

PRE-DAY: “DeepTech Commercialization” 5 th October 2026		Tallinn University of Technology, TalTech Ehitajate tee 5, Tallinn TalTech Student House (STU)
09:30	Registration and coffee	
TALTECH STUDENT HOUSE (STU)		
10:00	Welcome note – Tamas Pardy & Yannick Le Moullec	
10:15	The Three Valleys of Death in Deep-Tech Commercialization – Marko Lehes	
10:30	From PhD to CEO: Building a DeepTech Venture – Andri Sokka	
10:45	The Sim-to-Real Gap: Commercializing Computational Science – Ray Yang	
11:00	Journey of one startup: from lab to frontline – Vladimir Kuts	
11:30	The Prototype-to-Product Curse: Why Deep-Tech Innovations Take So Long to Reach the Market – Alexandros Pantazis	
11:45	Silklytics – Our Path To Top Innovation – Airiin Laaneväli	
12:00	How to turn your research into impact at TalTech – Rasmus Kalep	
12:15	Intermission: startup ideas from students in audience	
13:00 LUNCH		
14:00	SYP panel discussion – Aligning academic and industrial careers: Sreenath Sukumaran, Marko Lehes, Andri Sokka, Airiin Laaneväli, Alexandros Pantazis and Ray Yang	
15:00	Conclusion	
15:20 CLOSING NOTE		
15:30 END OF THE “DEEPTech COMMERCIALIZATION” DAY		
DAY 1: 6 th October 2026		Nordic Hotel Forum, Viru väljak 3, 10111 Tallinn, ESTONIA
09:00	Registration and coffee	
CAPELLA CONFERENCE ROOM		
09:30	Welcome note: Prof. Yannick Le Moullec	
09:45	Keynote speaker: ALEXANDROS PANTAZIS From Single Devices to Smart Diagnostics: The Evolution of Biosensing Technologies	
10:45	Panel Discussion: Intelligence from Edge to Silicon: IoT, AI and Chip Design – Andres Mellik, Arno Kolk, Huber Flores, Jaan Raik, Vahur Kampus and TBC	
12:30 LUNCH		
CAPELLA CONFERENCE ROOM		VEGA CONFERENCE ROOM
Communication and Cognitive Systems 1: UAV systems, radar sensing, and spectrum security Session Chair: YANNICK LE MOULLEC		Embedded and Cyber-Physical Systems 1: Reliability, security, efficiency Session Chair: PEETER ELLERVEE
13:30	Transformer Based Classification of Low Altitude UAVs and Ground Users in Cellular Networks – Junaïd Sajid, Muhammad Mahtab Alam and Ivo Müürsepp	TinyFlowCore: A Parameterized ASIP for Compact Protocol and Routing Applications – Veli-Matti Rantanen, Yongchao Dang and Kalle Ruttik
13:50	Parameter-Constrained Neural Architecture Search for Lightweight UAV Disaster Image Classification – Muhammad Bilal Khan, Haroon Tahir, Ali Hassan, Muhammad Daud Abdullah Asif, Rizwan Ahmad, Waqas Ahmed and Muhammad Mahtab Alam	AutoTrans: AI-Assisted Automatic Translation of Security Assertions for RISC-V Processors – Sharjeel Imtiaz and Tara Ghasempouri
14:10	From Closed-Form Design to Hardware Validation: A 1-Bit Open-Source RIS – Federico Francesco Luigi Mariani, Alessandro Andrea Vogrig, Davide Scazzoli, Muhammad Mahtab Alam and Maurizio Magarini	The Cost of Being Compact: Efficient LEB128 Decoding for an In-Place WebAssembly Interpreter – Lionel Wisskirchen and Stefan Wallentowitz
14:30	Software-Defined Radio Prototyping of OTFS Velocity Radar – Nikolajs Tihomorskis, Omid Abbassi Aghda, Sandis Migla, Rui Dinis, Dmitrijs Pikulins and Arturs Aboltins	Out of the (Sand)box: Efficient Inter-Module Communication for Rust-based WebAssembly on Microcontrollers – Simon Mederer, Frans Skarman and Stefan Wallentowitz
14:50	GHAAT: An End-to-End Autonomous Counter-UAV Framework with Vision Guidance and Net Capture – Shameer Ashraf, Muhammad Talha Hassan, Ali Hassan, Rizwan Ahmad, Maurizio Magarini and Muhammad Mahtab Alam	A Lightweight and Robust Two-Stage Acoustic Pipeline for Embedded Artillery Launch Detection – Martin Maxa, Jakub Svatos and Jakub Zelinka
15:10	Impact of Tropospheric Ducting on GNSS Jamming in the Baltic region: Reference Station and UAV Observations – Lauri Jürgenson and Ivo Müürsepp	Comparative Analysis of Cryptographic Algorithms Against MITM Attacks in Smart Grid Systems – Abdul Haseeb, Levent Aksoy, Jako Kilter and Tara Ghasempouri
15:30 COFFEE BREAK		
Communication and Cognitive Systems 2: RF architectures, reconfigurable systems, and experimental sensing Session Chair: MUHAMMAD MAHTAB ALAM		Bioinstrumentation, Smart Materials, and Adaptive Automation 1: Microfluidic Handling Session Chair: TÁMAS PARDY

15:50	A Four-Branch LINC Technique With Combination Over-the-Air – Marius Diacu, João Guerreiro and Rui Dinis	TwinFlow: compact, user-friendly, pressure-controlled droplet generator for biotechnology uses – Anum Afroz, Rauno Jõemaa and Tamás Pardy
16:10	5G-Enabled Passive Radar for Unauthorized Drone Detection at FR2 – Niccolò Paglierani, Francesco Dei Rocini, Luca Reggiani, Davide Scazzoli and Maurizio Magarini	Advantages of Multiple LED Illumination and Adjustable Optical Power in Compact Spectrometer Systems Based on the Hamamatsu C12880MA – Veiko Rütter, Kaiser Pärnamets, Mihkel Kaljurand, Jelena Gorbatšova, Tamás Pardy, Ott Scheler and Jekaterina Mazina-Sinkar
16:30	Empirical Evaluation of RF Based Indoor Sensing Using Commercial 5G and RedCap Devices – Tõnis Kärginen, Osama Elgarhy, Alar Kuusik and Muhammad Mahtab Alam	Direct FDM printing onto electrospun nanofiber membranes to create cross-flow microfluidic cassettes – Norman Sepsik, Ferenc Ender and Kolos Molnár
16:50	Invited Talk: Uncertainty Estimation for Instrumentation in Electronics and Optoelectronics – Patrice Salzenstein and Thomas Wu	
17:30	Sponsor 1	
17:45	Sponsor 2	
18:00 FREE TIME & GATHERING		
18:15 WELCOME RECEPTION IN RESTAURANT NOHO (NEXT TO HOTEL LOBBY)		
21:00 END OF THE FIRST DAY		
DAY 2: 7 th October 2026		
		Nordic Hotel Forum, Viru väljak 3, 10111 Tallinn, ESTONIA
09:00	Registration and coffee	
CAPELLA CONFERENCE ROOM		
09:30	Keynote speaker: ALEXANDER FISH Resurgence of Dynamic Logic and Memories: From Nanoscale CMOS to Cryogenic Computing	
NATO PROTECT PROJECT SPECIAL SESSION Session chair: YANNICK LE MOULLEC		
10:30	Welcome words – Muhammad Mahtab Alam, TalTech, Estonia	
10:35	Detection of Malicious UAVs Piloted via Cellular mmWave Networks – Muhammad Mahtab Alam, TalTech, Estonia	
11:00	Passive Sensing and ML for UAV Monitoring and Localization – Maurizio Magarini, Politecnico di Milano, Italy	
11:30	UAVs detection and tracking with the integration of ML techniques – Luca Reggiani, Politecnico di Milano, Italy	
12:00	Detection of UAV Swarms – Rizwan Ahmad, National University of Sciences and Technology, Pakistan	
12:30 LUNCH		
CAPELLA CONFERENCE ROOM		VEGA CONFERENCE ROOM
Power Electronics and Sustainable Energy Systems Session Chair: INDREK ROASTO		Sensing, Data Acquisition, and Intelligent Signal Processing 1: Remote measurements Session Chair: PAUL ANNUS
13:30	Evaluation of Denoising Techniques for Economical High Voltage Circuit Breaker Condition Monitoring – Sajjad Asefi	An Unsupervised Regression-Based Residual Approach for Detecting Hazard Trees in Mixed Forest Utility Buffers – Juris Sinica-Sinavskis
13:50	Loss Minimizing Flux Control for Induction Motor Drives Based on Maximum Torque per Flux Controlling Variable – Lelisa Wogi, Marcin Morawiec, Shahal Ibn Islam Joy, Jan Barta and Filip Wilczynski	Hallucination and Response Consistency Analysis of Large Language Models in ECG Interpretation – Md Razu Miah, Octavian Adrian Postolache, Rajib Miah and Jose Miguel Dias Pereira
14:10	Multiscalar Control of Synchronous Reluctance Motor Drives With Online Flux Optimization – Shahal Ibn Islam Joy, Lelisa Wogi, Marcin Morawiec, Deepak Vyas, Jarosław Guziński and Tausifur Rahman	Calibration of the Alphasense OPC-N3 Optical Particle Counter and Multi-Gas Sensor Box: From Linear Regression to Polynomial Models – A Case Study at the Öismäe Station – Mansur Ongarbayev, Jaanus Kaugerand and Olev Märtens
14:30	Cell-Level Fault Localization in PEMWE Stacks via CNN–BiLSTM on Raw Electrical Signals – Felipe González, Ricardo Flores, Antonio Sánchez, Ivan Cornejo and Felipe Morales	Experimental Estimation of SAR ADC Equivalent Input Parameters for High-Impedance Microcontroller DAQ Applications – Jakub Svatos, Jan Fischer and Jan Holub
14:50	Regional Weighted Efficiency of PV Inverters: A Reproducible Open-Data Based Methodology – Ihor Tverdovskyi, Serhii Stepenko and Anatoliy Prystupa	Bridging the Domain Gap: Evaluating Synthetic-to-Real Preprocessing for Solid-State LiDAR Vehicle Detection – Anatolijs Zencovs and Roberts Kadikis
15:10	Subnanosecond Pulses by Avalanche Transistor: Critical Analysis of One- and Two-Dimensional Numerical Simulations – Andres Udal, Ants Koel, Paul Annus and Mihhail Olentšenko	Ontology-Driven Quaternion Signal Processing for Nonlinear Ultrasonic Data Structuring and Interoperability in NDT 4.0 – Serge Dos Santos, Ifano Holinav Rafiringa and Frédérique Biennier
15:30 COFFEE BREAK		
Communication and Cognitive Systems 3: intelligent IoT, connectivity, and sensor analytics Session Chair: MUHAMMAD MAHTAB ALAM		Embedded and Cyber-Physical Systems 2: AI – applications & optimizations Session Chair: ALAR KUUSIK
15:50	Enhanced Multi-Class Gait Disorder Classification for IMU Signals using Conditional Generative AI Models – Maria Hanif, Rizwan Ahmad, Muhammad Mahtab Alam, Waqas Ahmed and Ali Hassan	Acoustic Drone Detection on Resource-Constrained Edge Devices: A Deployment-Oriented Comparison – Shantha Nimsara Randil Alagiyadura Fernando, Laura Kõrgmaa, Yannick Le Moullec, Huber Flores and Alar Kuusik

16:10	Mobility-Aware TSCH for Reliable IoT Connectivity – Charalampos Orfanidis, Oliver Orla Nielsen, Lucas Koefoed Schnügger and Xenofon Fafoutis	Evaluating On-Device and Server-Side Retrieval-Augmented Generation for a Rehabilitation Voice Assistant on Raspberry Pi – Aleksandr Bosler
16:30	Overhead-Optimized Short-Packet Communication for IIoT using DECT NR+ Networks – Quang Ngo, Yongchao Dang, Kalle Koskinen, Kalle Ruttik and Riku Jäntti	Model Specialization for Enhanced Semantic Segmentation in Autonomous Driving – Junyi Gu, Toomas Tahves, Mauro Bellone, Yinan Yu and Christian Berger
16:50	Deep Learning-Based SINR Estimation for LTE CAT-M Networks: A Sequential Long Short-Term Memory Approach – Priit Roosipuu, Ivar Annus, Alar Kuusik and Muhammad Mahtab Alam	REQAP: Resilient Weight Packing and Quantization for DNN Acceleration – Mahdi Taheri, Samira Nazari, Mubashir Ansari, Ali Azarpeyvand, Mohsen Afsharchi, Maksim Jenihhin and Christian Herglotz
17:10	A Concise Mapping of Embedded Machine Learning for Wireless IIoT Anomaly Detection – Abraham Getachew Amare, Yannick Le Moullec, Kaiser Parnamets and Alar Kuusik	ICON: Iso-Cost Heterogeneous Approximation For Energy-Accuracy Optimization in DNN Accelerators – Ahsan Rafiq, Salvatore Pappalardo, Alberto Bosio and Maksim Jenihhin
17:30 FREE TIME & GATHERING		
17:40 BUS TO LENNUSADAM		
18:00–19:00 PRIVATE MUSEUM TOUR		
19:00 GALA DINNER AT LENNUSADAM		
23:00–23.30 END OF THE SECOND DAY; BUS BACK TO THE CONFERENCE SITE		
DAY 3: 8 th October 2026		Nordic Hotel Forum, Viru väljak 3, 10111 Tallinn, ESTONIA
09:00	Registration and coffee	
CAPELLA CONFERENCE ROOM		
10:00	Keynote speaker: RIKU JÄNTTI Battery-less Devices in Mobile Networks: Backscatter Communication and Positioning for Ambient IoT	
TAICHIP SPECIAL SESSION Session chair: YANNICK LE MOULLEC		
11:00	Welcome and Intro to TAICHIP project – Maksim Jenihhin, TalTech, Estonia	
11:05	Workload-Aware Online Self-Testing for Systolic Array Neural Network Accelerators – Giovanni Spera, Antonio Emmanuele, Mario Barbareschi and Alberto Bosio	
11:25	Comparison of Ring Oscillators for On-Chip Monitoring of Supply Voltage and Temperature – Marko Andjelkovic, Amandip Duta, Milos Marjanovic, Marios Stamos, Jelena Nedeljkovic, Trupti R. Lenka, Danijel Dankovic, Tatjana Nikolic, Goran Nikolic, Milan Dincic, Jelena Nikolic, Zoran Peric, Christos Sotiriou, Mahdi Taheri, Artur Jutman, Maksim Jenihhin, Fabian Vargas and Milos Krstic	
11:45	Depth or Width? Soft-Error Resilience of Early-Exit DNNs – Rama Mounika Kodamanchili, Natalia Cherezova, Mahdi Taheri, Davide Bertozzi and Maksim Jenihhin	
12:05	PULP4Space: Developing Next-Generation Space Processing Platforms – Kai Berszin, Chen Wu, Angelo Garofalo, Frank K. Gürkaynak and Luca Benini	
12:25	Q&A	
12:30	Invited Talk: Silicon Lifecycle Management in Memory IPs: from On-Chip Aging Sensors and Processing Telemetry Datasets to Failure Prediction – Fabian Luise Vargas	
13:00 LUNCH		
Sensing, Data Acquisition, and Intelligent Signal Processing 2: Medical and bio-measurements Session Chair: OLEV MÄRTENS		
14:00	Metrological analysis of portable bioimpedance analyzers – Maria Jürimaa, Olev Märtens, Marek Rist, Markus Parm and Margus Metshein	
14:20	A simple device for impedance measurement – Paul Annus, Raul Land, Mart Min, Andrei Krivošei, Kristina Lotamõis, Olev Martens and Margus Metshein	
14:40	Electrical Bioimpedance Spectroscopy for Non-Invasive Assessment of Transient Peripheral Ischemia: A Preliminary Feasibility Study – Andrei Krivošei, Kristina Lotamõis, Paul Annus, Mart Min, Marek Rist and Margus Metshein	
15:00 COFFEE BREAK		
Bioinstrumentation, Smart Materials, and Adaptive Automation 2: Analysis Methods Session Chair: TÁMAS PARDY		
15:20	Machine Learning–Based Pre-Test Risk Stratification for PCR-Confirmed Chlamydia Using Patient-Reported Data and Urine Biomarkers – Mehrab Mahdian, Marko Lehes, Katrin Krolov and Tamas Pardy	
15:40	Cross-Model Consistency of Feature Importance in Electrospinning: Separating Robust from Model-Dependent Features – Mehrab Mahdian, Ferenc Ender and Tamas Pardy	
16:00	Prediction of Tissue Strain Response to External Pressure Using Subject Characteristics in Compression Ultrasonography – Justina Grajauskaitė, Rimvydas Eitminavičius, Rytis Jurkonis, Andrius Sakalauskas, Vaidotas Marozas and Andrius Rapalis	
16:20	Bioimpedance-Based Detection and Quantification of Venous Outflow Responses During Controlled Pneumatic Augmentation – Rimvydas Eitminavicius, Rytis Jurkonis, Saulius Daukantas, Andrius Sakalauskas, Vaidotas Marozas and Andrius Rapalis	
16:40 CLOSING NOTE		
16:50 END OF THE CONFERENCE		