of Boron Doped Carbon Nanowalls by Electropolymerized Dopamine and Zwitterions - from Intermolecular Interactions to Enhanced Electrochemical Sensing (ID #35)

10:00AM – 10:15AM *Contributed Talk 97*

Khrystyna Khrushchyk, Malgorzata Karolus, Julian Kubisztal / Influence of Short-Term Annealing on Electrochemical Properties of Amorphous Metal Alloys Based on Aluminum (ID #216)

10:15AM – 10:30AM *Contributed Talk 98*

Joaquin Guillamon Moreira, **Reza Nekovei**, Amit Verma / Electrolyte-Centric Thermal Model of Li-Ion Battery for Self-Powered Nanosystems (ID #128)

10:30AM – 11:00AM *Coffee break (Planetarium Terrace)***11:00AM – 11:15AM *Contributed Talk 99***

Silvia Fruncillo, Xiaodi Su, Hong Liu, Christopher Blanford, Lu Shin Wong / Mediated Electrochemistry of Cota Laccase from Bacillus Subtilis on Covalently-Functionalized Nanopatterned Surfaces for the Design of Oxygen-Reducing Biocathodes (ID #67)

11:15AM – 11:30AM *Contributed Talk 100*

Tarun Narayan, Pierre Lovera, Alan O’Riordan / Modified Ultramicroelectrodes Arrays for applications in Environmental Analysis (ID #116)

11:45AM – Noon *Contributed Talk 101*

Manish Vishwakarma Kumar, Puneet Jain / Unveiling the Role of Cu in Carrier Transport and Dielectric Relaxation Using Impedance and Modulus Spectroscopy in TiO₂ Thin Film Electrodes (ID #343)

Noon – 12:15PM *Contributed Talk 102*

Marta Wala, Katarzyna Leśniak-Ziółkowska, Alicja Kazek-Kęsik, Sylwia Bajkacz, Piotr Dydo, Wojciech Simka / Easy, One-pot Preparation of the NiCu-Graphene Oxide Catalyst Using Electrodeposition and its Activity Towards Electrooxidation of Urea (ID #310)

12:30PM – 2:00PM *Lunch break (at your own expense)***3:00PM - *FREE TIME or EXCURSIONS (if prepaid in advance)***

THURSDAY MORNING SESSIONS

ORAL SESSION #3A
INTERFACES, NANOSENSORS & NANOSCALE CHARACTERIZATION
(CONFERENCE HALL B+C – “MARS”+”JUPITER” & in ZOOM)

9:00AM – 9:30AM **Invited Talk 58**

Prof. Alberto Vomiero, *Lulea University of Technology, Sweden*
The Role of Interfaces in Composite Nanomaterials for Energy Conversion (ID #440)

9:30AM – 10:00AM **Invited Talk 59**

Prof. Aleksandra Baron-Wiechec, *Guangdon Technion – Israel Institute of Technology, China*
Application of Stable Isotopes in Probing at Nanoworld (ID #90)

10:30AM – 11:00AM **Coffee break** (*Planetarium Terrace*)

11:00AM – 11:15AM **Contributed Talk 103**

Lucía Abarca Cabrera, Sonja Berensmeier, Paula Fraga García/
Controlled Recovery of Biomolecules from Model and Complex Biotechnological Systems using Magnetic Nanoparticles (ID #265)

11:15AM – 11:30AM **Contributed Talk 104**

Mindaugas Ilickas, Brigita Abakeviciene, Rasa Mardosaite, **Simas Rackauskas** / ZnO Nanoparticle Synthesis to Produce Room-temperature UV Sensors by Spray-coating (ID #22)

11:30AM – 11:45AM **Contributed Talk 105**

Aisling Fleming, Koen Evers, Alexandria Lawless, Wei Zhang, Yuchen Lin, Laurent Adumeau, Yan Yan, Kenneth A Dawson / Particle-by-Particle Mapping by Fluorescence Microscopy: Characterizing the Surface Composition and Subpopulation Heterogeneity of Bionanocomposites (ID #249)

11:45AM – Noon **Contributed Talk 106**

Anton Tkachenko, Svetlana Yefimova, Anatolii Onishchenko, Pavel Maksimchuk, Iryna Besspalova, Volodymyr Prokopiuk / Assessing the Toxicity of TiO₂ Nanoparticles with a Different Ti³⁺ (Ti²⁺) / Ti⁴⁺ Ratio (ID #39) (*in Zoom*)

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

3:00PM - **FREE TIME** or **EXCURSIONS** (*if prepaid in advance*)

THURSDAY MORNING SESSIONS

ORAL SESSION #4A**Electronic & Thermal Transport****(CONFERENCE HALL D+E – “SATURN”+”URANUS” & in ZOOM)****9:00AM – 9:15AM *Contributed Talk 107***

Shreyas Srivatsa, Waldemar Tokarz, Janusz Przewoźnik, Łukasz Gondek, Dariusz Kata, Krzysztof Grabowski, **Tadeusz Uhl**, Jerzy Lis, Czesław Kapusta / Electronic and Thermal Properties of Ti3C2-MXenes for Sensing Applications (ID #435)

9:15AM – 9:30AM *Contributed Talk 108*

Anastasiia Stepura, Michal Procházka, Matej Mičušík, Daiva Zeleniakienė, Andrey Aniskevich, Mária Omastová / Nanocomposites Based on Polymeric Matrix With MXenes and Carbon Nanotubes as Nanofillers (ID #51)

9:30AM– 10:00AM *Invited Talk 60*

Prof. Maytal Caspary Toroker, *Technion - Israel Institute of Technology, Israel*
Modeling Charge Transport Through Nanomaterials (ID #448) (*in Zoom*)

10:00AM – 10:30AM *Invited Talk 61*

Dr. Nicola Curreli, *Italian Institute of Technology, Italy*
Nicola Curreli, Michele Ghini, Matteo Bruno Lodi, Nicolò Petrini, Alessandro Fanti, Ilka Kriegel / Depletion Layer Engineering in Core-Shell Metal Oxide Nanocrystals (ID #402) (in Zoom)

10:30AM – 11:00AM *Coffee break* (Planetarium Terrace)**11:00AM – 11:15AM *Contributed Talk 109***

Mateusz Wróbel, Jakub Ossowski, Anna Krzykawska, Krzysztof Kozieł, Michael Zharnikov, Piotr Cyganik / The Impact of the Anchoring Group on Thermal Stability and Electrical Conductivity of Self-Assembled Monolayers (ID #112)

11:15AM – 11:30AM *Contributed Talk 110*

Ewa Sroczyk Anna, Zuzanna Krysiak, Urszula Stachewicz / Numerical Modeling of Oil Flow Through Porous Polymer Membranes (ID #114)

11:30AM – 11:45AM *Contributed Talk 111*

Kateryna Dubyk, **Pavlo Lishchuk**, Andrey Kuzmich, Sergei Alekseev, Boris Zousman, Olga Levinson, Aleksey Rozhin, Alain Geloën, Mykola

Isaiev, Vladimir Lysenko / Thermal Conductivity Evaluation of the Carbon-Based Nanofluids with Photoacoustic Approach (ID #250)
([in Zoom](#))

11:45AM – Noon **Contributed Talk 112**

Vasyl Kuryliuk, Yuliia Mankovska, David Lacroix, **Mykola Isaiev** / Thermal Transport Properties of Nanoporous Silicon with Molecular Dynamics Approach (ID #261)

Noon– 12:15PM **Contributed Talk 113**

Pooja Yadav, Hemant Arora, Arup Samanta / Nitrogen Donor in Silicon: Towards Room Temperature Operation of Single Electron Tunneling Devices (ID #346) ([in Zoom](#))

12:15PM – 12:30PM **Contributed Talk 114**

Ewa Madej, Kinga Freindl, Józef Korecki, Natalia Kwiatek, Ewa Młyńczak, Dorota Wilgocka-Ślęzak, Marcin Zajęc, Nika Spiridis / Magnetic and Chemical Structure at Co/ α -Fe₂O₃(0001) Bilayers (ID #239)

12:30PM – 2:00PM

Lunch break (at your own expense)

3:00PM -

FREE TIME or **EXCURSIONS** (if prepaid in advance)

FRIDAY, SEPTEMBER 16, 2022

FRIDAY MORNING SESSION

ORAL SESSION #1A**MISCELLANEOUS TOPICS****(CONFERENCE HALL A+B+C+D+E+F & in ZOOM)**

- 9:00AM – 9:15AM ***Contributed Talk 115***
Sylvia Kozdra, Adrianna Wójcik, Paweł Piotr Michałowski / MoS2
Oxidation Effect: Theoretical and Experimental Studies (ID #48)
- 9:15AM – 9:30AM ***Contributed Talk 116***
Monika Kruk, Christof Neumann, Martha Frey, Krzysztof Koziel, Andrey Turchanin, Piotr Cyganik / Electron Beam Modification of Hybrid
Aromatic- Aliphatic Self-Assembled Monolayers of Fatty Acid (ID #110)
- 9:30AM – 9:45AM ***Contributed Talk 117***
Paweł Michałowski, Jonas Müller, Chiara Rossi, Alexander Burenkov,
Eberhard Bär, Guilhem Larrieu, Peter Pichler/
Secondary Ion Mass Spectrometry Quantification of Boron Distribution
in Silicon Nanowires (ID #52)
- 9:45AM – 10:00AM ***Contributed Talk 118***
Ahmadreza Moradi, Urszula Stachewicz / Composite Electrospun
Polymer Fibers for Improving Heat Transfer Systems (ID #80)
- 10:00AM – 10:15AM ***Contributed Talk 119***
Olha Zvirko, Olha Maksymiv, Volodymyr Kyrlyiv / Effect of Surface
Mechanical Pulse Treatment on Nanocrystallization and Properties of
Structural Steels (ID #158)
- 10:15AM – 10:30AM ***Contributed Talk 120***
Chhavi Sharma, Ritu Kesarwani, Amit Kumar Kesharwani, Divya Rehani,
Dinesh Singh, Shailesh Narain Sharma, Ritu Srivastava / Green Synthesis
of Magnetite Nanoparticles Using Hydrothermal Method for its
Potential Antibacterial Application in Disease Management of
Agricultural Crops (ID #332)
- 10:30AM – 11:00AM ***Coffee break*** (Planetarium Terrace)
- 11:00AM – 11:15AM ***Contributed Talk 121***
Maciej Psarski, Agnieszka Lech, Grzegorz Celichowski / Plasmonic
Superhydrophobic Anti-Frosting Coating (ID #166)

11:15AM – 11:30AM ***Contributed Talk 122***

Jonas Madsen Skovlund, Raimo Korhonen, Petri Peltonen, Olga Rodenko, **Søren Jensen Alkærsig** / Nanostructure Characterization and Film Thickness Measurements at the Fabrication Line (ID #61)

11:30AM – 11:45AM ***Contributed Talk 123***

Hana Tarábková, Pavel Janda / Existence of Gaseous Nanodomains on Graphite Surface as a Consequence of Its Ageing (ID #59)

Noon – 12:30PM

IEEE NAP-2022 AWARDS & CONFERENCE CLOSING CEREMONY
IEEE NAP-2023 ANNOUNCEMENT

MONDAY, SEPT. 12TH, 2022**POSTER SESSION # 1****ELECTROCHEMISTRY - THIN FILMS & COATINGS - SYNTHESIS OF NANOMATERIALS****PLANETARIUM TERRACE****5:30PM - 7:30PM**

ID	No	Title	Authors	Track
57	P1-1	The Influence of Plasma-guided Phase Transformation on Optical, Structural and Photoelectrochemical Properties of Titania Nanotubes	Katarzyna Grochowska, Łukasz Harynski, Dariusz Czyłkowski, Bartosz Hrycak, Mariusz Jasiński, Mirosław Dors, Katarzyna Siuzdak	Electrochemistry of Nanomaterials (EN)
89	P1-2	Electrochemical Study of Quasicrystalline Al-Ni-Fe Alloys	Rafał Babilas, Katarzyna Młynarek-Żak	Electrochemistry of Nanomaterials (EN)
104	P1-3	Corrosion Behavior of Al-Cr-Fe Alloys with Structurally Complex Phase Presence	Katarzyna Młynarek-Żak, Anna Bajorek, Anna Sypien, Rafał Babilas	Electrochemistry of Nanomaterials (EN)
454	P1-4	Effect of Pr and Er Additives on Mg-based Alloy Structure Prepared via Mechanical Alloying	Bartłomiej Hrapkowicz, Sabina Lesz, Julia Popis	Multifunctional Thin Films & Coatings (MTFC)
455	P1-5	Structural Characterization of Mg-Zn-Ca Alloys with Au and Ag Addition	Sabina Lesz, Małgorzata Karolus, Adrian Gabryś, Julia Popis, Bartłomiej Hrapkowicz	Multifunctional Thin Films & Coatings (MTFC)
205	P1-6	Highly Sensitive Chitosan/Carbon Based Electrochemical Sensor for Sunset Yellow Detection from Food Related Samples	Lidia Magerusan, Stela Pruneanu Maria, Florina Pogacean	Electrochemistry of Nanomaterials (EN)
208	P1-7	Activation and Electrochemical Characterization of Poly(Lactic Acid) Based Composites with Carbon Nano-Fillers	Mateusz Cieślík, Krzysztof Formela, Robert Bogdanowicz, Mariusz Banasiak, Srinivas Kunuku, Jacek Ryl	Electrochemistry of Nanomaterials (EN)
283	P1-8	Polarization Phases in a Strained Ferroelectric Nanowire	Svitlana Kondovych, Igor Lukyanchuk	Theory & Modeling (TM)
289	P1-9	Semiconductor Properties of Surface Layers of Nanostructured Aluminum-based Alloys	Lidiya Boichyshyn	Electrochemistry of Nano-materials (EN)

ID	No	Title	Authors	Track
302	P1-10	Electrochemical Fabrication of L-HIS-MWCNTS@PDMS/MIP Sensor for Sensitive Tetracycline Detection	Iryna Sulym Yaroslavivna, Merve Yence, Ahmet Cetinkaya, Mehmet Emin Çorman, Yurii Sementsov, Lokman Uzun, Sibel Ayşıl Özkan	Electrochemistry of Nanomaterials (EN)
419	P1-11	Synthesis, Characterization and Energy Transfer Mechanism Analysis of Nd ³⁺ ; Yb ³⁺ -co-Doped YPO ₄ Nano and Micro-Crystalline Powders	Jakub Pawtów, Małgorzata Guzik, Yannick Guyot, Georges Boulon, Anja-Verena Mudring, Joanna Cybińska	Electrochemistry of Nanomaterials (EN)
428	P1-12	Single Step Fabrication of Tungsten Nitride Based Symmetric Supercapacitor	Siddharth Sharma, Ravikant Adalati, Ramesh Chandra	Electrochemistry of Nano-materials (EN)
75	P1-13	Large Area Fabrication of Bio-sourced Polymer Nanofibers for Food Packaging Applications	Silvia Schintke, Léonard Troesch, Stefan del Rossi, Eleonora Frau	Interdisciplinary & Miscellaneous Topics (IMT)
99	P1-14	Features of Phase Formation in the Structure of Experimental Low Cost Titanium Alloys	Sviltana Hryhorenko, Olena Berdnikova, Olga Kushnarova, Valery Kostin, Liubov Yeremeieva, Yevhenii Titkov	Interdisciplinary & Miscellaneous Topics (IMT)
224	P1-15	Development of Biopolymer Packaging Films and Technology of their Ultrasonic Welding	Viktoriia Talaniuk, Maksym Iurzhenko, Marcin Godzierz	Interdisciplinary & Miscellaneous Topics (IMT)
348	P1-16	Tuning the Structural and Electronic Properties of TiO ₂ (110) Surface via Repeated Sputtering and Annealing	Franciszek Krok, Karol Cieslik, Dominik Wrana, Konrad Szajna	Nanoscale Characterization & Imaging (NCI)
266	P1-17	Effect of Low-Temperature Aging on Mechanical Behavior of Metastable β -type Ti-Mo-Sn Alloys	Mustafa Babanlı, Sayami Huseynov, Vusal Huseynov, Lesya Demchenko, Anatoliy Titenko	Interdisciplinary & Miscellaneous Topics (IMT)
416	P1-18	Polidiacetylenes - Thermochromic Indicators for Potential Application in the Food Industry	Bartłomiej Potaniec, Magdalena Wilk-Kozubek, Joanna Cybińska	Interdisciplinary & Miscellaneous Topics (IMT)

ID	No	Title	Authors	Track
420	P1-19	Leuco Dye-Based Thermochromic Systems for Application in Temperature Sensing	Magdalena Wilk-Kozubek, Magdalena Rowińska, Krzysztof Rola, Joanna Cybińska	Interdisciplinary & Miscellaneous Topics (IMT)
421	P1-20	Sol-gel and Polymer Thin Films as Potential Candidates for Application in Planar Photonics Systems	Łukasz Duda, Maciej Czajkowski, Paweł Karasiński, Cuma Tyszkiewicz, Magdalena Zięba, Małgorzata Guzik, Alicja Bachmatiuk	Interdisciplinary & Miscellaneous Topics (IMT)
422	P1-21	Organic Dyes as Potential Activators for Photonics/Nanophotonics Applications – Case Studies	Maria Zdończyk, Bartłomiej Potaniec, Małgorzata Guzik, Alicja Bachmatiuk, Joanna Cybińska	Interdisciplinary & Miscellaneous Topics (IMT)
423	P1-22	Correlation Between the Synthesis Route and Spectroscopic Properties in Nano and Micro-Crystalline Yb3+-Doped LuPO4	Kacper Albin Prokop, Małgorzata Guzik, Yannick Guyot, Georges Boulon, Anja-Verena Mudring, Joanna Cybińska	Interdisciplinary & Miscellaneous Topics (IMT)
425	P1-23	The Application of Silver and Nickel Nanowires as a Filler of Alginate Membranes in the Process of Ethanol Dehydration via Pervaporation	Damian Knyra, Gabriela Dudek	Interdisciplinary & Miscellaneous Topics (IMT)
91	P1-24	The Influence of the Geometry of the Alkyl Group on the Properties of Diketopyrrolopyrrole in Solution and Langmuir Thin Film	Alicja Stachowiak, Kamil Kędzierski, Danuta Wróbel	Multifunctional Thin Films & Coatings (MTFC)
129	P1-25	Biological Properties of Silicate Based PEO Coatings on the Pure Mg	Yevheniia Husak, Sergiy Kyrylenko, Viktoriia Kornienko, Kateryna Diedkova, Anton Roshchupkin, Bohdan Dryhval, Oleksandr Solodovnyk, Agnieszka Ossowska, Maksym Pogorielov, Wojciech Simka	Multifunctional Thin Films & Coatings (MTFC)
139	P1-26	Plasma Electrolytic Oxidation in Amorphous Particle Suspensions as a Way to Improve Surface Texture and	Vladlens Grebnevs, Yevheniia Husak, Katarzyna Leśniak-	Multifunctional Thin Films & Coatings (MTFC)

ID	No	Title	Authors	Track
		Bioactivity of the Oxide Coatings	Ziółkowska, Marta Wala, Mateusz Dulski, Sahin Altundal, Aleksandrs Dutovs, Roman Viter, Arturs Viksna, Wojciech Simka	
140	P1-27	Polypropylene Mesh Implants Modified By Nanostructured PVD Coatings	Anton Taran Valerievich, Igor Garkusha Evgenievich, Olexander Tymoshenko Ivanovich, Ivan Misiruk Olexandrovich, Yaroslav Kravchenko Olegovich, Petro Vorontsov Mihaylovich, Yuriy Gnidenko Petrovich	Multifunctional Thin Films & Coatings (MTFC)
154	P1-28	Wear-Resistant Nanostructures Formed by Ion Nitriding & Electro-Spark Alloying for Protection of Rolling Bearing Surfaces	Viacheslav Tarel'nyk, Ievgen Konoplianchenko, Oksana Gaponova, Oleksandr Radionov, Bogdan Antoszewski, Czesław Kundera, Natalia Tarel'nyk, Taras Voloshko, Sergey Bondarev, Vladislav Gerasimenko, Olha Rymasna, Bogdan Sarzhanov, Anton Polyvanyi	Multifunctional Thin Films & Coatings (MTFC)
183	P1-29	Temperature Limits of the Existence of the Liquid Phase of Bismuth Particles, Which are in Contact with Nanocrystalline Vanadium Films	Sergey Petrushenko, Sergey Dukarov, Sukhov Volodymyr	Multifunctional Thin Films & Coatings (MTFC)
213	P1-30	Magnetic Field-Assisted Molecular Beam Epitaxy of Fe(001) Films on MgO(001)	Bohdana Blyzniuk, Adam Dziwoki, Kinga Freindl, Ewa Madej, Ewa Młyńczak, Dorota Wilgocka-Ślęzak, Józef Korecki, Nika Spiridis	Multifunctional Thin Films & Coatings (MTFC)
291	P1-31	Structure, Optical Properties and Photocatalytic Activity of Undoped, Nd-Doped ZnO Films	Liliia Myroniuk, Denys Myroniuk, Olga Chudinovych, Eduard	Multifunctional Thin Films & Coatings (MTFC)

ID	No	Title	Authors	Track
			Mastruk, Ivan Koziarskyi, Oleksandr Shyrov, Arsenii Ievtushenko	
299	P1-32	The Process of Poly (4-vinylpyridine)-CoBr ₂ Complex Formation in Both Static and Dynamic Conditions	Julia Chudzik, Paweł Dąbczyński, Jakub Rysz, Anna Majcher-Fitas	Multifunctional Thin Films & Coatings (MTFC)
308	P1-33	Synthesis & Characterization of WN/TiSiN Nanocomposite Multilayer Coatings	Martin Sahul, Kateryna Smyrnova, Marián Haršáni, Miroslav Sahul, Barbora Bočáková, Alina Vashchuk, Alexander Pogrebnjak, Mária Čaplovičová, Lubomír Čaplovič	Multifunctional Thin Films & Coatings (MTFC)
318	P1-34	Characterization of Ti-Zr-Mo-C Films by Magnetron Sputtering: Microstructure, Chemical Bonding and Tribo-mechanical Properties	Olga Maksakova, Svitlana Borba-Pogrebnjak, Volodymyr Ivashchenko, Aleksey Onoprienko, Petro Skrynsky, Piotr Budzynski, Martin Sahul, Alexander Pogrebnjak	Multifunctional Thin Films & Coatings (MTFC)
401	P1-35	Study of Physical and Mechanical Properties of High-Entropy Alloys by Machine Learning Methods	Mark Pogorelyi, Olga Maksakova, Bogdan Postolnyi, Vladyslav Rogoz, Alexander Pogrebnjak	Multifunctional Thin Films & Coatings (MTFC)
357	P1-36	Modification of the Inorganic-Organic Silica Coatings by Active Agents And its Influence on Long-Term Protection of P265GH Steel	Jolanta Gąsiorek, Anna Gąsiorek, Wioletta Seremak, Wojciech Simka, Justyna Krzak	Multifunctional Thin Films & Coatings (MTFC)
361	P1-37	Investigation of the Structure and Tribological Behaviour of Self-lubricating Magnetron Sputtered Mo-W-C Coatings	Martin Sahul, Marián Haršáni, Kateryna Smyrnova, Miroslav Sahul, Svitlana Borba-Pogrebnjak, Alexander Pogrebnjak, Alina Vashchuk, Tomáš Vopát, Mária Čaplovičová, Lubomír Čaplovič	Multifunctional Thin Films & Coatings (MTFC)

ID	No	Title	Authors	Track
429	P1-38	Study of the Microstructure and Mechanical Properties of Wire and Arc Additive Manufactured 5087 Aluminium Alloy	Miroslav Sahul, Matúš Stiller, Jana Ptačinová, Ladislav Kolařík, Marián Pavlík, Martin Sahul, Pavel Kovačócy, Alexander Pogrebnjak, Tomáš Vopát	Multifunctional Thin Films & Coatings (MTFC)
430	P1-39	Electrophoretic Deposited Graphene Quantum Dots and Ti3C2-MXene Thin Films for Electrochemical Detection of Neuron-specific Enolase	Ashish Kalkal, Saurabh Kumar, Gopinath Packirisamy	Multifunctional Thin Films & Coatings (MTFC)
17	P1-40	Electrical Interface Between Carbon Nanotubes and Metallic Electrodes for Industrial Applications	Eliana Recoba Pawlowski, Anthony Combessis, Sébastien Dablement, Patrick Rybski, Nicolas Bergeal, Jérôme Lesueur, Cheryl Feuillet-Palma	Nanomaterials Synthesis & Self-assembly (NSS)
34	P1-41	The Influence of Cu on the Manufacturing and Catalytic Activity of Nanoporous Gold	Jorge Adrian Tapia Burgos, Arne Wittstock, Marcus Bäumer	Nanomaterials Synthesis & Self-assembly (NSS)
44	P1-42	Visible-light Photocatalytic Performance of the State-of-the-Art Al:SrTiO3@ δ -FeOOH Hierarchical Core@Shell Nanoheterostructures	Ioana Radu, Alin Dirtu Constantin, Aurel Pui	Nanomaterials Synthesis & Self-assembly (NSS)
150	P1-43	Thermal Stability Of C/SiC Nanocomposites Prepared by the Two-stage Spray Pyrolysis Method from Selected Organosilicon Compounds	Honorata Osip, Katarzyna Lejda, Cezary Czosnek	Nanomaterials Synthesis & Self-assembly (NSS)
161	P1-44	Graphene/Bi2Se3/ZnO Heterostructures with Enhanced Photoluminescence of ZnO Nanolayers	Margarita Baitimirova, Jana Andzane, Roman Viter, Mikhael Bechelany, Donats Erts	Nanomaterials Synthesis & Self-assembly (NSS)
203	P1-45	Synthesis and Properties of Layered Materials Based on Epoxy Binder Reinforced with Carbon Nanotubes and their Oxygen-modified Forms	Oksana Cherniuk, Sergii Zhuravskyi, Maria Terets, Evgeny Demianenko, Yurii Sementsov, Mykola Martel	Nanomaterials Synthesis & Self-assembly (NSS)
237	P1-46	Effect of Iron Oxide/Reduced Graphene Oxide Hybrid Structure on Morphology and Properties of Epoxy Nanocomposites	Anastasiia Kobylukh, Viktoriia Talaniuk, Karolina Olszowska, Yevgen Mamunya,	Nanomaterials Synthesis & Self-assembly (NSS)

ID	No	Title	Authors	Track
			Marcin Godzierz, Sławomira Pusz, Urszula Szeluga	
457	P1-47	Metal-support Interaction of Nano-diamonds and Palladium Nanoparticles in Cross-coupling Reactions	Radka Pocklanová, Anna Balzerová, Manoj B. Gawande, Libor Kvítek	Nanomaterials Synthesis & Self-assembly (NSS)
366	P1-48	Comparative Study of GNP-sprayed Carbon Fiber, GNP, and their Combination on the Mechanical Characteristics of Epoxy-based Multiscale Laminated Composite	Vaibhav Jain, Satish Jaiswal, Kinshuk Dasgupta, Debrupa Lahiri	Nanomaterials Synthesis & Self-assembly (NSS)
369	P1-49	Preparation of Nitrogen-doped Graphene and Application as Catalyst for Fuel Cells	Adriana Marinoiu	Nanomaterials Synthesis & Self-assembly (NSS)
47	P1-50	Insight into the Diffusion of Electrically Active and Inactive Impurities	Adrianna Wójcik, Walery Kołkowski, Andrzej Materna, Emil Tymicki, Włodzimierz Strupiński, Paweł Piotr Michałowski	Nanoscale Characterization & Imaging (NCI)
287	P1-51	Surface Morphology of Metallic Nanolayers: Thickness & Substrate Dependence	A. Foks, D. Banaś, A. Kubala-Kukuś, L. Jablonski, P. Jagodzinski, D. Sobota, I. Stabrawa, R. Stachura, K. Szary, M. Pajek, M. Borysiewicz	Nanoscale Characterization & Imaging (NCI)

TUESDAY, SEPT. 13TH, 2022**POSTER SESSION # 2****PHYSICAL PROPERTIES - BIOMEDICINE – ELECTROCHEMISTRY - NANODEVICES****PLANETARIUM TERRACE****5:30PM – 7:30PM**

ID	No	Title	Authors	Track
9	P2-1	The Study of the Nanocrystalline Structure of Psammoma Bodies of Serous Ovarian Carcinoma for Practical Application in the Diagnostics	Ruslana Chyzhma, Artem Piddubnyi, Andriy Stepanenko, Oleksandr Pylypenko, Roman Moskalenko	Nanobiomedical Research & Applications (NRA)
12	P2-3	The Structure of Nanocrystalline Apatite from the Breast Cancer	Olena Kolomiets, Artem Piddubnyi, Andriy Stepanenko, Roman Moskalenko	Nanobiomedical Research & Applications (NRA)
111	P2-4	Ultra-small Palladium Nanoparticles - A Promising Tool to Enhance the Effect of Irradiating Cancer Cells with a High-Energy Proton Beam (ID #111)	Bartosz Kłębowski, Joanna Depciuch, Jarek Baran, Magdalena Parlińska-Wojtan	Nanobiomedical Research & Applications (NRA)
42	P2-5	Mycosynthesized Silver and Zinc Oxide Nanoparticles: Their Characteristic, Antimicrobial and Antibiofilm Activities	Joanna Trzcińska-Wencel, Magdalena Wypij, Aleksandra Murawska, Mahendra Rai, Patrycja Golińska	Nanobiomedical Research & Applications (NRA)
55	P2-6	Annealing Effect on Self-Trapped Exciton Radiation of Nanosized Y ₂ O ₃ Ceramics Radioluminescence	Sergiy Kononenko, Sergiy Kononenko, Eugeniy Barannik, Eugeniy Barannik, Vitaliy Zhurenko, Oganés Kalantaryan, Volodymyr Chishkala, Ruslan Skiba, Sergiy Lytovchenko	Nanobiomedical Research & Applications (NRA)
87	P2-7	Dendrimers as Gene Delivery System	Serafin Zawadzki, Katarzyna Miłowska	Nanobiomedical Research & Applications (NRA)

ID	No	Title	Authors	Track
97	P2-8	Preparation and Characterization of Zinc-phosphate Based Nano-antimicrobial Coating for Smart Food Packaging Application	Syed Hossain Imdadul, Diellza Bajrami, Maria Sportelli Chiara, Rosaria Picca Anna, Boris Mizaikoff, Nicoletta Ditaranto, Nicola Cioffi	Nanobiomedical Research & Applications (NRA)
255	P2-9	The Kinetic of Silver Ions Release from Hydroxyapatite-AgNPs	Svetlana Bolshanina, Olexandra Radchenko, Anna Yanovska, Viktoriia Holubnych, Olesia Tverezovska, Yevheniia Husak	Nanobiomedical Research & Applications (NRA)
269	P2-10	Rheological Properties of Aqueous Suspensions of Hemostatic Composites Based on Nanosilica and Sodium Alginate in the Presence of Gelatin Protein	Nataliia Guzenko, Olena Goncharuk, Eugen Pakhlov, Andriy Kravchenko, Igor Gerashchenko	Nanobiomedical Research & Applications (NRA)
275	P2-11	Thermosensitive Hydrogel Nanocomposites Based on N-Isopropylacrylamide and Acid-Activated Laponite®RD: Tunable Release of Doxorubicin	Olena Siryk, Liudmyla Kernosenko, Oleksandrivna, Yurii Samchenko, Natalya Pasmurtseva, Tetiana Poltoratska, Olena Goncharuk	Nanobiomedical Research & Applications (NRA)
316	P2-12	Nasal Immunization Using Chitosan Nanoparticles with Glycoprotein B of Murine Cytomegalovirus	Sylva Janovská, Marcela Slovakova, Radek Sleha, Vera Radochova, Pavel Bostik	Nanobiomedical Research & Applications (NRA)
319	P2-13	Optimization Steps Of Mucosal Vaccine Preparation Using Polymeric Nanoparticles	Marcela Slovakova, Petra Behancinova, Alexandra Hatala, Sylva Janovská, Radek Sleha	Nanobiomedical Research & Applications (NRA)
418	P2-14	Application of Hybrid Polymer-Oxide Coatings in Surface Modification of Titanium Implants for Animals (ID #418)	Weronika Maciak, Alicja Kazek-Kęsik, Monika Śmiga-Matuszowicz, Wojciech Simka	Nanobiomedical Research & Applications (NRA)

ID	No	Title	Authors	Track
339	P2-15	Development of ZnO and ZnO-Au Nanoplatfom for Detection of Listeria Monocytogenes and Klebsiella Pneumonia	Maksym Pogorielov, Viktoriia Fedorenko, Viktoriia Holubnychy, Roman Viter	Nanobiomedical Research & Applications (NRA)
350	P2-16	Preparation and Characterization of New Nanocomposites Applicable in Bone Tissue Regeneration	Marek Piątkowski, Magdalena Ziąbka	Nanobiomedical Research & Applications (NRA)
354	P2-17	Phase Composition and Magnetic Properties of FeOOH/ γ -Fe ₂ O ₃ and α -Fe ₂ O ₃ / γ -Fe ₂ O ₃ Based Nanoparticles in a SiO ₂ Shell for Biomedical Application	Uladzislav Gumiennik, Uladzislav Gumiennik, Janusz Przewoźnik, Janusz Przewoźnik, Julia Fedotova, Andrei Kharchenko, Mikhail Degtyarik, Svetlana Vorobyeva, Czesław Kapusta	Nanobiomedical Research & Applications (NRA)
20	P2-18	Merging of Spin-wave Modes in an Obliquely Magnetized Thin Magnetic Nanodisk	Kharlan Julia, Vladyslav Borynskyi, Sergey Bunyaev, Pavlo Bondarenko, Olga Salyuk, Vladimir Golub, Alexander Serga, Oleksandr Dobrovolskiy, Andrii Chumak, Roman Verba, Gleb Kakazei	Nanomagnetism & Magnetic Materials (NMM)
96	P2-19	Sub-THz Frequency Signal Source Based on an Antiferromagnetic Tunnel Junction Embedded in a High-Q Dielectric Resonator	Oleh Shtanko, Oleksandr Prokopenko	Nanomagnetism & Magnetic Materials (NMM)
180	P2-20	Curvature-induced Local & Nonlocal Chiral Effects in Curvilinear Ferromagnetic Shells and Wires	Oleksandr Pylypovskyi, Oleksii Volkov, Denis Sheka, Attila Kakay, Volodymyr Kravchuk, Pedro Landeros, Florian Kronast, Ingolf Moench, Mohamad-Assaad Mawass, Avadh Saxena, Juergen Fassbender, Denys Makarov	Nanomagnetism & Magnetic Materials (NMM)
211	P2-21	Spin-wave Resonance in Arrays of Nanoscale Synthetic Antiferromagnets	Vladyslav Borynskyi, Dmytro Polishchuk, Iryna Sharai, Andrii Melnyk, Anatolii Kravets, Alexandr Tovstolytkin, Vladislav Korenivski	Nanomagnetism & Magnetic Materials (NMM)

ID	No	Title	Authors	Track
288	P2-22	Manipulation of the Domain Structure in Ni3Pt Nanowires	Mateusz Wróbel	Nanomagnetism & Magnetic Materials (NMM)
296	P2-23	Spin-Wave Damping in the Presence of Dzyaloshinskii-Moriya Interaction	Olha Boliasova, Vladimir Krivoruchko	Nanomagnetism & Magnetic Materials (NMM)
49	P2-24	The Role of Carbon Black Filler in Electrospun Composite Polymer Fibers for Enhancing their Electrical Conductivity and Mechanical Properties	Ali Emre Taşlı, Urszula Stachewicz	Nanomaterials for Energy & Environment (NEE)
50	P2-25	Technological Challenges in Electrospun Thermoelectric Polymer Fibers and Composite Materials for Energy Harvesting Applications	Kinga Zawadzka, Urszula Stachewicz	Nanomaterials for Energy & Environment (NEE)
54	P2-26	Ceramic Materials in the Service of Nature: the Use of Al ₂ O ₃ and TiO ₂ in the Removal of the Organic Dyes from Wastewater	Alicja Duda, Bartosz Kopyciński, Łukasz Hawełek, Adriana Wrona	Nanomaterials for Energy & Environment (NEE)
105	P2-27	Enhancing the Capacitance of MXene Nanosheets via Intercalation of Water Soluble Ionic Liquids	Ashwini Jadhav, Carita Kvanström	Nanomaterials for Energy & Environment (NEE)
109	P2-28	Porous Nanocomposite Based on Natural Clay Minerals	Antonina Bondarieva, Viktoriia Tobilko	Nanomaterials for Energy & Environment (NEE)
138	P2-29	Effect of Using TiO ₂ Nanotubes as a Substrate on the Properties of ZnIn ₂ S ₄ Layers	Daria Roda, Zuzanna Zarach, Marcin Łapiński, Konrad Trzciński, Mariusz Szkoda	Nanomaterials for Energy & Environment (NEE)
151	P2-30	Selected Aspects of Oxygen Speciation in Nanopowders of Semiconductor	Honorata Osip, Katarzyna Lejda, Jerzy F Janik	Nanomaterials for Energy & Environment (NEE)

ID	No	Title	Authors	Track
		Kesterite $\text{Cu}_2\text{ZnSnS}_4$ Prepared by Mechanochemical Synthesis From Metal Sulfide Precursor System		
461	P2-31	Sorption of Mercury in Batch and Fixed-bed Column System on Nanoporous Hydrochar Obtained from Apple Pomace	Krzysztof Szostak, Gabriela Hodacka, Olga Długosz, Marcin Banach	Interdisciplinary & Miscellaneous Topics (IMT)
209	P2-32	Photocatalytic Activity and Synthesis of Silver Nanoparticles in the Presence of β -cyclodextrin and Titanium Dioxide	Yuliia Bardadym, Serhii Kobylinskyi, Larisa Kobrina, Sergii Riabov	Nanomaterials for Energy & Environment (NEE)
228	P2-33	Polystyrene/ BiFeO_3 Thin Films for Vibrating Sensing and Energy Harvesting	Olha Masiuchok, Marcin Godzierz, Viktoriia Talaniuk, Urszula Szeluga, Sławomira Pusz, Maksym Iurzhenko	Nanomaterials for Energy & Environment (NEE)
256	P2-34	Tin and Iron Oxides as Photocatalysts for CO_2 Reduction	Kamil Urbanek, Kaja Spilarewicz-Stanek, Wojciech Macyk, Jianguo Yu	Nanomaterials for Energy & Environment (NEE)
313	P2-35	Thickness Dependence of the Kinetic Parameters in CdTe and PbTe Thin Films	Tetiana Mazur, Myroslav Mazur	Nanomaterials for Energy & Environment (NEE)
315	P2-36	Fabrication of Stable and Efficient Metal-Organic Frameworks Doped Triple Cation Perovskite Solar Cell	Priyanshu Goel, Sunita Mishra	Nanomaterials for Energy & Environment (NEE)
322	P2-37	Novel Methods to Improve Nanostructured TiO_2 Properties for the Photocatalytic and Photoelectrocatalytic H_2 Generation	Ewa Wierzbicka	Nanomaterials for Energy & Environment (NEE)
342	P2-	Nanomaterials for the Fabrication of	Anna Pajor-Świerzy, Franciszek Szendera, Radosław Pawłowski,	Nanomaterials for Energy &

ID	No	Title	Authors	Track
	38	Conductive Coatings on Power Contacts	Krzysztof Szczepanowicz	Environment (NEE)
24	P2-39	Cuprates Nanowires for Superconducting Nanowire Single Photon Detectors	Zoé Velluire, Sergei Kozlov, Eliana Recoba Pawlowski, Fang Wang, Johan Biscaras, Abhay Shukla, Jérôme Lesueur, Nicolas Bergeal, Cheryl Feuillet-Palma	Nanophotonics (NP)
70	P2-40	Features of Cyanine Dyes J-Aggregates Formation on TiO ₂ Matrices	Polina Pisklova, Iryna Ropakova, Iryna Bespalova, Svetlana Yefimova, Alexander Sorokin	Nanophotonics (NP)
113	P2-41	Influence of Solid State Phases Interaction on Optical Properties of Oxide Glass-Ceramics Nanocomposites	Serhii Nedilko	Nanophotonics (NP)
258	P2-42	Remote Photocatalysis - Indirect Excitation of Photocatalytic Systems via Plasmonic Modes in Silver Nanowires	Anna Jakimińska, Wojciech Macyk, Sebastian Maćkowski, Joanna Niedziółka-Jönsson	Nanophotonics (NP)
413	P2-43	Micro- and Nanopatterning of Thin Films by Means of Focused Electron Beam	Krzysztof Rola, Łukasz Duda, Maria Zdończyk, Joanna Cybińska	Nanophotonics (NP)
106	P2-44	Enhancing the Performance of All-inorganic LEDs with CdSe-CdS Core-shell Nanorods	Nandita Biswas	Nanosensors & Nanodevices (NN)
115	P2-45	Detection of Agri-Food Chemicals with a Surface-Enhanced Raman Scattering Paper-Based Sensor	Alida Russo, Martina Piletti, Laura Anfossi, Daniela Iacopino	Nanosensors & Nanodevices (NN)
232	P2-46	Flexible Piezoresistive Sensors Based on 3D Graphene Structures	Nataliia Guzenko, Marcin Godzierz, Klaudia Kurtyka, Anna Gawron, Urszula Szeluga, Mark Rummeli H	Nanosensors & Nanodevices (NN)
325	P2-47	Multi-band Radiation Detector Based on Ag ₂ O-HgCdTe Composite Structure	Rada Savkina, Oleksii Smirnov	Nanosensors & Nanodevices (NN)

ID	No	Title	Authors	Track
		Formed by Ion Implantation		
331	P2-48	ZnO-Schiff Base Composites for Optical Detection of Cu Ions	Irina Tepliakova, Debleena Mandal, Dominika Jankowska, Magdalena Barwiolek, Roman Viter	Nanosensors & Nanodevices (NN)
27	P2-49	Ideal Diamagnetism in Brain Microtubules	Pavlo Mikheenko	Superconductivity in Nanoscale & Mesoscopic Systems (SNMS)
118	P2-50	Bilinear Magnetoresistance in 2D Electron Gas with Cubic Rashba Spin-Orbit Interaction	Anna Krzyżewska, Anna Dyrdał	Transport Properties in Nanoscale Systems (TPNS)
120	P2-51	Bilinear Magnetoresistance in Graphene	Kateryna Boboshko, Anna Dyrdał	Transport Properties in Nanoscale Systems (TPNS)
155	P2-52	Quantum Effects in Low-Temperature Thermal Expansion of C60 Fullerite Doped with 4He Impurity	Razet Basnukaeva, Alexandr Dolbin, Mykola Vinnikov	Transport Properties in Nanoscale Systems (TPNS)
460	P2-53	Nanohybrids of Metal Oxides-Polysaccharide and their Biostatic Properties	Wiktoria Matyjasik, Olga Długosz, Kinga Lis, Marcin Banach	Nanobiomedical Research & Applications (NRA)

WEDNESDAY, SEPT. 14TH, 2022**e-POSTERS SESSION****5:30 PM – 7:30 PM****(in [Discord Platform](#))**

ID	No	Title	Authors	Track
251	eP-1	Corrosion Properties of Nanostructured Multilayer [(Cu-Zn) ₁ /(Cu-Zn) ₂] _n Coatings	Antonina Maizelis	Electrochemistry of Nanomaterials (EN)
121	eP-2	Structure Features of the Surface of Structural Alloyed Steel after Pulse-Plasma Treatment	Olena Berdnikova, Olga Kushnarova, Yuriy Tyurin, Oleg Kolisnichenko, Yevhen Polovetskyi, Maksym Khokhlov	Interdisciplinary & Miscellaneous Topics (IMT)
279	eP-3	Research of Influence of Technological Parameters on Morphological Features of Slawsonite Ceramics	Valentyna Voloshchuk, Georgiy Lisachuk, Ruslan Kryvobok, Olena Lapuzina	Interdisciplinary & Miscellaneous Topics (IMT)
145	eP-4	Optical and Electrical Properties of Prepared by Spray Pyrolysis CuMnO ₂ Thin Films	Ivan Orletskyi, Ivan Koziarskyi, Eduard Maistruk, Dmytro Koziarskyi	Multifunctional Thin Films & Coatings (MTFC)
146	eP-5	Method of the AlN Films Planarity Estimating	Roman Redko, Grigorii Milenin, Mykola Zayac, Petro Lytvyn, Svitlana Redko, Olga Kondratenko	Multifunctional Thin Films & Coatings (MTFC)
171	eP-6	Nanoparticle Retention in Ambipolar Electric Field	Valeriy Lisovskiyy, Stanislav Dudin, Pavlo Platonov	Multifunctional Thin Films & Coatings (MTFC)
174	eP-7	Electrical Properties of p-CuFeO ₂ /n-Si Heterojunction	Dmytro Koziarskyi, Eduard Maistruk, Ivan Koziarskyi	Multifunctional Thin Films & Coatings (MTFC)
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141	eP-21	Homogenization and Chemical Ordering in Co-Pt Thin Films	Roman Pedan, Pavlo Makushko, Oleksandr Dubikovskiy, Andrii Bodnaruk, Andrii Burmak, Denys Makarov, Igor Vladymyrskyi	Nanomagnetism & Magnetic Materials (NMM)
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301	eP-25	Electronic & Magnetic Properties of Monolayer and Bilayer Films of Vanadium-based Transition Metal Dichalcogenides VX ₂ (X=S, Se, and Te)	Mirali Jafari, Anna Dyrdał, Józef Barnaś	Nanomagnetism & Magnetic Materials (NMM)

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200	eP-32	Energy Harvesting by Mini-Converters Based on Nanostructured Silicon	Mykola Melnichenko, Yaroslav Zhuk, Konstantin Bozhko	Nanomaterials for Energy & Environment (NEE)

ID	No	Title	Authors	Track
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389	eP-36	Starch-Containing Polylactide Nanocomposites	Andrii Masyuk, Andrii Masyuk, Dmytro Kechur, Bozhena Kulish, Bozhena Kulish, Volodymyr Levytskyi	Nanomaterials for Energy & Environment (NEE)
23	eP-37	Effect of Rapid Thermal Annealing on the Optical Properties of InAs Quantum Dots Grown on (100) and (311)B GaAs Substrates by Molecular Beam Epitaxy	Amjad Almunyif, Amra Alhassni, Sultan Alhassan, Maryam Al Huwayz, Saud Alotaibi, Abdulaziz Almalki, Mohamed LEMINE Abdellah, Mohamed Henini	Nanomaterials Synthesis & Self-assembly (NSS)
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137	eP-40	Impact of Interface Interactions on a Structure Formation of the Nanostructured Poly(Urethane-Urea) - Poly(Vinyl Chloride) Blends Filled with Modified Nanosilica	Alexander Tolstov, Tatyana Malysheva	Nanomaterials Synthesis & Self-assembly (NSS)

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235	eP-44	Curing Kinetics of Cyanate Ester Resin in the Presence of Different Inorganic Nanoparticles and Thermal Properties of the Nanocomposites Synthesized	Diana Shulzhenko, Olga Starostenko, Olga Grigoryeva, Alexander Fainleib, Daniel Grande, Laurent Michely	Nanomaterials Synthesis & Self-assembly (NSS)
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277	eP-46	Carbon Nanotubes Growth in Converted Gas Atmosphere on Dispersed Iron Catalyst Obtained as Result of Ferrocene Decomposition	Maksym Barabash, Anatolii Minitskyi, Alexander Khovavko, Denis Filonenko, Alexey Sviatenko, Andriy Nebesnyi, Guochao Nie	Nanomaterials Synthesis & Self-assembly (NSS)
295	eP-47	Physical & Chemical Water-sorption Processes in the MgAl ₂ O ₄ Ceramics	Halyna Klym, Ivan Karbovnyk, Ivanna Vasylychshyn	Nanomaterials Synthesis & Self-assembly (NSS)
392	eP-48	Structural and electrical investigations of PEDOT:PSS polymer matrices reinforced with carbon nanotubes	Illia Zhydenko, Dmytro Chalyy, Dmytro Chalyy, Ivan Karbovnyk, Halyna Klym	Nanomaterials Synthesis & Self-assembly (NSS)
312	eP-49	Analysis of the Fluorescence Intensity Enhancement by Magnetic-Plasmonic Nanoparticles for Biomarkers Detection	Anatoliy Lapchuk, Oleksandr Butok, Ivan Gorbov, Alexander Prygun	Nanophotonics (NP)

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184	eP-59	Magnetoresistance of Graphite Nanoplatelets Simultaneously Modified with Nickel and Iron	Denys Shpylka, Iryna Ovsiienko, Tetiana Len, Oleksii Syvolozhskyy, Liudmyla Matzui, Ilgar Mirzoev, Tetiana Tsaregradskaya	Transport Properties in Nanoscale Systems (TPNS)

ID	No	Title	Authors	Track
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242	eP-63	Investigation of Thermal Transport Properties of Multilayer Porous Silicon Based Hybrid Nano-structures by Photo-acoustic Technique	Pavlo Lishchuk, Lesia Chepela, Elysaveta Polishchuk, Viktoriya Shevchenko, Vasyl Kuryliuk, Mykola Borovyi, David Lacroix, Mykola Isaiev	Transport Properties in Nanoscale Systems (TPNS)
294	eP-64	Poly(o-anisidine)- Graphene Oxide Nanocomposites	Olena Aksimentyeva, Oksana Konopelnyk, Yuliia Horbenko, Hrygorii Starykov	Nanomaterials Synthesis & Self-assembly (NSS)
351	eP-65	WN/TiSiN Nanostructured Coating for Severe Tribological Applications	Kateryna Smyrnova, Martin Sahul, Marián Haršáni, Alexander Pogrebnjak, Lubomír Čaplovič, Miroslav Sahul, Amina Mukhamedova	Multifunctional Thin Films & Coatings (MTFC)
163	eP-66	Green Synthesis of Silver-Containing Biomaterials with Effective Antimicrobial and Antiviral Activity	Valeriy Demchenko, Maksym Iurzhenko, Yevgen Mamunya, Serhii Kobylinskyi, Sergii Riabov, Krystyna Naumenko, Svetlana Zahorodnia, Nataliya Rybalchenko, Olena Demchenko, Grazyna Adamus, Marek Kowalczyk	Nanomaterials Synthesis & Self-assembly (NSS)

ID	No	Title	Authors	Track
181	eP-67	Synthesis of Diamond-like Arsenolite Crystallites on Surface of Gallium Arsenide	Yana Suchikova, Anatoli Popov I, Sergii Kovachov, Ihor Bohdanov, Aleksandra Moskina M, Tamara Tsebrienko	Electrochemistry of Nanomaterials (EN)
182	eP-68	Design and Characteristics of Doughnut-like Porous-CdO/Porous-CdS Nanostructures	Yana Suchikova, Ihor Bohdanov, Sergii Kovachov, Aleksandra Moskina M, Tamara Tsebrienko, Anatoli Popov I	Electrochemistry of Nanomaterials (EN)
281	eP-69	Modeling the Composition of the Pre-Cathode Layer in Dicyanoargentate Buffer Electrolyte without Excess Ligand	Oksana Bersirova, Valeriy Kublanovsky, Stanislav Bersirov	Electrochemistry of Nanomaterials (EN)
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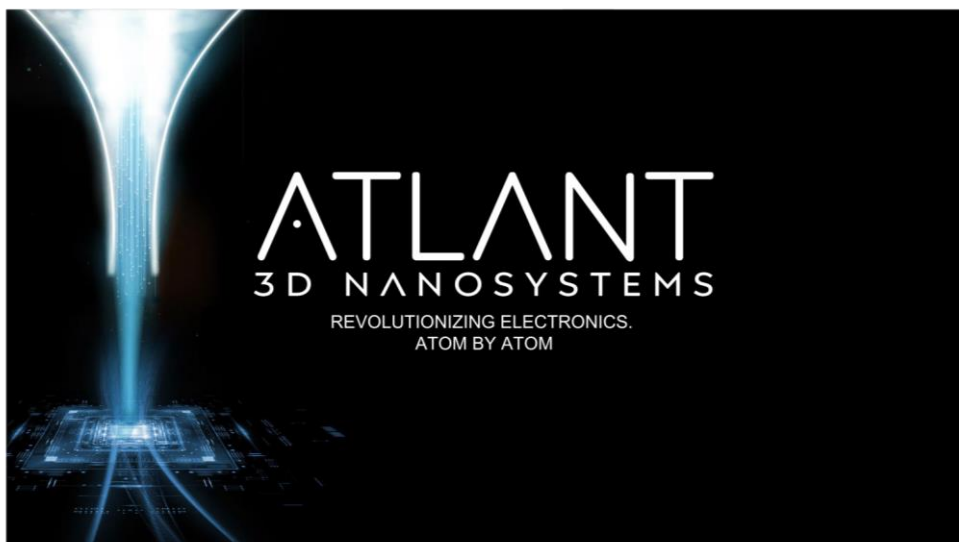
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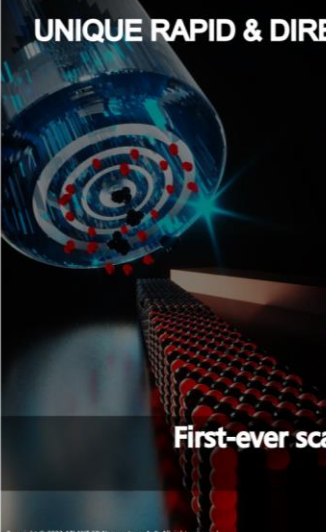
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Microreactor Selective Area Direct Atomic Layer Processing

ATOMIC LAYER DEPOSITION

- Growth of various materials
- Control at the atomic scale
- High quality of materials
- Conformality to any surfaces

ADDITIVE MANUFACTURING

- Bottom up approach
- Realization of complex shapes
- Digital control of the printed features

First-ever scalable molecular assembly machine – The Nanofabricator™

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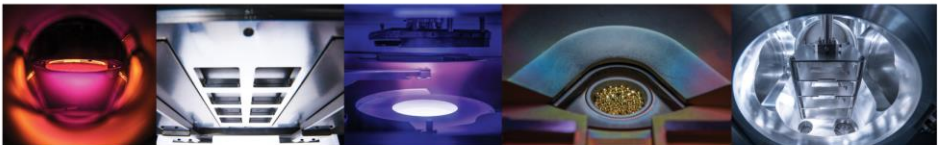
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