

Monday 15.6.2026

12:30- Registration

13:00-14:00 Lunch

14:00 Opening

14:20-16:20 Session 1 (Sensor/treatment technology)

17:00-19:20 Session 2 (Nanoelectronics and 2D materials)

19:30-21:00 Welcome party

Tuesday 16.6.2026

8:30-10:40 Session 3 (Electronic devices)

11:00-13:20 Session 4 (Photonics and organic electronics)

13:30-14:30 Lunch

14:50-16:30 Session 5 (students)

16:50-18:20 Session 6 (students)

19:00 Conference Dinner

Wednesday 17.6.2026

Free social program

17:00-18:30 Session 7 (posters)

19:00 Conference closure

Thursday 18.6.2026

up to 10:00 Departure

session 1 chair: **Pudis D.**

Monday, June 15

• **Sensor/treatment technology** •

14:00 *CONFERENCE OPENING*

14:20 **Suchorska-Woźniak P.** **Semiconductor nano- and microstructures vs. biodegradable materials in sensor technology**

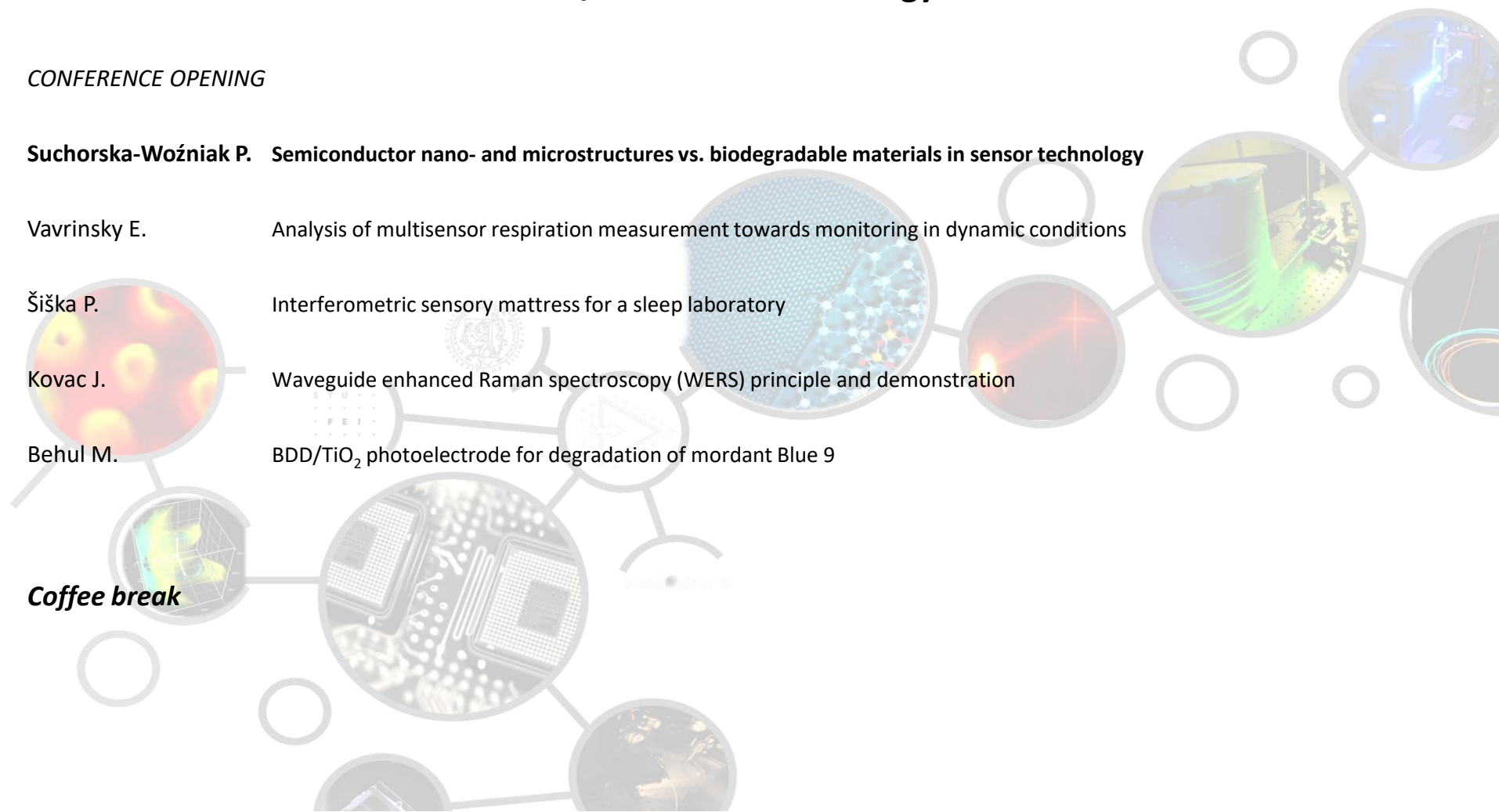
15:00 Vavrinsky E. Analysis of multisensor respiration measurement towards monitoring in dynamic conditions

15:20 Šiška P. Interferometric sensory mattress for a sleep laboratory

15:40 Kovac J. Waveguide enhanced Raman spectroscopy (WERS) principle and demonstration

16:00 Behul M. BDD/TiO₂ photoelectrode for degradation of mordant Blue 9

16:20 **Coffee break**





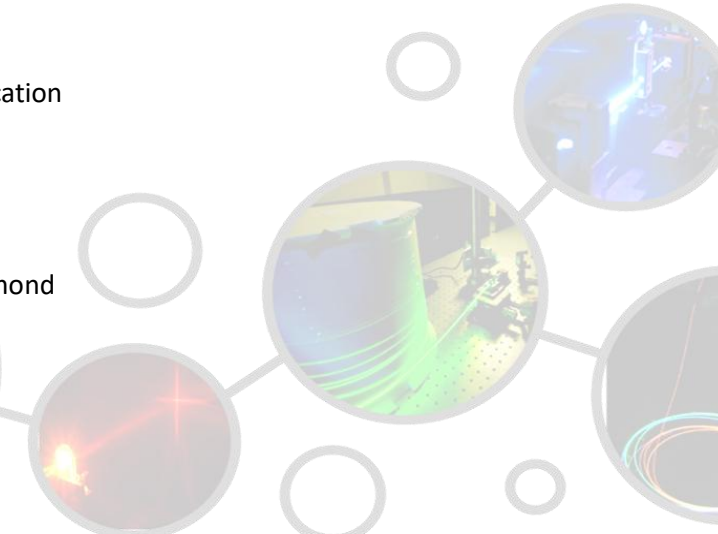
- 17:00 **Luby Š.** **Sixty years of Moore's law and new perspectives in nanoelectronics**
- 17:40 **Píř I.** **Synchrotron radiation photoelectron and soft X-ray absorption spectroscopy of 2D materials**
- 18:20 **Vančo L.** **Determination of thickness in suspended MoS₂ layers using backgrounds in Auger electron spectra**
- 18:40 **Sojková M.** **STEM Study of Graphene/PtSe₂ Heterostructures: Toward Controlled 2D Growth**
- 19:00 **Sobota M.** **Urbach energy analysis, and electrical properties of polycrystalline β -Ga₂O₃**
- 19:30 **Welcome Party**

• **Electronic devices** •

- 08:30 **Luby Š.** **Current state of nanopatterning in semiconductor integrated circuits**
- 09:00 Gregušová D. Concept of electrical contacts for semiconductor devices based on 2D materials
- 09:20 Chvála A. Thermal Simulations of a Power Module with Model Order Reduction for Improved Computational Speed
- 09:40 Florovič M. The SiC-based MOS-FET Average Temperature Determination Considering Trapping Phenomena
- 10:00 Radziewicz D. Technology and Characterisation of AlGaAs/AlGaAs DBR structures for NIR VCSEL Applications
- 10:20 Dawidowski W. Strained InGaAs/GaAsP Quantum Wells for NIR VCSEL: Technology and Characterisation
- 10:40 **Coffee break**

• **Photonics and organic electronics** •

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|-------|----------------|--|
| 11:00 | Farid S. M. | Advanced Flip-OFDM transmission techniques for visible light communication |
| 11:20 | Florovič M. | RF Characterization of Lithium Niobate Electro-Optic Modulator Setup |
| 11:40 | Remeš Z. | Frequency resolved UV photoluminescence of NV rich single crystal diamond |
| 12:00 | Benedikovič D. | Surface grating couplers with amorphous silicon metamaterial overlays |
| 12:20 | Syperek M. | MoTe ₂ for infrared photonics |
| 12:40 | Kromka A. | Aerosol printing of conductive structures and functional layers |
| 13:00 | Vincze T. | Organic electronic devices as building blocks for neuromorphic computing systems |
| 13:30 | Lunch | |



• **Student's competition** •

- 14:50 Vítězková D. Analysis of physiological sleep parameters in patients with respiratory and neurodegenerative disorders
- 15:00 Suhaj P. Influence of Substrate Material and Geometrical Parameters on the Lifetime of a SiC Power Transistor
- 15:10 Amira M. Neural network-based calibration of temperature-dependent nonlinear compact models for SiC MOSFETs and diodes
- 15:20 Alhwaidy O. Simulation and Thermo-Mechanical Analysis of SiC MOSFET Power Module
- 15:30 Kovács K. A Weibull-Based Statistical Lifetime Assessment of SiC MOSFETs Under Multivariable Short-Circuit Stress
- 15:40 Smigiel J. M. Engineering Areal Density and Emission Wavelength of MOVPE-Grown InAs/InP Quantum Dots for Telecom Single-Photon Applications
- 15:50 Baczewska E. Control of the density and the size of h-MoO₃ rods grown from an aqueous solution
- 16:00 Chidambaram R. J. Variation of surface morphology in (-201) β-Ga₂O₃ epitaxial layers on c-plane sapphire substrates connected with (310)/(-201) volume ratio
- 16:10 Shendi A. A. Optimizing Synthesis Parameters for Enhanced Supercapacitive Performance of 2D MoS₂ and MoS₂/CuS Nanocomposites
- 16:20 Kohút D. Preparation of aluminum layer at the end of optical fiber for Fabry-Pérot cavities
- 16:30 **Coffee break**

• **Student's competition** •

- 16:50 Tines T. Evaluation of the degree of crosslinking of ormoer materials used for the fabrication of photonic waveguides by the gel content test
- 17:00 Mészáros L. Material Compatibility and Technological Limits in the Fabrication of SU-8 Core Optical Waveguides on Flexible PDMS Substrates
- 17:10 Kazán D. Goniophotometer design and measurement of 3D radiation diagrams of LED luminaires
- 17:20 Vavro A. Design of a grating coupler for WERS sensor applications
- 17:30 Mitura T. Designing Optics for Subwavelength Focusing of Laser Light for One-Photon Lithography
- 17:40 Zimanová J. Properties of the New Generation of Inorganic Organic Hybrid Polymer for Optical Waveguides
- 17:50 Mrena D. Photonic Applications of Asymmetric Holographic Gratings: Fabrication and Characterization
- 18:00 Zdurienčík M. Diffraction gratings for gallium oxide photonic devices
- 18:10 Pikulíková V. Ultrabroadband silicon nitride waveguide splitters with balanced power distribution

19:00 **Dinner**

session 7 host: Kováč J. jr.

17:00 - 18:30

Wednesday, June 17

• Posters •

- 1 Laurenčíková A. PtSe₂-based devices: Fabrication and Challenges
- 2 Pifko M. Comparison Of Mismatched Screen-Printed Ag/AgCl Pseudoreference Electrodes For Potentiometric Measurements
- 3 Kokavec O. Organic Field-Effect Transistors based on 3,10-didecylnaphtho[2,1-b]naphtho[1,2:4,5]thieno[2,3-d]thiophene (S-DNNT-10)
- 4 Litvik J. Waveguide grating coupler based on lithium niobate
- 5 Príbytný P. Optimization of Packaging of a Half-Bridge Power MOSFET Converter
- 6 Dubovan J. Performance Analysis of GPON Architectures with FBG Sensors for Environmental Monitoring
- 7 Kovacova S. PDMS microfluidic system for plasmonic based photonic sensors
- 8 Veis P. Depth-resolved quantitative analysis of tungsten-based plasma-facing materials with low material consumption
- 9 Doroshenko A. Design of polarization-diverse optical filters on a silicon nitride platform
- 10 Lettrichová I. CD spectroscopy of chiral polymer plasmonic structures

session 7

host: Kováč J. jr.

17:00 - 18:30

Wednesday, June 17

• **Posters** •

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|----|-------------|---|
| 11 | Berki M. | Temporal-cadence learning in a simulated neuromorphic XOR gate based on DNTT organic field-effect transistors |
| 12 | Berki M. | Neural Network-Based ECG Reconstruction from Degraded Signals: A Preliminary Approach |
| 13 | Gerhát F. | Laboratory Evaluation of Low-Cost CO ₂ Sensors for Outdoor Applications |
| 14 | Gerhát F. | Implementation of Humidity Control in a Gas-Mixing Laboratory Test System |
| 15 | Režo V. | Laboratory Simulator of Human Skin for Testing Non-Invasive Sweat-Based Glucose Sensors |
| 16 | Režo V. | Temperature Regulation of Air in a Laboratory Gas Chamber |
| 17 | Režo V. | Influence of CO ₂ and NO ₂ on Indoor Air Quality Indices of Commercial Environmental Sensors for Classroom Monitoring |
| 18 | Weis M. | Bulk dielectric relaxation time as a universal figure of merit for contact resistance in organic transistors |
| 19 | Khan J. | Scalable direct-ink-writing of graphene oxide-based chemiresistive sensors for real-time NO ₂ monitoring |
| 20 | Atikukke S. | Quantification of eroded Fe contamination in plasma activated water using Surface Assisted LIBS |

session 7

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17:00 - 18:30

Wednesday, June 17

• **Posters** •

- 21 Nevřela J. Cradle-to-Gate Life Cycle Assessment of PM6:Y6 Organic and Silicon Solar Cells
- 22 Kosnáčová H. Enhancing Sleep Diagnostics by Integrating Single-Channel EEG into a Multisensor Smart Patch
- 23 Pipiska M. Optical Waveguides and Power Splitters for Gallium Oxide Integrated Circuits
- 24 Chovan J. Athermal Design of a 100 GHz Cyclic Wavelength Router for Super-PON Networks
- 25 Vincze A. Semiconductor structure characterisation by SIMS
- 26 Gaso P. 4-channel polymer based arrayed waveguide grating: prototype fabrication
- 27 Jandura D. Optimization and preparation of polymer MZI
- 28 Potocký Š. Boron doped diamond growth using trimethyl borate borate in $H_2-CH_4-CO_2$ plasmas
- 29 Haško D. Investigating the degradation of novel organic semiconductors using atomic force microscopy
- 30 Soucek J. Modelling and experimental verification of photoelectrical response of NV diamond spin centres.

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17:00 - 18:30

Wednesday, June 17

• Posters •

- 31 Matuš M. Deep level transient study of electrically active traps in organic phototransistors
- 32 Matuš M. Deep electron trap near silicon mid-gap in platinum-doped power diodes identified by DLTFs
- 33 Benko P. Quantum-chemical identification of hydroxyl defect states as the origin of a 0.255 eV hole trap in DNNT OFETs
- 34 Stuchlíková Ľ. Low-temperature DLTS study of hole trap states and poole-frenkel transport in DNNT-based OFETs
- 35 Stuchlíková Ľ. Deep-level transient fourier spectroscopy for resolving composite defect signature in platinum-doped silicon power diodes
- 36 Stuchlíková Ľ. ROSTEM: transferring cutting-edge research into engineering education through inverted mobility
- 37 Kováč Jr. J. Plasmonic Sensors and Their Integration into Cross-Institutional Photonics Education: From Research Lab to Guest Lecture
- 38 Látal J. Simulation of the Next-generation Optical Networks
- 39 Hejduk S. Study of fiber-optic sensorial network with Fabry-Pérot interferometer for pressure sensing
- 40 Ziman M. Integrated Photonic Sensor Design: From Waveguide Fundamentals to WERS Research Deployed in Cross-Institutional Education

session 7

host: Kováč J. jr.

17:00 - 18:30

Wednesday, June 17

• Posters •

- 41 Šiška P. Portable optical fibre measurement laboratory as a vehicle for cross-institutional hands-on education in the ROSTEM project
- 42 Petrovič A. Triple-Band Surface Grating Couplers For Next Generation Passive Optical Networks

19:00 **Dinner**

Thursday, June 18

Departure on Thursday after breakfast (up to 10:00)

