ITG Fachgruppe „Angewandte Informationstheorie”

Program of the 38. Meeting, 24.11.2022

— Innovations for 6G Communications —

Virtual Meeting
organized with
Communication and Information Theory Chair, TU Berlin
Fraunhofer Heinrich-Hertz-Institute, TU Berlin

8:45 – 8:50	Dirk Wübben, *Department of Communications Engineering, University of Bremen* **Welcome**
8:50 – 9:00	Giuseppe Caire, *Communication and Information Theory Chair, TU Berlin* Sławomir Stańczak, *Fraunhofer Heinrich-Hertz-Institute, TU Berlin* **Welcome by the host**

Session I

9:00 – 9:20	Tayyebeh Jahani Nezhad, *Communication and Information Theory Chair, TU Berlin* **Coded Computing for Distributed Machine Learning**
9:20 – 9:40	Bile Peng, *Institute for Communications Technology, TU Braunschweig* **Non-convex Optimization of Energy Efficient Power Control in Interference Networks via Machine Learning**
9:40 – 10:00	Jonas Brune, *Fraunhofer Heinrich-Hertz-Institute, TU Berlin* **Deep Unfolded Multi-Group Multicast Beamforming**
10:00 – 10:20	Nasrin Razmi, *Department of Communications Eng., University of Bremen* **On-Board Federated Learning for Satellite Constellations**
10:20 – 10:40	Varun Gowtham, Fraunhofer FOKUS Berlin **AI Assisted Management for Open Disaggregated 6G Networks**
10:40 – 11:00	**Coffee break**

Session II

11:00 – 11:20	Osman Musa, *Communication and Information Theory Chair, TU Berlin* **Message and Activity Detection for an Asynchronous Random Access Receiver using AMP**
11:20 – 11:40	Niklas Bulk, *Department of Communications Eng., University of Bremen* **A service-based NOMA Approach**
11:40 – 12:00	Patrick Agostini, *Fraunhofer Heinrich-Hertz-Institute, TU Berlin* **Approximate Bayesian inference for unsourced massive random access**
12:00 – 12:20	Rami Ezzine, *Lehrstuhl für Theoretische Informationstechnik, TU Munich* **A General Formula for Uniform Common Randomness Capacity**
12:20 – 12:40	Robert-Jeron Reifert, *Institute for Digital Communications Systems, RU Bochum* **Rate-Splitting Multiple Access: A Resilience-Enhancing Architecture for Mixed-Critical Networks**

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12:40 – 12:55	Kevin Weinberger, *Institute for Digital Communications Systems, RU Bochum* **Reconfigurable Intelligent Surface-Empowered Resilience in Cell-Free MIMO**
12:55 – 13:40	**Lunch break**

Session III

13:40 – 14:00	Cagkan Yapar, *Communication and Information Theory Chair, TU Berlin* **A new data set for radiomap prediction and TOA/RSS geolocalization**
14:00 – 14:20	Fernando Pedraza Nieto, *Communication and Information Theory Chair, TU Berlin* **Learned State-Space Models for Low Resource Beam Tracking in mmWave**
14:20 – 14:40	Diego Tuzi, *Institute of Information Technology, University of the Bundeswehr Munich* **Swarm-based antenna arrays for 6G direct satellite-to-device connectivity**
14:40 – 15:00	Jochen Fink, *Fraunhofer Heinrich-Hertz-Institute, TU Berlin* **A set-theoretic approach to MIMO detection**
15:00 – 15:20	Macel Mross, *Institute for Communications Technology, TU Braunschweig* **New Inner and Outer Bounds for Gaussian Broadcast Channels with Heterogeneous Blocklength Constraints**
15:20 – 15:35	**Coffee break**

Session IV

15:35 – 15:55	Wafa Labidi, *Lehrstuhl für Theoretische Informationstechnik, TU Munich* **Identification with Feedback and Common Randomness Generation from Gaussian Sources**
15:55 – 16:15	Johannes Rosenberger, *Institute for Communications Engineering, TU Munich* **Goal-oriented communication from the viewpoint of identification**
16:15 – 16:35	Matthias Frey, *Fraunhofer Heinrich-Hertz-Institute, TU Berlin* **Semantic Security against Side Channel Attacks with Infinite Dimensional Quantum Channels**
16:35 – 16:55	Abdalla Ibrahim, *Institute for Communications Engineering,* TU Munich **Identification: Security and undetectability**
16:55 – 17:15	Vincent Ulitzsch, *Institut für Softwaretechnik und Theoretische Informatik, TU Berlin* **Breaking the quadratic barrier: Quantum cryptanalysis of Milenage, telecommunications' cryptographic backbone**
17:15 – 17:35	Ali Gholami, *Communication and Information Theory Chair, TU Berlin* **Demand and cache private coded caching**
17:35 –	**Closing**