PROGRAM
All times are given in Central European Time (CET)

Day 1 – Monday, July 4th

09:45 – 10:00
Welcome Speech by IWMTS General Chair Thomas Kaiser

Session 1 – Terahertz Measurements and Performance
Session Chair: Andreas Czylwik
10:00 – 10:30
Measurements at 300 GHz in Eavesdropping Scenarios and First Results
Christoph Herold, Tobias Doeker, Thomas Künner

10:30 – 11:00
Iteratively Reweighted Nuclear Norm Based Distortion Compensation for THz-TDS
Lukas Benedikt Schäfer, Udaya Sampath K. Perera
Miriya Thanthrige, Aydin Sezgin

11:00 – 11:30
Optimization of the Trade-Off Between Spectral Efficiency and Energy Efficiency in the Sub-Terahertz Context
Mohamad Younes, Yves Louet

11:30 – 12:00
Accuracy Limits of Chipless RFID Based Indoor Localization System at THz Band
Deeb A. D. Tubail, Mohammed El-Abisi, Salama Said Ikki, Thomas Kaiser

Session 2 – TUTORIAL: “On-Chip Antennas”
Session Chair: Daniel Erni
10:00 – 10:40
The Last Barrier to True RF System-on-Chip
Atif Shamim

10:40 – 11:20
On-chip antenna designs based on the metamaterial and metasurfaces for millimeter-waves and terahertz spectrum
Mohammad Alibakhshikenari

11:20 – 12:00
Understanding planar mm-wave antennas - from modeling to measurements
Benedikt Sievert

12:00 – 13:30
Lunch Break

Afternoon Session 1 – Keynote Talks
13:30 – 14:30
Terahertz Antennas for 6G and Beyond - Design, Prototyping, and Characterization
Speaker: Chi-Hou Chan
Moderator: Ilona Rolfes

14:30 – 14:45
Coffee Break

14:45 – 15:45
What do future THz Communications Systems perform: In Perspective of Implementation and Energy Efficiency
Speaker: Ho-Jin Song
Moderator: Aydin Sezgin

15:45 – 16:00
Coffee Break

16:00 – 17:00
The journey towards 6G: The 6GEM Hub perspective
Speaker: Aydin Sezgin
Moderator: Thomas Kaiser

17:30 – 20:00
Dinner
**Day 2 – Tuesday, July 5th**

**Session 3 – Terahertz Electronics**  
**Session Chair: Werner Prost**

10:00 – 10:30
- Epitaxial Structure Simulation Study of In$_{0.53}$Ga$_{0.47}$As/AlAs Double-Barrier Resonant Tunnelling Diodes  
  Davide Cimbri, Jue Wang, Edward Wasige

10:30 – 11:00
- In$_{0.53}$Ga$_{0.47}$As/AlAs Double-Barrier Resonant Tunnelling Diodes with High-Power Performance in the Low-Terahertz Band  
  Davide Cimbri, Razvan Morariu, Afesomeh Ofiare, Edward Wasige

11:00 – 11:30
- Transfer-Substrate Process for InP RTD-Oscillator Characterization  
  Robin Kress, Enes Mutlu, Tobias Kubiczek, Jonas Kossmann, Christian Preuss, Thorsten Schultze, Jan C. Balzer, Werner Prost, Nils Weimann

11:30 – 12:00
- Monolithic N+-InGaAs Thin Film Resistor From DC Up to 0.5 THz  
  Simone Clochiatti, Paraya Yavari, Robin Schmidt, Patrick Haeuser, Enes Mutlu, Christian Preuss, Werner Prost, Nils Weimann

12:00 – 13:30

**Session 4 – Terahertz Identification and Classification**  
**Session Chair: Jan Balzer**

10:00 – 10:30
- The Identification of Spectral Signatures in Randomized (Sub-) Surface Material Systems  
  Kevin Jerbic, Jan Taro Svejda, Benedikt Sievert, Xuan Liu, Kevin Kolpatzec, Marvin Degen, Andreas Rennings, Andreas Czylik, Jan C. Balzer, Daniel Erni

10:30 – 11:00
- On Scattering of Finite-Size and Finite-Volume One-Dimensional Photonic Crystal Resonator Tag for THz Identification  
  Ali Alhaj Abbas, Yamen Zantah, Thomas Kaiser

11:00 – 11:30
- Fusion of Optical and Millimeter Wave SAR Sensing for Object Recognition in Indoor Environment  
  Aman Batra, Tobias Hark, Nils Pohl, Ilona Rolfe, Michael Wiemeler, Diana Göhringer, Thomas Kaiser, Jan Barowski

11:30 – 12:00
- Through-Obstacle Readout of Chipless Sub-Terahertz Frequency-Coded Indoor Landmarks  
  Jesús Sánchez-Pastor, Martin Schüßler, Rolf Jakoby, Alejandro Jiménez-Sáez

13:30 – 14:00

**Afternoon Session 2 – Keynote Talks**

- **Terahertz express analyser for rapid detection of SARS-CoV-2**  
  Speaker: Nikhil Ponon  
  **Moderator: Jan Balzer**

14:00 – 14:45
- **Coffee Break**

14:45 – 15:45
- Using Terahertz Microspectroscopy to Measure Biomolecular Dynamics  
  Speaker: Andrea Markelz  
  **Moderator: Daniel Erni**

15:45 – 16:00

**Coffee Break**

16:00 – 17:00

**Panel Session – “Will Mobile THz Systems Revolutionize Mobile Medical Diagnosis?”**  
Panelists: Andrea Markelz, Daniel Erni, Karsten Seidl, Nikhil Ponon  
**Moderator: Thomas Kaiser**

17:30 – 21:00
**Dinner (Barbeque)**
Session 5 – Terahertz Imaging  
Session Chair: Andreas Stöhr

- 08:30 – 09:00  
  Fourier Imaging Based on Sub-Harmonic Detection at 600 GHz  
  Hui Yuan, Alvydas Lisauskas, Meng Zhang, Qamar ul Islam, Daniel Erni, Hartmut G. Roskos

- 09:00 – 09:30  
  Photonic Non-Invasive mmW and THz Imaging for Non-Melanoma Skin Cancer Detection  
  Israa Mohammad, Vitaly Rymanov, Sumer Makhlouf, Ingo Stoffels, Joachim Klode, Xiao Tang, Muhsin Ali, Andreas Stöhr

- 09:30 – 10:00  
  Hardware/Software Co-Design of 2D THz SAR Imaging for FPGA-Based Systems-On-Chip  
  Ahmed Kamaledin, Ensieh Aliagha, Aman Batra, Michael Wiemeler, Thomas Kaiser, Diana Goehringer

Session 6 – Terahertz Components  
Session Chair: Nils Weimann

- 08:30 – 09:00  
  A 420 GHz Dual-Tone Phase-Detection-Based Thickness Sensor in 40 nm CMOS Technology  
  Dragan Simic, Patrick Reynaert

- 09:00 – 09:30  
  TCAD Simulation of InP DHBTs With an In53.2Ga46.8As Base and InGaAsP Collector Grading  
  Konrad Mueller, Alexander Possberg, Nils Weimann, Hao Zhang, Malte Coers

- 09:30 – 10:00  
  THz Phase Shifter Based on MEMS-Actuated Slot Waveguides  
  Lisa Schmitt, Jan Barowski, Martin Hoffmann

10:00 – 10:15  
Coffee Break

Session 7 – Invited Session  
Microwaves and Millimeter Waves for Glucose Sensing  
Session Chair: Victor Pikov

- 10:15 – 10:45  
  Tissue absorption at MWs and MMWs  
  Maxim Zhadobov

- 10:45 – 11:15  
  THz spectroscopy of glucose-bound water  
  Olga Cherkasova

- 11:15 – 11:45  
  Water as biomarker of glucose concentration in blood  
  Yuri Feldman

- 11:45 – 12:15  
  The glucoWISE technology  
  Helena Cano Garcia

- 12:15 – 12:45  
  Device for noninvasive dielectric spectroscopy to measure multiple blood constituents  
  John Hodges

Session 8 – Terahertz Beamforming  
Session Chair: Andreas Czylwik

- 10:15 – 10:45  
  Beam Steering Leaky-Wave Antenna Based on SpooT  
  Surface Plasmon Polaritons for W-Band Applications  
  Ehsan Farokhipour, Peng-Yuan Wang, Nader Komjani, Daniel Erni

- 10:45 – 11:15  
  An Electronically Beam Steering Array Based on Liquid Crystals Operating in W-Band  
  Peng-Yuan Wang, Andreas Rennings, Daniel Erni

- 11:15 – 11:45  
  Proposal for A Large Scale 1-D Subharmonic Coherent Detector Array in the 600 GHz Band  
  Meng Zhang, Peng-Yuan Wang, Hui Yuan, Hartmut G. Roskos, Andreas Rennings, Daniel Erni

- 11:45 – 12:15  
  Non-Overlapped Subarrays Based Wideband Delay-Phase Hybrid Beamforming  
  Akram Najjar, Mohammed El-Absi, Thomas Kaiser

- 12:15 – 12:45  
  Portable Device-Centric Human Postures for Modeling Reliable THz Channels  
  Andreas Prokscha, Fawad Sheikh, Dien Lessy, Thomas Kaiser

End of IWMTS 2022