

Inhaltverzeichnis

Key Note

- 1 Artificial Intelligence for Mobile Communications 9
Dirk Wübben (Universität Bremen)

Sitzung 1: 5G NR and Beyond

- 2 A Study of LOS MIMO for Short-Range Sub-THz Wireless Links 10
Nebojsa Maletic, Lukasz Lopacinski, Mohamed Eissa, Jesús Gutiérrez (IHP Leibniz-Institut Frankfurt/Oder); Meysam Goodarzi, Eckhard Grass (IHP Leibniz-Institut Frankfurt/Oder und Humboldt-Universität zu Berlin)
- 3 Machine Learning Based C-DRX Configuration Optimization for 5G. 16
Philipp Bruhn, Germán Bassi (Ericsson Research)
- 4 Enabling Broadcast-like Services in Cellular Networks: System Design and Field Trials 22
Lucca Richter, Mark Hoyer, Jonas von Beöczy, Ulrich Reimers (TU Braunschweig)

Key Note

- 5 A preview of 5G-Advanced (and a look beyond) 28
Andreas Mäder (Nokia)

Sitzung 2: Sicherheit und Zuverlässigkeit für 6G

- 6 Towards the Sixth Generation (6G) Wireless Systems: Thoughts on Physical Layer Security .. 29
Christoph Lipps, Shaden Baradie, Marjan Noushifar (DFKI, Kaiserslautern); Andreas Weinand (Institute for WICON, TU Kaiserslautern); Hans Dieter Schotten (DFKI und Institute for WICON, TU Kaiserslautern)
- 7 Towards Organic 6G Networks: Virtualization and Live Migration of Core Network Functions 35
Michael Gundall, Julius Stegmann, Christopher Huber (DFKI, Kaiserslautern);
Hans Dieter Schotten (DFKI und TU Kaiserslautern)

Sitzung 3: KI-unterstützte Mobilität

- 8 A ML based empirical Model for next Cell Prediction 41
Sunil Srikantamurthy, Andreas Baumgartner, Rasika Bagwe (TU Chemnitz)
- 9 Mobility Prediction Based on Machine Learning Algorithms 46
Donglin Wang, Sanket Partani, Anjie Qiu, Hans Dieter Schotten (TU Kaiserslautern);
Qiuhe Zhou (DFKI, Kaiserslautern)

10	Signal Overhead Reduction for AI-Assisted Conditional Handover Preparation	51
	Afsaneh Gharouni, Umur Karabulut, Peter Rost, Andreas Maeder (Nokia München); Anton Enqvist (Nokia Espoo, Finnland); Hans Dieter Schotten (TU Kaiserslautern)	

Sitzung 4: WiFi Evolution

11	Estimating the Impact of Wi-Fi Hotspot Access Links on End-to-end Throughput using Machine Learning Mechanisms	57
	Constantin Eiling (zafaco GmbH, Köln); Andreas Grebe (TH Köln)	
12	Optimizing Interference Situations in IEEE 802.11-Systems using Context Information	63
	Daniel Lindenschmitt, Michael Karrenbauer, Hans Dieter Schotten (TU Kaiserslautern)	
13	A Time-of-Flight based Localization Option for 5 GHz Wireless LAN	69
	Klaus Tittelbach-Helmrich, Steffen Zeidler (IHP Leibniz-Institut Frankfurt/Oder)	

Key Note

14	5G und 6G für vertikale Industrieanwendungen	73
	Ralf Irmer (Vodafone)	

Sitzung 5: Edge Computing

15	Latency Optimized Deep Neural Network (DNNs): An Artificial Intelligence Approach at the Edge using Multiprocessor System on Chip (MPSoC)	74
	Seyed Omidsajedi, Rekha Reddy, Jianming Yi, Jan Herbst, Christoph Lipps (DFKI, Kaiserslautern); Hans Dieter Schotten (DFKI und TU Kaiserslautern)	

Sitzung 6: Mobilfunkversorgung und Low Power Wide Area Networks

16	Zur Mobilfunkversorgung in Deutschland – Ein Vergleich verschiedener Kriterien	75
	Christian Lüders (FH Südwestfalen, Meschede); Bernd Sörries (WIK, Bad Honnef)	
17	Quality of Information aware LoRaWAN for Mobile Nodes	81
	Thorben Iggena, Anas Bin Muslim, Marten Fischer, Ralf Tönjes (HS Osnabrück)	
18	Flexible Data Acquisition with LoRaWAN and MQTT for Small and Medium-sized Enterprises	87
	Marco Cimdins, Fabian John, Horst Hellbrück (TH Lübeck)	

Tutorial

19	The Role of Cognitive Autonomy in “5G and Beyond” Communications Networks	93
	Christian Mannweiler, Henning Sanneck, Stephen S. Mwanje (Nokia, München)	

Sitzung 7: Evolution der Netze

- 20 **InDeCo – Detach Communication from the Interconnection via an automatic zero-configuration, service oriented Network Handling** 99
Dennis Krummacker (DFKI, Kaiserslautern); Hans Dieter Schotten (DFKI und TU Kaiserslautern)
- 21 **Path Determination for Network slicing in Wireless Mesh Disaster Networks** 111
Alexander Seng, Ulrich Trick, Armin Lehmann (Frankfurt University of Applied Science);
Bogdan Ghita (University of Plymouth UK)

Sitzung 8: Kommunikation für autonomes Fahren

- 22 **Adaptive Modulation and Coding for Reliable Vehicular Real-Time Communication** 117
Maximilian Kloock, Maciej Mühleisen, Jose Angel Leon Calvo (Ericsson Research, Aachen);
Rudolf Mathar (RWTH Aachen)
- 23 **Traffic Safety in Future Cities using a Safety Approach based on AI and Wireless Communication** 126
Immanuel König, Marek Bachmann, Maarten Bieshaar, Stephan Schindler, Franz Lambrecht,
Klaus David, Bernhard Sick, Gerrit Hornung, Carsten Sommer, Angela Francke (Universität Kassel)
- 24 **Centralized Robotic Fleet Coordination and Control** 132
Maximilian Berndt, Dennis Krummacker, Christoph Fischer (DFKI, Kaiserslautern);
Hans Dieter Schotten (DFKI und TU Kaiserslautern)