

RaTSiF-2025

The 47th Research and Technology – Step into the Future Conference

Agenda

Date: 25th April 2025

Time: 10:00 – 17:00

Location: Transport and Telecommunication Institute

Link to plenary session: <https://meetings.tsi.lv/b/jel-9xg-7tu-c5b>

PLENARY SESSION		
Aud. 130		
Moderators:	Prof., Dr.oec. Inna Stecenko Prof., PhD. Emmanuel Merchan	
10:00 - 12:00	Welcome Speech	Juris Kanels , Ph.D., Rector, TSI (Latvia)
	Prompt Engineering for Software Engineers: New Digital Competence	Boriss Misnevs , Dr.sc.ing., Professor, TSI, (Latvia)
	Learning the Shape of Demand: A Geometric Framework for Real-Time Shared Mobility	Francesco Maria Turno , Mg.Sc., PhD student, Researcher, TSI, (Latvia)
	Digital Innovation and Institutional Strength: Insights from Sub-Saharan Africa	Etian Boress Kemgou Voptia , Mg.Sc.Fin., PhD student, Researcher, TSI, (Latvia)
	Analysis of Open-Source and Vendor-Driven Research Agent Repositories	Maksim Ilin , Mg.Sc.Cs., PhD student, Researcher, TSI, (Latvia)

Parallel Session

SESSION #1_Part 1 (Aud. III)

Link to Session 1_Part 1: <https://meetings.tsi.lv/b/jel-q7l-rab-rrs>

Online: Only for Distant Learning Students

12:30 – 17:00 COMPUTER PROBLEMS OF THE INFORMATION SOCIETY AND THE MODERN ELECTRONICS INFORMĀCIJAS SABIEDRĪBAS DATORIZĀCIJAS PROBLĒMAS UN MŪSDIENU ELEKTRONIKAS PASAULE		
Moderators:	Prof., Dr.sc.ing. Dmitry Pavlyuk Prof., Dr.sc.ing. Boriss Misnevs	
12:30 – 17:00	Employee Well-Being through AI: A Machine Learning Approach to Analyzing Feedback and Predicting Outcomes	Vija Niedre
	Development of a Data Synchronization Algorithm and Visualization for Multi-Stream Data in WAAM Processes	Sergejs Kopils
	Applying Large Language Models for Automated Test Generation	Diāna Koržaviha
	A Customer Segmentation Model Using Ensemble Clustering and Autoencoders	Eden Elisha Thomas
	Analysis of Black-Box Models with Explainable AI on a Targeted Group Hate Speech Dataset in Social Media	Gonzalo Gamez
	Interpretable and Integrated Churn Explanation Framework (IICEF) for Mobile Banking: Aggregating Multimodel Explanations in a Transparent Architecture	Anar Veliev (<i>online</i>)
14:30 – 14:45	Break	
Moderators:	Prof., Dr.sc.ing. Irina Pticina Prof., Dr.sc.ing. Dmitry Pavlyuk	
14:45 – 17:00	Automated Risk Scoring System for Financial Institutions	Natalja Krjuckova
	Adaptive BID Management in Pay-Per-Click Advertising Using Reinforcement Learning	Dmitrijs Poliščuks
	Developing a Station-Based Monthly Demand Forecasting System for Car Rentals Using Data-Driven Algorithms	Agita Ferstere
	Design Thinking as a Catalyst for Web Innovation in Enterprises	Ilias Tsakaev
	Performance Evaluation of Blockchain Consensus Mechanisms Using Fuzzy Logic-Based Decision Support Systems	Ali Turkarslan

Parallel Session

SESSION #1_Part 2 (Aud. II)

Link to Session 1_Part 2: <https://meetings.tsi.lv/b/jel-3u8-tyy-oyz>

Online: Only for Distant Learning Students

COMPUTER PROBLEMS OF THE INFORMATION SOCIETY AND THE MODERN ELECTRONICS INFORMĀCIJAS SABIEDRĪBAS DATORIZĀCIJAS PROBLĒMAS UN MŪSDIENU ELEKTRONIKAS PASAULE		
12:30 –17:00		
Moderators:	Prof., Dr.sc.ing. Aleksandrs Grakovkis Prof., PhD. Emmanuel Merchan Prof., Dr.sc.ing. Nadezhda Spiridovska	
12:30 –14:45	Utilizing mmWave Radar for Motion Planning of a Mobile Robot in a Dynamic Environment	Ivans Gercevs
	Analysis of Innovative Waste Heat Recovery System in Internal Combustion Engine Vehicles	Jafar Sadig
	Visual Range Hyper Spectrum Estimation on the Base of RGB Sensor Data	Sofiane Kettou, Philippe Lemoine, Roger Nathan, Maxime Vettorato
	Application of the Local Mean Decomposition (LMD) Method for Diagnosing Fan Rotor Imbalance in Aspiration Systems	Jevgenijs Jeremejevs
	Proposal for an Interactive Application to Facilitate Research on LLMs in Robotic Path Planning	Charles Radolanirina, Martin Gatbois, Eloïse Baldet, Killian Perrot
14:45 – 15:00	Break	
15:00 – 17:00	France and Latvia: A Comparative Socio-Economic Dashboard	Martin Joncourt, Matthieu Laporte, Julien Lecordier, Kevin Rizk
	Battery Safety in Increasing Reliance on Portable Technology and Electric Transportation	Raimonds Pone
	E-Bikes Rebalancing Optimisation with Artificial Intelligence	Alexis Jacquet, Joseph Vigand, Marie-Zita Le Chaix, Hugo Cermak
	Decision-Making in Information Systems with AI Tools for Coca-Cola and Siemens Cases	Kafumukache Besa Bwalya (online)

Parallel Session

SESSION #2 (Aud. 130)

Link to session 2: <https://meetings.tsi.lv/b/jel-tq8-tfi-oui>

Online: Only for Distant Learning Students

14:00 – 17:00			TRANSPORT AND LOGISTICS TRANSPORTS UN LOĢISTIKA
Moderators:	Prof., Dr.sc.ing. Irina Jackiva Prof., Dr. habil.sc.ing. Jurijs Tolujevs Asst.Prof., Dr.sc.ing. Olga Zervina		
14:00 – 17:00	Predictive Analytics in Business Aviation Using a Data-Driven Model for Aircraft Airworthiness Management Optimization	Abdulali Baghiyev	
	Aviation Fuel Pricing Formation and Influencing Factors in the Context of Sustainable Fuel Regulations: Case Study Riga International Airport	Egija Saulīte	
	Improvement of Sustainability: Net-Zero Supply Chain in India	Yahiya Khan	
	Methodology for Analyzing the Stability of a Vessel's Motion Control System	Dmitry Bakhtin (online)	
	Theoretical Foundations of Piggyback Transportation and Their Significance for the Transport Systems	Sardorbek Akhmedov (online)	
	Enhancing Accessibility and Inclusivity in Maltese Public Transport: Addressing the Needs of Vulnerable Groups	Sreelakshmi Koderi (online)	
	Elektrisko kravas transporta līdzekļu ieviešana latvijas ražošanas kompānijā: iespējas un izaicinājumi	Martins Vilums (online)	
	The Impact of Covid-19 on Healthcare Distribution & Warehousing Challenges, Adaptations, and Future Resilience	Alina Zogote (online)	

Parallel Session

SESSION #3 (Aud. 221)

Link to session 3: <https://meetings.tsi.lv/b/jel-p6n-kgf-euk>

Online only for Distant learning students

12:30 – 17:00 MARKET: RESEARCH, PROJECTS, TECHNOLOGIES AND PROBLEMS OF THE MODERN ECONOMY AND BUSINESS TIRGUS: PĒTĪJUMI, PROJEKTI, TEHNOLOĢIJAS UN MŪSDIENU EKONOMIKAS UN BIZNESA PROBLĒMAS		
Moderators:	Prof., Dr.oec. Irina Kuzmina-Merlino Prof., Dr.oec. Inna Stecenko	
12:30 – 14:30	Barriers and Challenges to Digital Transformation in E-Government: A Systematic Review in Post-Conflict and Developing Countries	Mustafa Yaasin Sheik
	The Evaluation of Customer Loyalty in the Scope of Digital Tools for the 50+ Market Segment	Vladislavs Klepacevskis
	Digital Socialization: The Impact of Social Media and Digital Platforms on Consumer Behavior and Business Models	Ferangiz Abdurakhmonova
	Factors Affecting Customer Adoption of Virtual Banking Services in Sri Lanka	Dilini Nadeesha Kumari Senevirathne
	Interconnected and Exposed: Modern Perspectives on Systemic Risk in European Financial Institutions	Mehemmed Maharramov (online)
	The Entry of Chinese Electric Vehicles in Latvia: Impact on the Automotive Industry and Future Sales Prospective	Dace Krastina (online)
14:30 – 14:45	Break	
14:45 – 17:00	E-Commerce and its Role in Achieving Sustainable Development at the Country Level	Anna Manakova
	Assessing the Relationship Between Jet Fuel Prices and Consumption in U.S. Aviation from 2000 to 2025	Lūkass Markuss Legzdīņš
	Factors Affecting Customer Satisfaction in Online Banking	Charithra Dias
	Assessing the Financial Performance of a Multinational Automobile Company	Anjani Prasad (online)
	The Impact of Artificial Intelligence on Labor Markets	Nilusha Erangi Dimungu Hewage (online)
	Analysis of the Conditional Construction Integration in Universities' Marketing Communication Models	Lada Širjajeva (online)

Parallel Session

SESSION #4 (Aud. 220)

Link to session 4: <https://meetings.tsi.lv/b/jel-ybh-hbu-krr>

Online only for Distant learning students

14:30 – 16:30 DRIVING INNOVATION: INDUSTRY CHALLENGES AND STUDENT INVOLVEMENT INOVĀCIJU VEICINĀŠANA: NOZARES IZAICINĀJUMI UN STUDENTU IESAISTE		
Moderators:	Head of Centre of Innovation and Entrepreneurship, Vladimirs Petrovs Prof., Dr.sc.ing. Mihails Savrasovs	
14:30 – 16:30	Automation in Medical Research: TONES Industry Project Case	Ivans Gercevs, Viktorija Gerceva, Aleksandrs Muhins
	SmartHelmet Industry Project Case: Digital Twins for Offshore Oil—Data Capture Challenges	Nikita Ostrovenecs, Daņiils Orlovskis
	Robotization in Public Catering: "Barobee" Student Innovation	Arina Čiževska, Richards Aizpurietis
	Industry Skeleton: Development of a Device for the Handicraft Market ("Jointy" Student Innovation)	Manu Viktors Vilks, Vasilijš Vilks

Parallel Session

SESSION #5 (Aud. 710)

Link to session 5: <https://meetings.tsi.lv/b/jel-hkt-p9e-qld>

Online only for Distant learning students

WORKSHOP		
12:30– 17:00 FUTURE AVIATION TECHNOLOGIES: RESEARCH PERSPECTIVES FROM AERO GROUP NĀKOTNES AVIĀCIJAS TEHNOLOĢIJAS: AERO GRUPAS PĒTNIECĪBAS PERSPEKTĪVAS		
Moderators:	Prof., Dr.hab.sc.ing. Igor Kabashkin Prof., Dr.sc.ing. Iyad Alomar	
12:30 – 14:30	Management of Aircraft Maintenance Processes, Prospects and Opportunities	Iyad Alomar
	Enhancing Automated Value Identification Using Multimodal Data Sources in the Air Transportation Industry	Olga Zervina
	Long - Range Surveillance UAV with AI Applications: Capabilities, Challenges and Future Opportunities	Adham Elmenshawy
	Some Applications on Vibroacoustic for Noise Reduction in Helicopter Cabin	Pavithra Nagaraj
	A Novel Analysis of the Anisotropic Nature of Energy Cascade in Large Eddy Simulations	Athena Su Dimou
	Digital Tools for Aviation Education and Training	Maksims Suvalovs
14:30 – 14:45	Break	
14:45 – 17:00	Synchronizing Scientific Research with Aviation Industry Objectives and Evolving Engineering & Maintenance Challenges	Leonid Shoshin
	Framework of Interactions and Data Exchange Mechanisms Between Airlines, Aircraft Manufacturers and Maintenance Entities: Analysis of Principles, Obstacles and Innovative Approaches in Enhancing Aviation Component Reliability	Vitalii Susanin
	Human Errors and Violations Protection System Based on the Condition of An Airline Safety Culture	Juris Maklakovs, Vladimir Shestakov
	Problems of Academic Aviation Education in Latvia	Alexander Medvedev
	Integration of Emerging Technologies in Aviation Digital Ecosystems: Trends, Challenges and Strategic Implications	Igor Kabashkin

Notes: