

Programme of the 24th International Conference-School
“Advanced Materials and Technologies 2022”
<https://advancedmaterials.ktu.edu/>

Date: 22-26 August 2022

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

August 22, Monday

14:00 – 20:00 Arrival and registration

August 23, Tuesday

Chairperson Sigitas Tamulevičius

8:30 – 9:00 Registration

9:00 – 9:15 **Opening of the Conference-School**
Sigitas Tamulevičius (Kaunas University of Technology, Lithuania)

9:15 – 10:15 **Raymond C. Rumpf** (University of Texas at El Paso, United States of America)
Getting Started in Computational Electromagnetics & Photonics

10:15 – 11:00 **Kęstutis Staliūnas** (Universitat Politècnica de Catalunya, Spain)
Photonic Metastructures for Intracavity Spatial Filtering in Microlasers

11:00 – 11:20 Coffee Break

11:20 – 11:50 **Hyeong-Jin Kim** (Gwangju Institute of Science and Technology, Republic of Korea)
Basics of Lithium Ion Battery

11:50 – 12:35 **Sebastian Molin** (Gdańsk University of Technology, Poland)
Prospects of Next Generation Solid Oxide Cell Technologies for Energy Conversion

12:35 – 12:55 Coffee Break

12:55 – 13:25 **Injamamul Arief** (Leibniz-Institut für Polymerforschung Dresden e.V., Germany)
Self-Powered Triboelectric Tactile Modules Derived From Cross-Linked, One Component Rubbers

13:25 – 14:10 **Andris Šutka** (Riga Technical University, Latvia)
Polymer Triboelectrification Mechanisms and Application for Mechanical Energy Harvesting

14:10 – 15:00 Break

14:30 – 17:00 Parallel event: Meeting of H2020-MSCA-RISE-2018 Project „Heavy Metal Free Emitters for New-Generation Light Sources“ / Part I (*Chairperson Juozas Vidas Gražulevičius*)

15:00 – 17:00 **Social Event: 3x3 Basketball Tournament** (Palanga Vladas Jurgutis progymnasium, <https://www.jurgucioproгимnazija.lt/>, Ganyklų St. 2, Palanga)

17:00 – 18:00 Break

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

August 24, Wednesday

Chairperson Kęstutis Staliūnas

8:30 – 9:00 Registration

9:00 – 9:45 **Raymond C. Rumpf** (University of Texas at El Paso, United States of America)
Electromagnetics & Photonics in the Age of Digital Manufacturing

9:45 – 10:30 **Arnaud Spangenberg** (Mulhouse Materials Science Institute, France)
3D & 4D Microprinting by Direct Laser Writing

10:30 – 10:45 **Kipras Redeckas, Greta Bučytė** (UAB “Light Conversion”, Lithuania)
Light Conversion for Ultrafast Spectroscopy

10:45 – 11:05 Coffee Break

11:05 – 11:50 **Anatoli I. Popov** (University of Latvia, Latvia)
Distinctive Features of Diffusion-Controlled Defect Recombination in Irradiated Functional Ceramics for Nuclear Applications

11:50 – 12:35 **Eva Raudonytė - Svirbutavičienė** (Vilnius University, Lithuania)

Functional Inorganic Materials for Environmental Applications: Synthesis and Characterization

- 12:35 – 12:55 Coffee Break
- 12:55 – 13:40 **Agnė Paulauskaitė-Tarasevičienė** (Kaunas University of Technology, Lithuania)
AI for Sustainable Development: Challenges and Opportunities
- 13:40 – 14:10 **Antanas Daugela** (Nanometronix LLC | Nanotechnology Instrumentation Startup, United States of America)
Deep Learning Enhanced Nanoscale Acoustic Measurements
- 14:10 – 14:55 **Romanas Zontovičius** (Kaunas Science and Technology Park, Lithuania)
Idea2Market. Evolut 4.0 Case
- 14:55 – 16:00 Break
- 15:00 – 17:00 Parallel event: Meeting of H2020-MSCA-RISE-2018 Project „Heavy Metal Free Emitters for New-Generation Light Sources“ / Part II (*Chairperson Juozas Vidas Gražulevičius*)
- 16:00 – 21:00 **Social Event: Orienteering Competition, Exploring Lithuanian Kitchen** (“HBH Palanga”, Žibininkai vlg., <http://www.hbh.lt/>)

August 25, Thursday

Chairperson Arnaud Spangenberg

- 8:30 – 9:00 **Registration**
- 9:00 – 9:45 **Gediminas Juzeliūnas** (Vilnius University, Lithuania)
Topology for Electrons in Solids, Photons and Ultracold Atoms
- 9:45 – 10:30 **Hubert Halbritter** (ams-OSRAM International GmbH, Germany)
Photons for the World Around Us
- 10:30 – 10:50 Coffee Break
- 10:50 – 11:35 **Gerald Gerlach** (Technische Universität Dresden, Germany)
How To Bridge the Gap Between Academic and Industry-Oriented Sensor Research
- 11:35 – 12:20 **Renata Butkutė** (Center for Physical Sciences and Technology, Lithuania)
Bandgap Engineering in Bismuth-Containing Semiconductors
- 12:20 – 12:50 **Lina Grinevičiūtė** (Center for Physical Sciences and Technology, Lithuania)
The Evolution of Optical Coatings: From 1D to 3D Periodic Structures
- 12:50 – 13:10 Coffee Break
- 13:10 – 14:10 **Yoshihiro Koide** (Kanagawa University, Japan)
Blue Light Emitting Facial Isomer of Tris (8-Hydroxyquinoline) Aluminum: Facile Synthesis and Formation Mechanism of Thermodynamically Unstable Isomer
- 14:10 – 14:55 **Longin Lisetski** (Institute for Scintillation Materials, Ukraine)
Effects of Nanostructuring in Liquid Crystalline Systems: Physico-Chemical Studies and Molecular Models
- 14:55 – 16:00 Break
- 16:00 – 18:00 **Poster Sessions with Voting for the Best Poster** (*Chairperson Tomas Tamulevičius*)
16:00 – 16:50 Poster Session A
17:00 – 17:50 Poster Session B
- 16:00 – 18:00 Parallel event: Meeting of Project SPINMULTIFILM: "Physical principles of the creation of novel SPINtronic materials on the base of MULTIlayered metal-oxide FILMs for magnetic sensors and MRAM" (Grant Agreement 778308, H2020-MSCA-RISE-2017 Marie Skłodowska-Curie Action: Research and Innovation Staff Exchange) (*online*)
- 18:00 – 18:30 **Best Poster Awards and Conference Photo**

August 26, Friday

Chairperson Gediminas Juzeliūnas

- 9:00 – 10:00 **Raymond C. Rumpf** (University of Texas at El Paso, United States of America)
How To Start and Maintain an Awesome Career
- 10:00 – 10:30 **Mindaugas Juodėnas** (Chalmers University of Technology, Sweden / Kaunas University of Technology, Lithuania)
Manipulating Light by Plasmonic and Dielectric Metasurfaces
- 10:30 – 11:00 **Ashok Vaseashta** (International Clean Water Institute, United States of America)
Hierarchical Integration of Electrospinning and 3D/4D Printing Process for Rapid Prototyping

- 11:00 – 11:20 Coffee Break
- 11:20 – 11:50 **Alexander Vahl** (Kiel University, Germany)
Resistive Switching Phenomena in Nanostructures
- 11:50 – 12:20 **Artiom Magomedov** (Kaunas University of Technology, Lithuania)
Monolayers as Selective Materials for Solar Cell Technologies: From Idea to Record
- 12:20 – 12:30 **Sona Hribalova** (University of Chemistry and Technology, Czech Republic)
Young Ceramists Network
- 12:30 – 12:40 **Closing Remarks**
- 12:40 – 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))