

# DELTA Spring Workshop 2021

8.-9.6.2021 VIRTUAL EVENT

## Agenda

Tuesday 8.6.

**9:00 Opening** (Jari Nurmi)

**9:15 Keynote 1: Dr. Jani Puttonen, Magister Solutions: Magister SimLab - simulation services for the next generation SatCom networks** (Chair Tapio Frantti, JYU)

**10:00 Session: Computing and Modelling, Chair Jari Nurmi, TAU**

10:00 Daria Alekseeva, TAU: Computing paradigms in the emergency services

10:20 Elham Shamsa, UTU: Concurrent Application Bias Scheduling for Energy Efficiency of Heterogeneous Multi-Core platforms

10:40 Gunjan Chandra, UO: Data Synthesis for precision medicine models

11:00 Break

**11:20 Session: Autonomous Applications, Chair Jouni Isoaho, UTU**

11:20 Siva Ariram, UO: Semantic segmentation of various autonomous applications

11:40 Qingqing Li, UTU: Adaptive Lidar Scan Frame Integration: Tracking Known MAVs in 3D Point Clouds

12:00 Xianjia Yu, UTU: Applications of UWB Networks and Positioning to Autonomous Robots and Industrial Systems

12:20 Lunch Break

**14:00 Keynote 2: Dr. Philip Ginzboorg, Huawei: Topics in 5G security** (Chair Riku Jäntti, Aalto)

**14:40 Session: Human-related Technologies, Chair Lucie Klus, TAU**

14:40 Aditi Site, TAU: Review and graphical analysis on digital health data with its sources and processing techniques

15:00 Pouya Jafarzadeh, UTU: Human Pose Estimation using deep learning

15:20 Abol Basher, UWASA: LightSAL: Lightweight Sign Agnostic Learning for Implicit Surface Representation

15:40 t.b.d.

16:00 End of day at latest

Wednesday 9.6.

**09:00 Keynote 3: Dr. Sanna Härkönen, Bitcomp: New Generation Forest solutions based on Satellite Monitoring and Artificial Intelligence** (Chair Heidi Kuusniemi, UWASA)

**09:40 Session: Satellites and Positioning, Chair Simona Lohan, TAU**

- 09:40 Kannan Selvan, UWASA: A Review on Precise Orbit Determination of Various LEO Satellites
- 10:00 Akpo Siemuri, UWASA: Machine Learning Utilization in GNSS—Use Cases, Challenges and Future Applications
- 10:20 Iñigo Cortes, TAU: Adaptive Techniques in Scalar Tracking Loops with Direct-State Kalman-Filter
- 10:40 Mahmoud Elsanhoury, UWASA: Review of Recent Advances in Ultra-Wideband Precise Positioning Techniques
- 11:00 Break

**11:20 Session: Machine Automation, Chair Aleksandr Ometov, TAU**

- 11:20 Xinyi Tu, Aalto: A mixed reality interface for digital twin based crane
- 11:40 Reza Taheri, TAU: Reinforcement Learning and Control for Heavy Duty Machines
- 12:00 Lunch break

**14:00 Keynote 4: Assoc.Prof. Mehdi Bennis, Univ. Oulu: Distributed and communication-efficient Machine Learning over wireless** (Chair Juha Röning, UO)

**14:40 Session: Communications, Chair Juha Röning, UO**

- 14:40 Ritayan Biswas, TAU: Direct Path Interference Suppression Requirements for Bistatic Backscatter Communication System
- 15:00 Jean Sant'Ana, UO: Increasing the Reliability of Low Power Wide Area Networks
- 15:20 Luca Ferranti, UWASA: Homotopy continuation for sensor networks calibration
- 15:40 Roman Glazkov, TAU: Physical Network Coding testbed implementation for B5G Networks
- 16:00 Somayyeh Asgari, UO: Graphene based chiral metamaterials in THz region

16:20 End of workshop