

SALA BARACCA

MONDAY - Oct. 2nd

- 08:45 **REGISTRATION**
- 09:00 **TUTORIAL 1 - James Gross, Balázs Varga, Marilet De Andrade Jardim, David Puffer**
An overview of time-bounded and deterministic communication.
- COFFEE BREAK**
- 11:00 **WELCOME MESSAGE**
- 11:30 **KEYNOTE 1 - Symeon Chatzinotas** Mega Constellations – Trends, Technologies and Vision
- LUNCH**
- 12:45 **KEYNOTE 2 - Damian Dudek** Quantum ThermoMechanics in Future Information Processing Systems.
- 14:00 **SPECIAL SESSION 1 - Tactile Internet:**
- Bridging the Gap: 5G-TSN Integration for Industrial Robotic Communication.
 - 6G Underlayer Network Concepts for Ultra Reliable and Low Latency Communication in Manufacturing.
 - Performance Evaluation of Core-Less Mesh Mobile IAB Network Architecture for 6G xURLLC.
 - Performance Comparison of Real-Time Algorithms for IMU-Based Orientation Estimation.
 - On the Simulation of Random Phase Fluctuations.
- 16:40 **COFFEE BREAK**
- 17:10 **MAIN TRACK - Propagation, Beamforming and Intelligent Reflecting Surfaces:**
- Zero Forcing Beamforming with Sidelobe Suppression Using Neural Networks.
 - On the Equivalence of Hybrid and Digital Beamforming in Multi-User Scenarios.
 - Design of a Graphene-Based Reconfigurable Intelligent Surface in THz Spectrum.
 - IndoorDRaGon: Data-Driven 3D Radio Propagation Modeling for Highly Dynamic 6G Environments
- 19:00 **WELCOME APERITIF**

TUESDAY- Oct. 3rd

- 09:00 **TUTORIAL 3 - Christian Deppe, Riccardo Bassoli, Roberto Ferrara, Janis Nötzel, and Uzi Pereg**
Quantum Communications and 6G Technology.
- 11:00 **COFFEE BREAK**
- 11:30 **MAIN TRACK - Localization and Sensing in Wireless Systems:**
- SPEB Evaluation and Anchors Selection for UAV Positioning.
 - Contactless FMCW Radar-Based Health Monitoring Using Continuous Wavelet Transform and Machine Learning.
 - One-Class Support Vector Machine for WiFi-Based Device-Free Indoor Presence Detection.
- 12:50 **LUNCH**
- 13:50 **KEYNOTE 3 - Emilio Calvanese Strinati**
The post Shannon Era: Towards Semantic, Goal-Oriented and Reconfigurable Intelligent Environments aided 6G communications.
- 14:50 **ITA NTN: Workshop on Integrated Terrestrial and Non Terrestrial Networks - Part 1:**
- In-Space Computation Offloading for Multi-Layer LEO Constellations.
 - Coherent Vs IM/DD Transmissions for FSO Communications in the Presence of Atmospheric Turbulence.
 - Enabling Intelligent Vehicular Networks Through Distributed Learning in the Non-Terrestrial Networks 6G Vision.
 - Assessment of Beamforming Algorithms with Subarrayed Planar Arrays for B5G/6G LEO Non-Terrestrial Networks.
 - Continuous Time Emulation for Software-Defined Non-Terrestrial Edge Computing Networks.
- 16:30 **COFFEE BREAK**
- 17:00 **ITA NTN: Workshop on Integrated Terrestrial and Non Terrestrial Networks - Part 2:**
- Adaptive Blind Spectrum Sensing for mmWave Full Duplex Cognitive Aerial BS.
 - From Interoperability to Full Integration - the ITA NTN Project Vision.
 - Preliminary Performance Evaluation of a Satellite-To-HAP Communication Link.
 - Coexistence Analysis Between Terrestrial and Non Terrestrial Networks in the 27.5-29.5 GHz Frequency Band.
 - Architectural Analysis and Performance Evaluation of Integrated Access-Backhaul Non-Terrestrial Networks.
- 20:00 **SOCIAL DINNER**

WEDNESDAY- Oct. 4th

- 09:00 **KEYNOTE 4 - Wolfgang Utschick**
Generative Modeling for Wireless Communication Algorithms.
- 10:00 **COFFEE BREAK**
- 10:30 **MAIN TRACK - Machine Learning for Wireless Communications:**
- Dynamic Spatial Diversity via Reinforcement Learning for Ultra-Reliable Low Latency Communications.
 - Cross-Silo Horizontal Federated Learning Methods in Network Traffic Analysis.
 - Architectural Enhancement of Environmental-Aware Federated Inference Orchestration for Sustainable AI/ML Management.
 - Mobility Performance Analysis of RACH Optimization Based on Decision Tree Supervised Learning for Conditional Handover in 5G Beamformed Networks.
 - A Machine Learning Methodology for Network Anomalies Detection in O-RAN Networks.
- 12:30 **CLOSING SESSION**

SALA SOCI

MONDAY - Oct. 2nd

- 08:45 **REGISTRATION**
- 09:00 **TUTORIAL 2 - Giuseppe Araniti, Nadezhda Chukhno, Olga Chukhno**
Multicast Communications Over Emerging 6G Systems.
- 15:00 **SPECIAL SESSION 3 - Quantum Communication Networks - Part 1:**
- Quantum Network Simulators: Performance Improvement Through Operation Scheduling.
 - Study of Quantum Error Corrected Fidelity Routing Design for Quantum Networks.
 - Network Time Synchronization as a Quantum Physical Layer Service.
 - Quantum Information Spreading and Scrambling in a Distributed Quantum Network.
 - Minimal Trellises for Decoding Quantum Stabilizer Codes.
- 17:10 **MAIN TRACK - Privacy and Security:**
- Secret Key Generation for LoRaWAN Using Autoencoders for Reciprocity Enhancement.
 - Joint Controller Placement and Intrusion Detection System Enablement in Software Defined Mobile Ad Hoc Networks.
 - A Novel Secret Key Generation Algorithm for Secure Wireless Communications.
 - Strategic Status Updates in an Eavesdropping Game.
 - Generative Adversarial Networks-Based AI/ML Model Adaptive Retraining for Beyond 5G Networks.

TUESDAY- Oct. 3rd

- 09:00 **MAIN TRACK - Waveforms and codes:**
- Living in a State of Sin: Pseudo-Random Number Generators for Random Linear Network Coding.
 - Coding for Distributed Caching in High Mobility MANET.
 - Low-Complexity Adaptive PTS Technique for Reducing PAPR in OTFS Systems.
 - Variable Rate Non-Binary Coded Schemes Based on PSK-LoRa Modulation and LDPC Codes.
 - Move Away from Me! User Repulsion Under Proximity-Induced Interference in OWC Systems.
 - A Comparative Study of Linear Block Channel Codes in Macroscale Molecular Communications.
- 11:30 **MAIN TRACK - Source Coding, Post-Shannon and Semantic Communications:**
- Versatile Video Coding Performance Evaluation for Tiled 360° Videos.
 - Greedy Algorithm for Compressed Sensing over Finite Fields: Balancing Recovery and Efficiency.
 - Information-Theoretically Secret Reed-Muller Identification with Affine Designs.
 - Functional Compression for Networked Applications in Practice.
- 14:50 **MAIN TRACK - Radio Access and Resource Management - Part 1:**
- Multi-Armed Bandit for Contention Window Optimization.
 - 6G Core-Architecture - Approaches for Enhancing Flexibility Across Control and User Plane.
 - Empowering the Convergence of Wi-Fi and 5G for Future Private 6G Networks.
 - Simulation-Based Analysis of Experimental 5G NR Downlink CSI-RSRP-Based Handover Performance.
 - Direct-Conflict Resolution in Intent-Driven Autonomous Networks.
- 17:00 **SPECIAL SESSION 3 - Quantum Communication Networks - Part 2:**
- A Review of the Applications of Quantum Machine Learning in Optical Communication Systems.
 - Covert Capacity of Compound Classical-Quantum Channels.
 - Quantum Machine Learning for Controller Placement in Software Defined Networks.
 - Strategic Interaction over Age of Information on a Quantum Wiretap Channel.
 - Scaling of Entanglement-Assisted Communication in Multi-Mode Amplified Fiber Links

WEDNESDAY- Oct. 4th

- 10:30 **MAIN TRACK - Radio Access and Resource Management - Part 2:**
- Adaptive Scheduling for Downlink OFDMA in IEEE 802.11ax.
 - Retransmissions and Reordering in 6G User Plane Protocols.
 - HORA: Joint Handover and Resource Allocation on 3D Networks for Industrial IoT.
 - Massive Grant-Free Access in Cell-Free Massive MIMO Networks.
 - Incremental Joint Scheduling and Routing for 5G-TSN Integration.
 - Channel Quality Analysis for Spectrum Sharing Between IMT and PMSE Systems.