

## Conference program

# 9<sup>th</sup> International Conference on Trends in Agricultural Engineering 2025

September 17<sup>th</sup> 2025 – September 19<sup>th</sup> 2025, Prague, Czech Republic

### Conference venue:

Conference TAE 2025, Round Hall, Faculty of Engineering, Czech University of Life Sciences Prague, Kamýcká 129, Praha 6, 16500



### Conference Information:

Please note that the conference program may be subject to minor modifications.

All conference rooms are equipped with a computer, data projector, and presenter. The computers run on MS Windows, and both PowerPoint and PDF formats are supported.

Presentation times are strictly limited:

- Plenary sessions: 20 minutes presentation + 10 minutes discussion
- Regular sessions: 10 minutes presentation + 5 minutes discussion

Kindly ensure that you remain within your allocated time slot, as extensions will not be possible.

The dress code for TAE 2025 and all conference-related events is business casual.

## Conference TAE 2025 – Final Program

### Tuesday 16 September 2025 – Round Hall (General Room)

17:00 Registration, Welcome drink

20:00 Closing of the day

### Wednesday 17 September 2025 – Round Hall (General Room)

09:00 Registration

10:00 Opening Ceremony

#### Plenary Session

**Chairman: David HERÁK**

10:30 Abraham KABUTEY – Optimization of input factor levels for processing bulk hemp seeds under linear pressing

#### 11:00 Coffee Break

11:30 Egidijus KATINAS – Marine inspired design of soil rippers using ship bulbous bow geometries: a cross-disciplinary approach with DEM simulation insights

#### 12:00 Lunch

### Wednesday 17 September 2025 – Room A (Parallel Session I & III)

#### Parallel Session I (14:00–15:30)

**Chairman: Zdeněk ALEŠ**

14:00 Maksim ZHOLOBOV – Automatic tracking stands of PV panels are gaining importance again due to advanced PV system design

14:15 Martin POLÁK – Determination of operational parameters of older Francis turbines

14:30 Demet YILDIRIM – Determination of weight loss in cold-stored plum (*Prunus cerasifera* Ehrh.) fruit using different ML and statistical modelling methods

14:45 Riswanti SIGALINGGING – Sodium hydroxide effect on oil palm waste in bio-batteries

15:00 Avdhoot WALUNJ – Study of soil–basin lister interaction using discrete element modelling approach

15:15 Gürkan Alp Kagan GÜRDİL – Production and development of biodegradable plant growth media from agricultural residues using a redesigned hydraulic press

**15:30 Coffee Break**

**Parallel Session III (16:00–17:45)**

**Chairman: Abraham KABUTEY**

16:00 K.meriç UĞURLUTEPE – Ergonomic analysis of beekeeping

16:15 Matúš BILČÍK – Comparative analysis of heating energy sources in alcohol distillation: efficiency, cost, and carbon footprint

16:30 Zisis TSIROPOULOS – Evaluation of the distribution and intensity of PAR emitted by a mobile robotic platform to improve plant growth conditions

16:45 Zdenek ALES – Data-driven predictive maintenance using the Gompertz curve

17:00 Martin STEHLÍK – Water retention of organic matter and its increase using organic hydrosorbent

17:15 Michal FIŠER – Temporal patterns in public EV charging: insights from real-world data

17:30 Germantas ZAJANČKAUSKASL – Industry Environment CO<sub>2</sub> Emissions Reductions with Bio-Based Thermal Insulation Materials from Hemp and Flax

**Wednesday 17 September 2025 – Room B (Parallel Session II & IV)**

**Parallel Session II (14:00–15:00)**

**Chairman: Rajesh MISHRA**

14:00 Jiří URBAN – Research on mechanical properties of photosensitive resins filled with cotton flakes

14:15 Adrián GULA – Using DEMATEL model to remove uncertainties in decision making in PFMEA analysis

14:30 Hubert LINSEISEN – Georeferencing as a basis for robots in hop gardens

14:45 Iñigo MOLINA – Soil moisture estimation using GNSS reflectometry in Cambodia

15:00 Jan PALÁTKA – Optimization of viscose homogenization

**15:30 Coffee Break**

**Parallel Session IV (16:00–17:30)**

**Chairman: Gürkan GÜRDIL**

16:00 Věra VANDÍRKOVÁ – Multisensory approach in hop growth assessment

16:15 Jerzy KASZKOWIAK – Suitability of bioethanol and methanol blends as fuel for internal combustion engines

16:30 Marcin ZASTEMPOWSKI – Evaluation of the suitability of bioethanol and butanol blends for powering internal combustion engines

16:45 František PAUR – Negative air ion concentration provided for vehicle interior depending on the ionizer placement

17:00 Adrián SELNEKOVIČ – Comparison of mechanized and manual grape harvesting on selected parameters of must and oxygen content

17:15 František TOŠOVSKÝ – Supporting biodiversity with the help of flowering shrubs in the corn field

**Wednesday 17 September 2025 – Round Hall (General Room)**

**19:00 Banquet – Round Hall – Faculty Brewery “Suchdolský Jeník” Excursion**

**22:00 Closing of the day**

**Thursday 18 September 2025 – Room A (Parallel Session V & VII)**

**Parallel Session V (09:00–10:30)**

**Chairman: Oldřich DAJBÝCH**

09:00 Lea HAKSZER – Wear assessment using 3D scanning

09:15 Ľuboš KAZÁN – Smart production documentation using QR code technology

09:30 Tomáš HOLOTA – Calorific value of pellets from fruit distillery residues as an alternative to agricultural biomass

09:45 Martin KRASŇANSKÝ – Assessment of vehicle dynamic properties

10:00 Peter HLAVÁČ – Selected physical properties of some transmission oils

10:15 Vladimír MADOLA – A smart system for dairy cow localization in cubicles based on ultrasonic sensing and machine learning

**10:30 Coffee Break**

**Parallel Session VII (11:00–12:00)**

**Chairman: Rostislav CHOTĚBORSKÝ**

11:00 Patrik KÓSA – Simulation and experimental investigation of a 3D printed composite specimen's mechanical properties

11:15 Gvidas GRAMAUSKAS – Invasive herbaceous plant biomass use for solid biofuel production

11:30 Oldřich DAJBÝCH – Determination of oil yield, throughput and extraction loss of bulk seeds of rape and camelina using a mini screw press

11:45 Egidijus BLAŽAUSKAS – Evaluation of the efficiency of solar panels depending on the angle of incidence of sunlight

11:45 Jan VELEBIL – Poplar biochar as a bridge to sustainability of short rotation coppice plantations

**12:15 Lunch**

**Thursday 18 September 2025 – Room B (Parallel Session VI & VIII)**

**Parallel Session VI (09:00–10:30)**

**Chairman: Čestmír MIZERA**

09:00 Brigita SENKIENĖ – The sustainable recycling of Brassica oleracea L. waste with the use of meat bone meal and bio-stimulants

09:15 Daniel SKLADANÝ – Impact of input parameters on the flow efficiency of hydrogenerators

09:30 Albert SUCHOPÁR – A review of end-effector technologies for delicate fruit harvesting

09:45 Simas SOKAS – Evaluation of soil properties, fuel consumption and greenhouse gas emissions of a site-specific tillage method

10:00 Miroslav HOLÝ – Determining tomato stem angles using a YOLO-based approach

10:15 Jozef RÉDL – Design of predictive models by nonlinear and Gaussian kernel smoothing

**10:30 Coffee Break**

**Parallel Session VIII (11:00–12:00)**

***Chairman: Václav NOVÁK***

11:00 Tomáš JEHLIČKA – Advanced methods of controlling storage parameters in post-harvest grain lines

11:15 Martin NAGY – Laboratory testing of flow properties of ecological hydraulic fluid

11:30 Simona BÁRTOVÁ – Monitoring the emission status of a spark-ignition internal combustion engine under varying loads

11:45 Jana LENDELOVÁ – Appeals for testing the environment parameters in dairy farming

12:00 Bahadır DEMIREL – Production and development of biodegradable plant growth media from agricultural residues using a redesigned hydraulic press

**12:15 Lunch**

**Thursday 18 September 2025**

**18:00 Gala Dinner on a Steamboat – Vltava River, Dvořák Embankment / Na Františku, Pier No. 14, below Na Františku Hospital, Prague 1**

**21:00 Closing of the day**