

29th International Student Scientific Conference

May 22, 2025 Technická 2, Prague



Results of the Best Poster Award

Biomedical Engineering

- 1. Klára Kozelková: Effect of changes in GABAergic inhibition on the development of tinnitus
- 1 Nika Khosravi: State of the Art in Pulsed-Dose Oxygen Delivery for Mechanical Ventilatio
- 2 Radek Nejman: Effect of the light conditions on the accuracy of SpO2 measurements
- 2 Maurice Rohr: Hyperspectral Photoplethysmography Imaging
- 3 Theresa Nolte: Generalization Ability of a GREIT-Like Matrix Based on Real-World EIT Data
- 3 Ján Šeleng: Classification of healthy and impaired plantar foot microcirculation using photoplethysmography imaging and deep learning model

Communications

- 1. Samie Soufeh: Design and Implementation of a Broadband Wilkinson Power Divide
- 2. Urban Jacobs, Nathan Kuehr, Lukas Mardak: Pulse to Tone Dialling Converter
- 3. Jana Zimanová: Fabrication of Optical Microstructures Using Direct Laser Writing and Deep Reactive Ion Etching Technologies

Electronics and Instrumentation

- 1. Lukas Pohl: Temperature Compensated Power Detectors for L- and S-Band Radiometer Applications
- 2. Thomas Brunner: Effects of hybrid turbulence modelling on aeroacoustic noise generation in automotive door gaps
- 2 Patricia Zofia Jesionkowska, Florian Kraxberger: Characterisation of a Low-Cost Acoustic Chamber
- 3 Stanislav Starman: Digitally programmable symmetrical power pulse generator using SiC power switches

History of Science and Technology

- 1. Jacopo Bassetta: Energy and War: The Triano Hydroelectric Power Plant as a Strategic Infrastructure in the German Rear Lines in Italy (1939-1944)
- 2. Jorge Alonso Rodriguez Ortiz: MISSION: STOP THE SPARKS! A device for steam locomotives
- 3. Daniel Kyselka: Military Aviation Study Institute in the years 1922-1932
- 4. Jannik Pruessmann, Immo Baaarlink: A Historical Overview of Electrocardiography: From Early Discoveries to Modern Advances
- 5. Francisco Griotto: Industrial Health Heritage: The Mountain Sanatorium Village in Sondalo, Italy

Informatics and Cybernetics

- 1. Jakub Urbánek: Neural Network-Based Estimation of Acoustic Impulse Response
- 2. Lars Reckmann: Densoising Time Series Transformer
- 3. Barbora Pálková: Virtual Reconstruction and 3D Modeling as Tool for Heritage Preservation

Natural Sciences

- 1. Jan Boysen, Andreas Wurzinger: Simulative Evaluation of the Whistling Potentiality of Pinhole Apertures
- 2. Rouben Rehman, Simon Kersten: Estimating the Occlusion Effect through Impedance Tube Measurements
- 3. Aneta Furmanová: Exploring the Loss Landscape of Physics Informed Neural Networks in Room Acoustics

Power Engineering

- 1. Elias Hempen: Automated Battery Management System Simulation for State-of-X Estimation Algorithm Development
- 2. Dilane Dongmo Tadoum: Nonlinear Impedance Spectroscopy on Lithium Iron Phosphate Batteries
- 3. Martin Mydlář: Free-space powering using 3 W high-power laser source operating at 980 nm
- 3 Filiberto Mancuso: Ga2O3 Vertical Transistor Modeling and Analysis

Elevator Pitch

- 1. Theresa Nolte: Generalization Ability of a GREIT-Like Matrix Based on Real-World EIT Data
- 2. Elisa Angeles: Transnational Flows of Innovation: The Importation of Hydro-Electric Machinery from Paris to Mexico by Barcelonette Entrepreneurs (1890-1910)
- 3. Jan Boysen: Simulative Evaluation of the Whistling Potentiality of Pinhole Apertures

Rohde Schwarz Award

Filip Zajan, Michaela Nečasová, Kateřina Pavelková: Model of Applicator for Regional Hyperthermia based on eight "Bow-tie" Antennas