

# BPS 2025 – Programme

Time	Wednesday May 28	Thursday May 29	Friday May 30
9		8:00 - <i>Registration</i> 9:00 - <i>Opening Ceremony</i> <b>Plenary Session</b>	<b>Plenary Session</b>
10		<b>Presentations</b>	<b>Presentations</b>
11			
12			
		<b>Lunch</b>	
13		<b>Presentations</b>	<b>Presentations</b>
14			
15		<b>Presentations</b>	<b>Presentations</b>
16			
17	<b>Arrival</b>		
18	<b>Accommodation</b>	<b>18:00 Banquet</b>	<b>Closing</b>
19			
20			
21			

Thick lines in the table denote Coffee Breaks (30 minutes)

# Thursday May 29

## Aula CULS Prague

8:00 **Registration**

9:00 - 9:20 **Opening Ceremony**

### 9:20 – 10:00 Plenary Section - Chairman: Libra M.

9:20 - 9:50 Poulek V. – PV panels, laminated by soft polysiloxane gel - New simple environmentally friendly recycling method

9:50 - 10:00 Rusirawan D. - Research Collaboration in the Solar Energy Field: Institutional Challenges

### 10:00 - 10:30 Coffee Break

### 10:30 - 12:00 Chairman: Božiková M.

Marčan J. - Exploring changes in soil properties during plant growth using IoT

Kozelka M. - Reliability of photovoltaic panels for agrivoltaic systems

Zholobov M. - The most frequent failures during the PV power plant operation

Fišer M. - An analysis of behavior of electric vehicle users based on charging station data – focus charging duration

Srebala A. - Public administration entities and the circular economy

Osada D. - The influence of frequency analysis on the optimisation of processes in living organisms and thus also in agricultural businesses

Englárt M. - Algorithms of a robotic arm for fruit harvesting

Madola V. - Classification of dairy cow position by ultrasonic method with the application of machine learning

Holý M. - Real-Time Plant Stem Segmentation for Precision Agriculture Using YOLO on a Smartphone

### 12:00 - 13:00 Lunch

### 13:00 - 15:00 Chairman: Farkas I.

Farkas I. - Recent advances and future prospects in solar photovoltaic technologies

Víg P. - Special energetic analysis of reflected light from solar cell

Zhu Q.K. - Effect of Baffle on the Performance of Solar Air Collectors

Altaye A. - Examining the impacts of nanoparticle concentration on Photovoltaic system performance: Review

Touaref F. - Integrated thermo-structural evaluation of absorber tubes for direct steam generation in cylindro-parabolic trough solar collectors

Usman M. - Renewable and Alternative Energy Sources for Organic Rankine Cycle

Kidane H. - Solar Drying System Performance: An Exergy-Based Evaluation

Anggraeni, N.D. - Comparative Estimation of Semi-Transparent Photovoltaic Energy Production in Hungary

Finsterle T. - The Effect of Backsheet Repairs on Insulation Resistance in Photovoltaic Modules

Ciler J. - Face Symmetry Analysis using Neural Networks

Trnka V. - Hybrid Microfluidic Tissue-on-a-Chip Device with 3D-Printed Porous Structures for BBB and Tumor Interaction Studies

Kohútek M. - Opportunities and challenges of using UAVs for pasture monitoring

### 15:00 - 15:30 Coffee Break

### 15:30 - 18:00 Chairman: Rusirawan D.

Sihombing R.P. - Application of Building Physics in Biophilic Architecture: Enhancing Environmental Performance through Nature-Based Design

Firdaus D. - Comparative Analysis of Medicinal Plants Using Vision Transformer: A Novel Approach to Herbal Species Classification

Azhar M.R. - Comparison of Chiller Performance Using R-123 and R-134a Refrigerant: Preliminary Research  
Pratama H.E. - Design and Development of an Automatic Fan Control System Based on Arduino using Passive Infrared Sensor and DHT11  
Dewi A.K. - Environmental Impact of the Fashion Industry in Indonesia: A Human Ecology Perspective Aligned with SDGs 12 and Life Sciences  
Nurulhakim, L.B. - Estimation of Oil Palm Age Using Global Canopy Height Data for Smart Agriculture in Indonesia  
Hidayat J. - Fabrication of Monolithic DSSC Modules for Photocharging of Supercapacitor  
Hartawan L. - Increasing Communication Range of Automatic Sprinkler using LoRa module  
Ramadhan D.F. - Mapping Scientific Trends in Pyrolysis Gasification: Bibliometric Review  
Choerudin - Mineralogical and Microbial Characteristics of Aerobic Granular Sludge Developed in Textile Wastewater and Its Potential Use as a Soil Amendment  
Ahnaf M.D.F. - Performance of Solar Power Plant Model With and without Tracking System  
Hutagalung G. N. P. - Preliminary Study of Reliability Centered Maintenance (RCM) Plan for Turbogenerator  
Bimantara A. - Study on the Design and Integrity of CO2 Pipeline Transmission  
Herma M. A. R. - Vibration Analysis of Bearing in Centaur 40 Type Gas Turbine with Fast Fourier Transform Method  
Erwin M. - Vibration Analysis of the gear box  
Irdam F. A. - Numerical Study of Influence of Orifice Plate Thickness to Pressure Drop on Fluid Stream of Entrance and Fully-Developed Flow Region

**19:00 - 22:00 Banquet**

## Friday May 30

### Aula CULS Prague

#### 9:00 – 10:00 Plenary Section - Chairman: Seres I.

9:00 - 9:30 Seres I. - The Wonders of Vision: 3D, Optical illusions and Stereograms

9:30 - 9:50 Farkas I. - Recent advances and future prospects in solar photovoltaic technologies

9:50 - 10:00 Wiacek J. - Impact of Particle Shape in Bulk Media on Pre-Processing in Agriculture and Forestry

#### 10:00 - 10:30 Coffee Break

#### 10:30 - 12:00 Chairman: Wiacek J.

Sainul Abidh, K.M. - Impact of post-harvest maturity on the molecular and nano-structural characteristics of pectin from the Golden Delicious apple cultivar

Barańska D. - Influence of *Bacillus megaterium* B107/23 Inoculation on Microgreens Growth and Shelf-Life Under Normal, Drought Stress, and Cold Storage Conditions – Methodological Framework

Maj W. - Innate resilience mechanisms of *Neosartorya* sp. (*Aspergillus* sp.) – Whole Genome Sequencing Insights

Kozyra M. - Instantaneous Profile Method: Influence of Experimental Conditions on the Unsaturated Hydraulic Conductivity Coefficient Across Diverse Soil Samples

Sisodia P. - Intercropping enhances soil bacterial activity, enzyme functions, and functional potential in diverse cropping systems

Marciniak M. - Intermacromolecular interactions of the onion polysaccharides in the presence of selected macroelements in the aqueous solution

Ślarzyński K. - Isolation of bacterial DNA from material collected during the soil splash phenomenon - preliminary studies

Puzhakkara V.A. - Development of the Ink Made of Low Methyl Pectin for 3D Printing

Gryta A. - Evaluating the Specific Surface Area of Biochar: Nitrogen vs. Water Vapour Adsorption Isotherms

#### 12:00 - 13:00 Lunch

#### 13:00 - 15:00 Chairman: Poulek V.

Szymańska M. - Evaluation of the biochemical composition of microalgal cells growing in the presence of exopolymers

Kukowska S. - Impact of complex modification on the properties of Haplic Luvisol

Pękala P. - Adsorption studies of acetylated hemicelluloses on microfibrillar cellulose

Kaczor M. - Entomoremediation of heavy metals contaminated maize by *Tenebrio molitor* larvae

Sama D.K. - Production and characterization of ammonia-modified corncob and rapeseed pomace biochar

Zawadzka K. - Selection of prebiotic supplements for a biopreparation against Bull's Eye Rot

Furtak A. - The effect of glyphosate formulations on methane oxidation in Gleysol

Penc M. - Modification of adhesive using filler from recycled PUR foam

Fitri F. - Polymeric Composites For Architectural Applications

Bappah M. - Mechanical durability of briquettes produced from different agricultural by-products

Nazari S. - Next-Generation Acoustic Insulators: Lightweight 3D Hybrid Composites Reinforced with Biomass-Derived Jute and Glass Fibers

Balát J. - Weed control in vegetable with a focus on non-chemical weed control

#### 15:00 - 15:30 Coffee Break

#### 15:30 - 18:00 Chairman: Vig P.

Roubík, H. - Evaluating the influence of enzymatic hydrolysis pretreatment on rice straw for enhanced biogas generation

Gottwald M. - The Aesthetic Appeal and Charisma of Freshwater Fish: Implications for Public Perception and Conservation in Czechia  
Haščyn J. - Analysis of Operational Conditions and Station Architecture on Air Quality in the Prague Metro  
Vítek R. - Cell as a Factory: Can Workers in the Right Positions and Environment Ensure Maximum Output?  
Lázníčka M. - Detection and Evaluation of Water Stress of Hops Using UAV Images  
Firashinta A. - Green Composites from Agro-Waste: Exploring the Potential of Banana Pseudo-Stem and Pineapple Leaf Fibers  
Duong V. H. - Characterization of biochar produced by pyrolysis from pig farm biogas digestate  
Buresova, M. - *In vitro* micropropagation of sweet cherry cultivars  
Jandus V. - Investment decisions of Czech and Slovak dollar millionaires on the real estate market  
Mráčková A. - Comparative Evaluation of ESG Reporting in the Agri-Food Sector: Case Study of Nestlé, Danone, and Agrofert  
Ohanu F. - Research on rice straw pre-treatment for utilisation as solid biofuel  
Šebelle P. - Optimization of Indoor Environment in Poultry Fattening Halls: Interrelations Between Building Design, Ventilation, and Operational Conditions  
Nazarova D. - Organ-Specific and Seasonal Variation of Furanocoumarin Content in *Heracleum mantegazzianum*  
Paramonova K. - Use of Giant Hogweed Leaves as a Substrate for Anaerobic Co-Digestion  
Adeyemi W.A. - Utilization of Mango Stones for Energy

## Closing