

Biosystems Engineering 2025, SCHEDULE

Day	Time		
Wednesday 07.05.2025	9.00 – 10.00	Registration and morning coffee (Estonian University of Life Sciences, Tehnikamaja, 56 Kreutzwaldi Str., Tartu) Room A202	
	10.00 – 10.20	OPENING: (Tehnikamaja, room A204) Vice Rector for Academic Affairs of Estonian University of Life Sciences Prof. Endla Reintam Head of Research and Development Cooperation of Institute of Forestry and Engineering, Marku Lamp	
		PLENARY SESSION (Tehnikamaja, room A204): Chair: Dr. Margus Arak	
	10.20 – 10.50	Designing Collaborative Autonomy: Challenges and Opportunities Across Agricultural and Forestry Systems – Prof. Karl Kruusamäe , University of Tartu, Estonian	
	10.50 – 11.20	Enhanced production and consumption of plant-based protein in Finland – Dr. Anne Pihlanto , Natural Resources Institute Finland (Luke)	
	11.20 – 11.50	Humanizing Work through Ergonomics: Design, Responsibility, and Inclusive Innovation for Aging Populations – Prof. Marcin Butlewski , Poznan University of Technology, Poland	
	12.05 – 13.00	LUNCH Tehnikamaja, room B135	
	13.00 – 15.40	AGROROBOTICS (Room A204) Chair: Prof. Kallol Roy Prof. Olga Liivapuu	BIOFUELS AND BIOENERGY (Room B200) Chair: Prof. Sabarathinam Shanmugam
		Development of Autonomous Robotic Platform for Precision Blueberry Cultivation – Indrek Virro : Estonia	Qualitative assessment of beach wrack and the influence of pretreatment methods on fuel characterization for energy production – Alessio Mencarelli : Italy
		Synthetic Blueberry Image Generation for Smart Farming Using Convolutional Variational Autoencoder – A G M Zaman : Estonia	Torrefaction-based bio-surfactant production: A proof-of-concept of low-value waste valorization to specialty chemicals – Anjana Hari : Estonia
		Edge AI System for Enhanced Grain Sorter Feedback – Veiko Vunder : Estonia	Nitrogen explosive decompression 3.0: a detoxification-free pretreatment for enhanced sugar recovery and fermentation of aspen biomass – Damaris Okafor : Estonia
		Open-Source Robotics in Agriculture: Tailored Innovation for Modern Farming – Renno Raudmäe : Estonia	Advanced Sequential Extraction of Microalgal Metabolites for Reducing Environmental Impact and Promoting Sustainability, Circular Economy and Zero-Waste Strategy – Siddhant Dubey : Taiwan
		Design and Optimization of a Welded Framework for a Mobile Power Station with Complex Geometry – Armand Pellja : Estonia	Sequential Enzymatic Depolymerization of Lignin Enabled by Integrated Protic Ionic Liquid Pretreatment and Fractionation – Sharib Khan : Estonia
		Study of the working unit for replenishing the stock of technological material at the field robot service station – Yevhen Ihnatiev : Estonia	Levoglucosan from woody biomass: sustainable valorisation approach – Viveka Balasundararajan : Estonia
			The title of my presentation: Simulation and optimization of bio-oil, biochar, and syngas obtained from the co-pyrolysis of date seeds and tire plastic waste – Lisandra Meneses : Estonia

	15.40 – 16.00	<i>Coffee Break</i> (Room B135)	
	16.00 – 18.00	FOOD SCIENCE AND TECHNOLOGY (Room A204) Chair: Dr. Sana Ben Othman	ENGINEERING (Room B200) Chair: Prof. Marten Madisoo
		Sensory assessment and consumer acceptability of confectionery products made with pine cones – Klinta Karklina : Latvia	Climate impact on electric vehicle energy consumption in the baltic region – Aimar Puusepp : Estonia
		The impact of plant protein concentrates and exopolysaccharide-producing starter cultures on the properties of plant-based yoghurts – Liis Lutter : Estonia	Analysis of charging capacity for electric vehicles in soviet-era apartment districts from the perspective of substation power availability – Janek Lumi : Estonia
		Assessment of consumer awareness regarding the implementation of innovative food packaging – Marek Gaworski : Poland	Development and validation of a methodology for studying the tilt angle of solar photovoltaic panels – Vitalijs Osadcuks : Latvia
		Attitudes of organic food supporters and neutral consumers toward organic school meals – Ave Kutman : Estonia	Performance and emissions of an agricultural diesel engine with hydrogen injection under different load modes – Karlis Amatnieks : Latvia
		Microbiological safety and quality of plant-based alternatives— preliminary insights – Dulmini Nanayakkara Sapugahawatte : Estonia	Membrane Engine Prototype: Experimental Data Evaluation – Roland Allmägi : Estonia
		Microbial growth inhibition effect of selected plant powders in minced meat – Mati Roasto : Estonia	Influence of Drilling Parameters on the Applied Feed Force at the Initial Stage of Drilling – Maicel Pütt : Estonia
Thursday 08.05.2025		9.00 – 9.30	Morning coffee (Estonian University of Life Sciences, Tehnikamaja, 56 Kreutzwaldi Str., Tartu) Room B135
	9.30	PLENARY SESSION (Tehnikamaja, room A204): Chair: Dr. Margus Arak	
	9.30 – 10.00	Innovative Liquid Tree Design for Carbon Capture and High-Value Carotenoid Production: A Sustainable Solution to Climate Change Mitigation – Prof. Anil Kumar Patel , NKUST, Taiwan	
	10.00 – 10.30	Digital Twin Technology for Electric Propulsion in Software-Defined Electric Vehicles – Prof. Anton Rassõlkin , Tallinn University of Technology (TalTech), Estonia	
	10.40 – 12.40	LIVESTOCK TECHNOLOGY (Room A204) Chair: Prof. Marek Gaworski	ERGONOMICS AND ERGODESIGN (Room A219) Chair: Dr. Märt Reinvee
		Pasture-grazed lamb growth parameters for Latvian darkhead breed – Kristiana Grike : Latvia	Organizational identification, workaholism, and burnout: a cross-sectional study of age, gender, tenure, and work arrangements – Marija Geidelina-Lugovska : Latvia
Work Ability as a Predictor for Interest in Switching to Organic Production – Thomas Banhazi : Denmark		Deciphering the paradox: the role of organizational identification in workaholism versus burnout – Marija Geidelina-Lugovska : Latvia	

	Using machine learning techniques to assess the technology adoption readiness levels of livestock producers – Thomas Banhazi : Denmark	Integrating human factors into occupational accident investigation: a literature review of methodologies and their application – Jelena Lezdkalne : Latvia
	ET4D project: Using advanced data management system to improve environmental sustainability and transparency in dairy farming – Thomas Banhazi : Denmark	Heat stress prediction for simulated wildland firefighting – Kalev Kuklane : Estonia
	Prediction Method and Result Analysis of Cellular Network Performance in Rural Dairy Farms – Swarup Singha : Finland	Farmer Mental Health Help Seeking Knowledge Development and Use – John McNamara : Ireland
	A Machine Learning Framework for Automatic Early Detection of Mastitis in Dairy Cattle – Fazayeli, Atefeh : New Zealand	The effect of reference population source on the fatality rate in EU farms – Märt Reinvee : Estonia
12.40 – 14.40	LUNCH AND POSTER SESSION Estonian University of Life Sciences, Tehnikamaja, 56 Kreutzwaldi Str, Tartu, room B135	
	AGROROBOTICS (Room A204) Chair: Prof. Anton Rassõlkin Prof. Sven Peets	PRECISION AGRICULTURE (Room B200) Chair: Prof. Endla Reintam
	Design and assembly of an autonomous data acquisition device for graphical monitoring of environmental data – Martin Võip : Estonia	Advancing precision agriculture: a case study of open source autosteering with AgOpenGPS and RTKbase – Petri Linna : Finland
	Latent Statistics from Convolutional Variational Autoencoder for Plant Size Classification – A G M Zaman : Estonia	Effect of changing fertilization system on winter wheat grain quality – Livija Zarina : Latvia
14.40 – 17.20	Theoretical Study of a Pneumatic Device for Precise Application of Mineral Fertilizers by an Agro-Robot – Raul Ojasoo : Estonia	Review: Unmanned Aerial Vehicles and Artificial Intelligence in Precision Agriculture – Benjamin Zvara : Slovakia
	Development of an artificial intelligence-specialist based on a language model adapted for agri- and horticultural counseling – Karl Kask : Estonia	Impact of Row Distance and Plant Spacing in the Row on Weeds and Yield in Spring Barley – David Hansson : Sweden
	Differential Geometric Modelling and Trajectory Optimization for Quadcopter Navigation – Olga Liivapuu : Estonia	Evaluating the efficiency, environmental impact, and operator benefits of gps guidance and autosteer technologies in agricultural field operations – Hannu Haapala : Finland
	An Energy-Efficient and Adaptive Battery Monitoring System for Agricultural Robotics Using CAN Bus Communication – Guido Soosaar : Estonia	Weight-Detect instrument predicted the onset of respiratory infection a week before clinical signs appeared – Thomas Banhazi : Poland
	Design, Build and Testing of a Universal Wheel Torque Transducer for Agricultural Tractors – Sven Peets : United Kingdom	Microplastic in Soil – Endla Reintam : Estonia
	POSTERS (Room B135) Chair: Ms. Anjana Hari	
	Exploring the economic viability and agronomic effects of green manure mixtures on winter wheat yields in organic farming in Latvia: a multi-location study – Inga Morozova, Inga Jansone : Latvia	
	Crisis management aspects of agricultural enterprises under modern threats – Oleksii Demikhov : Estonia	
	Reduced agricultural traffic and tillage management systems enhancing soil properties and crop yields – Paula Misiewicz : United Kingdom	
	Integrating residual biomass use and intermediate crop cultivation: A systems approach to sustainable agriculture in Sweden – Sergio Barrios Latorre : Sweden	

		Psychosocial work environment risks for museum workers in Latvia – Henrijs Kalkis : Latvia
		The effect of therapeutic exercises on healthcare workers with neck pain – Marika Briede : Latvia
		Indicators of occupational health and safety policies in EU countries under military and epidemiological threats: a scoping review – Oleksii Demikhov : Estonia
		Diminished work ability as a contributing factor for farmer's interest in switching to organic production – Tiina Mattila : Finland
		Extraction of bioactive compounds from Highbush blueberries (<i>Vaccinium corymbosum</i> L.) using water-based extraction techniques – Aistis Petruskevicius : Lithuania
		Total phenols and anthocyanins content and sensory properties of non-alcoholic beer with frozen berries – Aloyzas Velicka : Lithuania
		Sensory, physicochemical, and techno-functional properties of alkaline solubilized-bacterially acidified pea protein isolate – Monica Nabil Ibrahim : Estonia
		Microbial growth inhibition by the use of selected plant powders in minced meat – Mati Roasto : Estonia
		Assessment of microbiological safety and quality of plant-based meat alternatives – Tiina Mandel : Estonia
		Evaluation of biological value of high-protein ice cream based on camel milk – Ayan Orazov : Kazakhstan
		The Impact of Storage Conditions on Acrylamide Formation in Vegetable-Based Products – Sirje Jalakas : Estonia
		Assessment of meat quality (freshness) with a simple device based on the contents of ATP breakdown products. The effect of plant materials on meat preservation – Alar Sünter : Estonia
		Remotely piloted aircraft for monitoring greenhouse gases in dairy production systems – Ilva Trapina : Latvia
		A literature review of plants with antiparasitic properties against horse endoparasites – Matteo Barbari : Italy
		Influence of Conservation Farming Practices on Soil Stability and Fertility – Vaida Steponaviciene : Lithuania
		Process of heat treatment and changes in garlic properties – Pavel Kic : Czech Republic
		Effect of zeolite, clay and peat on salt stress tolerance of lettuce (<i>Lactuca sativa</i> L.) – Andis Karlsons : Latvia
		Non-destructive determination of water content during plant ontogenesis – Ina Alsina : Latvia
		Dual-camera visual odometry for high precision plant treatment machines – Vitalijs Osadcuks : Latvia
		Detection of changes in the defence factors of nicotiana tabacum plant under the influence of insertion and expression of heterologous transgenes – Tetiana Mykolaivna : Ukraine
		Carbon and nitrogen accumulation by agricultural crop residue under three cropping systems – Sarmite Rancane : Latvia
		Temporal analysis of pasture vegetation cover in central-western Brazil using remote sensing – Rafaella Andrade : Brazil
		Waste-to-Bioenergy: A Bibliometric Analysis – Meleksen Akin : Turkey
		Rhamnolipid production from torrefied aspen waste – Anjana Hari , Tharaka Rama Krishna Chowdary Doddapaneni, and Timo Kikas: Estonia
		Opportunistic pathogen contamination in plant-based meat alternatives – Dulmini Sapugahawatte : Estonia
	19.00 – 23.00	OFFICIAL CONFERENCE DINNER OÜ Restoran Ülikooli Kohvik, Ülikooli 20, Tartu https://kohvik.ut.ee/
Friday 09.05.2025	9.00 – 13.00	EXCURSIONS Visiting tour to A. Le Coq brewery . Visit to production process and guided tour to the Beer Museum with a tasting session. Laulupeo str 15, Tartu https://ollemaailm.alecoq.ee/en/ 9.00-12.00

		<p>Start from Tehnikamaja at 9.00 by bus</p> <p>Guided tour to Estonian National Museum (ERM). Muuseumi tee 2, Tartu https://erm.ee/en</p> <p>10.00-13.00</p> <p>Start from Tehnikamaja at 10.00 by bus</p>
--	--	--