IEEE 5G Summit Dresden

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IEEE 5G Summit Dresden

The 5G Lab Germany at TU Dresden and IEEE are jointly organizing the second IEEE 5G Summit Dresden, which is held on September 19, 2017 at International Congress Center Dresden, Germany. We are proud to be the 25th IEEE 5G Summit, a series held worldwide. We will exchange visions and ideas on future 5G technology developments, driving for making 5G a great success. 5G demonstrations by industry and 5G Lab Germany researchers are shown on an area of more than 800 sqm.

The main contributors to the Summit will be decision makers of international corporations. As leaders in defining the roadmap of 5G, the 5G Lab Germany will again bring forward a festival of ideas and display many technical demonstrators, showing how real some 5G technology is today already.

The summit will address a holistic approach on 5G system design, ranging from hardware, wireless, network & edge cloud, towards Tactile Internet applications.

The summit is built on a history of over 20 years Industry Partner Program Event and the previous IEEE 5G Summit Dresden, respectively. We are welcoming you to the second IEEE 5G Dresden Summit.

Yours faithfully,

Prof. Gerhard Fettweis
5G Lab Germany
Coordinator

Prof. Frank Fitzek
5G Lab Germany
Coordinator
5G Summit Morning Agenda

08:00 REGISTRATION AND WELCOME COFFEE

08:45 WELCOME ADDRESSES

09:00 PLENARY KEYNOTE // 5G Lab Germany Vision
   Prof. Frank Fitzek
   Prof. Gerhard Fettweis
   Coordinators // 5G Lab Germany

09:30 PLENARY KEYNOTE // 5G – Challenges and Opportunities for Leading Telcos
   Dr. Hannes Ametsreiter
   CEO // Vodafone Germany

09:50 PLENARY KEYNOTE // Realizing 5G through Cross-Industry R&D Collaboration Activities
   Stefan Koetz
   Chairman of the Management Board // Ericsson

10:10 PLENARY KEYNOTE // 5G Standardization in 3GP
   Balazs Bertenyi
   Chairman 3GPP RAN // Nokia

10:30 COFFEE BREAK

11:00 PARALLEL TRACKS // Morning Sessions

13:00 LUNCH & EXHIBITION

5G Summit Afternoon Agenda

14:00 PARALLEL TRACKS // Afternoon Sessions

16:00 COFFEE BREAK & EXHIBITION

17:30 CLOSING SESSION & PANEL DISCUSSION

17:30 PLENARY KEYNOTE // Gearing Up for 5G
   Dr. Bruno Jacobfeuerborn
   CTO // Deutsche Telekom

17:50 PANEL DISCUSSION
   Dr. Bruno Jacobfeuerborn
   CTO // Deutsche Telekom
   Dr. Eric Kuisch
   CTO // Vodafone Germany
   Dr. Branimir Stantchev
   Head of Spectrum for Wireless Broadband // European Commission
   Andreas Kwoczek
   Leitung Ortung und Kommunikation // Volkswagen
   Prof. Sachin Katti
   Associate Professor // Stanford University

19:30 NETWORKING SESSION INCL. DINNER //
   until Midnight
11:00 KEYNOTE // Wireless for 5G and Beyond
Prof. Gerhard Fettweis
Coordinator // 5G Lab Germany + Vodafone Chair Mobile Communications Systems // TU Dresden

11:20 PROJECTS PRESENTED BY TRACK MEMBERS //
Information and System Theory - The Guide to Optimal Information Transmission and Processing
Dr. Meik Dörpinghaus
The Gain of Joint Decoding for Multi-Connectivity
Albrecht Wolf
Analytic Evaluation of the Achievable Rate of Bandlimited Coarsely Quantized Channels
Sandra Bender

11:40 KEYNOTE // Massive Antenna System for Mobile Broadband and its Application
Naoto Ishii
Senior Researcher // NEC

12:00 PROJECTS PRESENTED BY TRACK MEMBERS //
Mobile Communication in the mm-Wave Regime
Dr. Wolfgang Rave
100+Gb/s Wireless Backhaul
Xiaohang Song
Pilot-Assisted Hybrid Beamforming Algorithm for Millimeter Wave Links
Hsiao-Lan Chiang
Experimental Validation of Resource Efficient Beamalignment Algorithms
Tobias Kadur
Advanced Multicarrier Waveforms for Future Mobile Communication
Dr. Dan Zhang
Iterative MIMO Detection for Generalized Frequency Division Multiplexing
Maximilian Matthé

12:31 PROJECTS PRESENTED BY TRACK MEMBERS //
Orthogonal Pilot Design for Channel Estimation in Non-Orthogonal Systems
Shahab Ehsan Far
GFDM for High Throughput Wireless Communication
Ahmad Nimr

12:40 KEYNOTE // Massive Mimo, Network Slicing, and Artificial Intelligence – The Next Generation Technology for Ran Design
Dr. Jens Voigt
RF Engineering Manager // Amdocs

13:00 LUNCH & EXHIBITION

14:00 KEYNOTE // Accelerating 5G Design and Test with a Platform Approach
Eric Starkloff
EVP // National Instruments

14:20 PROJECTS PRESENTED BY TRACK MEMBERS //
New Machine Learning Approaches for IOT
Dr. Janis Nötzel

14:40 PROJECTS PRESENTED BY TRACK MEMBERS //
Heterogeneous Future Wireless Systems - Modelling and Optimization
Dr. Meryem Simsek
Modeling and Improving Buffered Video Streaming QoE in Interference-Limited Cellular Networks
Philipp Schulz
Statistical Multiplexing Gain in Fronthaul Networks
Jay Chaudhary
Applying Reliability Theory for Future Wireless Communication Networks
Tom Hößler
Wireless Track Agenda

15:00 KEYNOTE // Strategies to Support Emerging Market Use Cases in 5G
   Dr. Fisseha Mekuria
   Chief Research Scientist // Council for Scientific & Industrial Research (CSIR) South Africa

15:20 PROJECTS PRESENTED BY TRACK MEMBERS //
   Resilience and Real-time in Mobile Communications
   Dr. Norman Franchi
   Mobility Management in Next Generation Wifi
   Dr. Ali Haider Mahdi
   Spectrum Sensing Networks for Efficient Coexistence and Resource Management
   Dr. Kedar Kulkarni
   Methods of Cooperative Relaying and Decentralized Congestion Control for Improving Vehicular Networks
   Sebastian Kühlmorgen

15:40 KEYNOTE // 5G: Turn Visions into Reality
   Peter Riedel
   COO // Rohde & Schwarz

16:00 COFFEE BREAK & EXHIBITION

17:30 CLOSING SESSION & PANEL DISCUSSION
Network & Cloud Track Agenda

Network & Cloud Track
led by Prof. Fitzek

11:00 KEYNOTE // ONAP: An Open Global Network Automation Platform
Chris Rice
Senior Vice President AT&T Labs // AT&T

11:20 KEYNOTE // Introduction to 5G, Network Coding and Cloud
Prof. Frank Fitzek
Coordinator // 5G Lab Germany + ComNets // TU Dresden

11:40 PROJECTS PRESENTED BY TRACK MEMBERS //
Implementing Mobile Edge Clouds - The Good, The Bad and The Ugly
Sreekrishna Pandi
Joint Compressed Sensing & Network Coding in Finite Fields
Maroua Taghouti
What Does Distributed and Agile Edge Storage Has to Teach to Distributed and Agile Edge Computing?
Juan Cabrera
Meshmerize - Making Wireless Mesh Great Again!
Simon Wunderlich

12:00 KEYNOTE // Wireless Communication Enters the Next Generation towards Seamless Global Connectivity
Dr. Josef Hausner
Head of Next Gen. Wireless Arch. // Intel

12:20 PROJECTS PRESENTED BY TRACK MEMBERS //
Getting C2x Communication on the Road – In-Vehicle Measurements with An 802.11P Testbed
Sebastian Rettlinger
Cooperation Potential in Meshed Vehicular Networks
Christopher Lehmann
Enhanced Multipath with Network Coding
Frank Wilhelm
Mobile Edge Cloud: Orchestration Challenges
Alexander Kropp

12:40 PROJECTS PRESENTED BY TRACK MEMBERS //
L4 for 5G – The Case for Using Microhypervisors as Software-Base for 5G
Prof. Hermann Härting

13:00 LUNCH & EXHIBITION

14:00 KEYNOTE // Mobile Communications for the “Digitalization Century”
Dr. Walter Weigel
VP Huawei European Research Institute // Huawei

14:20 PROJECTS PRESENTED BY TRACK MEMBERS //
Quantitative Analysis for 5G
Prof. Christel Baier

14:40 KEYNOTE // Facebook Connectivity
Jin Bains
Head of the Connectivity Lab // Facebook

15:00 PROJECTS PRESENTED BY TRACK MEMBERS //
Privacy and Security in 5G
Prof. Thorsten Strufe

15:20 PROJECTS PRESENTED BY TRACK MEMBERS //
Secure Edge Computing
Prof. Christof Fetzer

15:40 KEYNOTE // Edge & Cloud Evolution to 5G
Marie-Paule Odini
Director // Hewlett Packard Enterprise

16:00 COFFEE BREAK & EXHIBITION

17:30 CLOSING SESSION & PANEL DISCUSSION
Network & Cloud Track

Supporters

Network & Cloud Track
led by Prof. Fitzek

Hardware Track

Agenda

Hardware Track
led by Prof. Plettemeier

11:00 KEYNOTE // Fast and Energy-efficient Integrated Circuits for 5G
Prof. Frank Ellinger
Chair for Circuit Design and Network Theory // TU Dresden

11:20 KEYNOTE // 0.4V ULP Design Enablement for 5G SoCs Based on GLOBALFOUNDRIES’ 22FDX® Technology
Holger Eisenreich
CEO // Racyics

11:40 KEYNOTE // Antenna Switching Concepts for Adaptive 5G Systems
Prof. Dirk Plettemeier
Chair for RF and Photonics Engineering // TU Dresden

11:45 PROJECTS PRESENTED BY TRACK MEMBERS // mm-Wave Antennas and On-Chip Characterization
Bernhard Klein
RoF and FTTA Concepts for 5G
Dr. Zaid Al-Husseini
Body Area Communication in the 5G Era
Dr. Qiong Wang

12:00 PROJECTS PRESENTED BY TRACK MEMBERS // Chip-Package Co-Design and Electro-Optical Integration for Advanced Packaging
Dr. Karsten Meier, Dr. Krzysztof Nieweglowski

12:20 KEYNOTE // Millimeter-wave Packaging and System Integration for 5G
Dr. Ivan Ndip
Department Leader // Fraunhofer IZM

12:40 KEYNOTE // 5G Thriving by FDSOI
Dr. Rutger Wijburg
SVP & GM Fab 1 // Globalfoundries
Hardware Track Agenda

13:00 LUNCH & EXHIBITION

14:00 KEYNOTE // 5G Vision with Multi-gigabit Wireless Communications at the Network Edge
Mohammad Akhter
Director, Technical Staff Architect // IDT

14:20 PROJECTS PRESENTED BY TRACK MEMBERS //
Design And Optimization of 5G Signal Processing Systems
Dr. Emil Matus
Adaptive Memory Pooling in Heterogeneous MPSoCs
Friedrich Pauls
Resilient Network-on-Chip (NoC) for Many Core Systems-on-Chip
Sadia Moriam
Accelerating Database Applications in MPSoCs
Sebastian Haas

14:40 PROJECTS PRESENTED BY TRACK MEMBERS //
Prospects and Challenges for Integrated Photonic Devices in the 5G Era
Prof. Kambiz Jamshidi

15:00 KEYNOTE // Defending the Edge: Implementing Advanced Security Features in Power-Constrained Devices
Dr. Yankin Tanurhan
VP Engineering, Solutions Group // Synopsys Inc.

15:20 PROJECTS PRESENTED BY TRACK MEMBERS //
Chip Design for Energy Efficient 5G Systems and Machine Learning
Dr. Sebastian Höppner

15:40 KEYNOTE // 3GPP’s Nb-IoT Standard Goes Live – The Beginning of 5G’s Massive IoT Aspiration
Dr. Matthias Weiss
CEO // Commsolid

16:00 COFFEE BREAK & EXHIBITION

17:30 CLOSING SESSION & PANEL DISCUSSION
Application Track Agenda

11:00 PROJECTS PRESENTED BY TRACK MEMBERS //
Silent Speech Technology
Prof. Peter Birkholz

11:20 KEYNOTE // Challenges and Trends in Construction Machinery Industry – Viewpoint of an OEM
Dr. Wolfgang Burget
Managing Director // Liebherr-Emtec

11:40 PROJECTS PRESENTED BY TRACK MEMBERS //
Human-Robot Interaction with Wearables
Maria Piechnick

12:00 KEYNOTE // Next Generation Robotics: Interaction, Connectivity & Learning
Prof. Sami Haddadin
Director // Institute of Automatic Control // Leibniz Universität Hannover

12:20 APPLICATION TRACK PANEL //
Thorsten Hehn
5G Leader // VW

Prof. Sami Haddadin
Director // Institute of Automatic Control // Leibniz Universität Hannover

Dr. Wolfgang Burget
Managing Director // Liebherr-Emtec

John Cioffi
CEO // Assia

13:00 LUNCH & EXHIBITION

14:00 KEYNOTE // Autonomous Driving and Challenges
Prof. Ercan Altinsoy
Chair of Audio & Haptic Engineering // TU Dresden

14:20 KEYNOTE // On the Way towards Safe and Autonomous Driving – How Can 5G Help to Achieve this Goal
Prof. Lars Hannawald
CEO // VUFO GmbH

14:40 KEYNOTE // Autonomous Driving and the 5G Connected Car
Christian Wolf
VP AIG // IDT

15:00 PROJECTS PRESENTED BY TRACK MEMBERS //
5G: An Added-Value Infrastructure in Process Industries?
Markus Graube

15:20 PROJECTS PRESENTED BY TRACK MEMBERS //
HPC Data Analytics: Flexible Computing Environments with Highest Performance
Prof. Wolfgang Nagel

15:40 KEYNOTE // First NB-IoT Applications – Promises, Challenges and Limitations
Dr. Matthias Stege
CEO // Exelonix

16:00 COFFEE BREAK & EXHIBITION

17:30 CLOSING SESSION & PANEL DISCUSSION
Application Track Supporters

Application Track
led by Prof. Altinsoy

→ Application Track

BAYER

KORAMIS

NAMUR

SAMSON

SIEMENS

5G Mission

Understand and Drive the Holistic Requirements and Solutions of 5G

Deliver Technology Breakthrough

Be Opinion Leader in Forming 5G

Deliver Lab Examples and Test Beds

Business Innovation Through Technology Transfer and Cooperation

Simple One-stop Shop for Complex 5G Research Topics

5G Lab
GERMANY
Welcome Coffee .......... Foyer .................. Hall Level
Plenary Sessions .......... Hall 3 .................. Hall Level
Exhibition ................. Large Hall ................ Hall Level
Network & Cloud Track .... Hall 1 .................. Hall Level
Hardware Track .......... Hall 2 .................. Hall Level
Wireless Track .......... Hall 3 .................. Hall Level
Application Track .......... Hall 4 .................. Hall Level
Lunch .................. Hall 5 .................. Hall Level
Networking Session incl. Dinner .......... Terrace Level

CO-SPONSORS

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1. TU Dresden // Vodafone Chair Mobile Communications Systems (MCS) // Bringing mmW to Cellular: Real-Time Access Link with Mobility
2. TU Dresden // Vodafone Chair MCS (HAEC) // High-speed Wireless Communications over 300 GHz
3. TU Dresden // Vodafone Chair MCS // Multi-Connectivity Handover Simulator for URLLC
4. TU Dresden // Vodafone Chair MCS // Resource Allocation for URLLC in Unlicensed Frequencies
6. Rohde & Schwarz // 5G OTA Testing at 28 GHz
7. TU Dresden // Vodafone Chair MCS // Flexible 5G Transceiver
8. TU Dresden // Vodafone Chair MCS // Tomahawk4: A Heterogeneous MPSoC for 5G Data Processing Applications
9. TU Dresden // Vodafone Chair MCS // 802.11ac based Dual Connectivity Demo
10. TU Dresden // Vodafone Chair MCS // V2X: Improving Intersection Safety with Cellular - V2X Communication
11. Racyics // 22FDX(R) ULV Design Enablement
12. IDT // 5G mmWave Demonstration
13. Saxony // Future Mixed-Reality Real-Time Applications
14. TU Dresden // Chair of Privacy and Data Security // Efficient, Intuitive and Secure Networks for Future Smart Systems
15. TU Dresden // Chair of Privacy and Data Security // Dynamic & live network micro-segmentation to seamlessly confine adversarial connections
16. TU Dresden // Deutsche Telekom Chair of Communication Networks (ComNets) // 5G Connected Cars
17. Franka // Music Demo
18. TU Dresden // Deutsche Telekom Chair ComNets // Network Coding in IPTV
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25. TU Dresden // Deutsche Telekom Chair ComNets // Chocolate Cloud shooting the Cloud: Advantages of RLNC over traditional block codes for distributed storage systems
27. TU Dresden // Deutsche Telekom Chair ComNets // HAEC - Playground: Highly Adaptive Energy-Efficient Computing
28. New York University // An Emulator for 5G mmWave Systems