

Programme of the 25<sup>th</sup> International Conference-School  
“Advanced Materials and Technologies 2023”  
<https://advancedmaterials.ktu.edu/>

**Date:** August 21-25, 2023

**Venue:** Hotel “Gabija” (<http://www.gabija.lt/en/>)  
Vytauto St. 40,  
Palanga, Lithuania

**August 21, Monday**

**14:00 – 20:00** Arrival and registration

**16:00 – 18:00** Meeting of Project NanoTRAACES: "Ultrasensitive sensors for the detection of Lithium Ion Batteries fails" (M-ERA.NET Joint Call 2021)

**August 22, Tuesday**

*Chairperson Sigitas Tamulevičius*

**8:30 – 9:00** Registration

**9:00 – 9:15** Opening of the Conference-School

**9:15 – 10:00** Vladimir Dyakonov (Julius-Maximilian University of Würzburg, Germany)  
**Can Spins Make Organic Light-Emitting Diodes Better?**

**10:00 – 10:45** Gediminas Račiukaitis (Centre for Physical Sciences and Technology, Lithuania)  
**How Can Small Lasers Help Giant Lasers to Fight Cancer?**

10:45 – 11:05 Coffee Break

*Chairperson Magdalena Zaluska-Kotur*

**11:05 – 11:50** Zigmantas Balevičius (Centre for Physical Sciences and Technology, Lithuania)  
**Strong Light-Matter Coupling in Plasmonic Nanostructures**

**11:50 – 12:35** Hubert Halbritter (ams-OSRAM International GmbH, Germany)  
**Photons for the World Around Us**

**12:35 – 12:50** Augustinas Vizbaras, Kristijonas Vizbaras (UAB „Brolis Sensor Technology“, Lithuania)  
**Spectroscopic Sensing Technology for Liquid Composition Analysis Using GaSb-Based Tunable Lasers at BROLIS**

12:50 – 14:00 Break

**14:00 – 16:00** Social Event: 3x3 Basketball Tournament (Palanga Vladas Jurgutis progymnasium, <https://www.jurgucioproгимnazija.lt/>, Ganyklų St. 2, Palanga)

14:00 – 16:00 Meeting of H2020-MSCA-RISE-2018 Project „Heavy Metal Free Emitters for New-Generation Light Sources“ (Chairperson Juozas Vidas Gražulevičius)

16:00 – 18:00 Break

**18:00 – 21:00** Welcome Party (Hotel Gabija Restaurant, Vytauto St. 40, Palanga)

**August 23, Wednesday**

*Chairperson Vladimir Dyakonov*

**8:30 – 9:00** Registration

**9:00 – 9:45** Zeynep Altintas (Kiel University, Germany)  
**Computational Design of Functional Materials for Biomedical Applications**

**9:45 – 10:20** Gil Rosenman (Tel Aviv University, Israel)  
**Biological Refolding: Basic Physics and Neurodegenerative Diseases**

**10:20 – 11:20** Vladimir Sivakov (Leibniz Institute of Photonic Technology, Germany)  
**Nanostructured Silicon: from Green Hydrogen to Nanomedicine**

11:20 – 11:40 Coffee Break

*Chairperson Hubert Halbritter*

**11:40 – 12:25** Tien-Lung Chiu (Yuan Ze University, Taiwan)  
**Long Lifetime Blue Organic Light-Emitting Diode**

**12:25 – 13:10** Remo Merijs Meri (Riga Technical University, Latvia)  
**Sustainable Polymer Composites and Nanocomposites**

13:10 – 13:30 Coffee Break

*Chairperson Mažena Mackoit-Sinkevičienė*

- 13:30 – 14:10** **Narine Durgaryan** (Yerevan State University, Armenia)  
**Synthesis and Investigation of Semiconductive Polymers and Oligomers**
- 14:10 – 14:55** **Li-Yin Chen** (National Yang Ming Chiao Tung University, Taiwan)  
**Innovations in Organic Semiconductor-Based Gas Sensors**
- 14:55 – 16:00 Break
- 16:00 – 21:00** **Social Event: Orienteering Competition, Exploring Lithuanian Kitchen** (“HBH Palanga”, Žibininkai Village, <http://www.hbh.lt/>)

**August 24, Thursday**

*Chairperson Vladimir Sivakov*

- 8:30 – 9:00** **Registration**
- 9:00 – 9:45** **Magdalena Zaluska-Kotur** (Institute of Physics, Polish Academy of Sciences, Poland)  
**Crystal Surface Dynamics as a Guiding Force in the Process of Nanostructure Formation**
- 9:45 – 10:15** **Nikolai A. Sobolev** (University of Aveiro, Portugal)  
**Demand for Computing Power and the Green World: the Energy Problem**
- 10:15 – 10:35 Coffee Break

*Chairperson Li-Yin Chen*

- 10:35 – 11:35** **Cesar Pascual García** (Luxembourg Institute of Science and Technology, Italy)  
**Electrochemical Control of Acidity in Organic Solvents and Field Effect Sensors Tracking the pH Concentration**
- 11:35 – 12:05** **Hyeong-Jin Kim** (Gwangju Institute of Science and Technology, South Korea)  
**Li-ion Battery Safety Concerns**
- 12:05 – 13:05 Break

*Chairperson Remo Merijs Meri*

- 13:05 – 13:45** **Arturas Vailionis** (Stanford University, United States of America)  
**Application of X-Ray Micro-Computed Tomography for Three-Dimensional Non-Destructive Visualization of Teeth Enamel Microcracks**
- 13:45 – 14:30** **Aleksandr Lushchik** (University of Tartu, Estonia)  
**Exploring of Radiation Defects in Functional Metal Oxides via Optical Absorption and EPR Methods**
- 14:30 – 15:10** **Massimo Rogante** (Rogante Engineering Office, Italy)  
**Neutron Diffraction to Assess Residual Stress in Steel Wires with Accumulated Shear Deformation**
- 15:10 – 16:00 Coffee Break
- 16:00 – 18:00** **Poster Session with Voting for the Best Poster** (*Chairperson Tomas Tamulevičius*)
- 18:00 – 18:30** **Best Poster Awards and Conference Photo**

**August 25, Friday**

*Chairperson Zigmantas Balevičius*

- 9:00 – 9:45** **Mažena Mackoit-Sinkevičienė** (Vilnius University / Center for Physical Sciences and Technology, Lithuania)  
**Spin-Squeezing in Optical Lattice Clocks**
- 10:00 – 10:30** **Evaldas Stankevičius** (Centre for Physical Sciences and Technology, Lithuania)  
**Plasmonic Structures Formation Using Laser-Based Technologies and Their Applications**
- 10:30 – 11:00** **Vytautas Klimavičius** (Vilnius University, Lithuania)  
**Solid State NMR in Materials Research: from Bone-engineering to Energy and Smart Materials**
- 11:00 – 11:20 Coffee Break

*Chairperson Nikolai A. Sobolev*

- 11:20 – 11:50** **Rasa Keruckienė** (Kaunas University of Technology, Lithuania)  
**Organic Semiconductors Exhibiting Long Lived Emission for Organic Light Emitting Diodes and Sensors**
- 11:50 – 12:20** **Anton Popov** (Vilnius University, Lithuania)  
**Nanoparticles and Immunosenors: a Promising Combination for Sensitive Biomarker Detection**

**12:20 – 12:30**    **Closing Remarks**

**12:30 – 13:00**    **Certificates and Coffee Break**

13:00 – 15:00    Meeting of Project DAINA-2: "Porous metal supported micro-scale solid oxide fuel cells: fundamentals, fabrication, and testing" (No. P-LL-21-124, bilateral research funding programme by the Research Council of Lithuania (LMT) and Narodowe Centrum Nauki (NCN))