



Second Towards TeraHertz Communications Workshop

An ICT Beyond 5G Cluster Workshop

Thursday 7 March 2019 8.30 am

*Albert Borschette Congress Centre (CCAB)
Rue Froissart 36, 1040 Brussels, Belgium*

The ICT Beyond 5G Cluster will host the 2nd Towards THz Communications Workshop with the support of the European Commission.

Future mobile networks and connectivity systems will require ultra-high speed and seamless performance for a huge number of connected devices and applications. Higher frequencies, and more specifically the TeraHertz range (0.1 THz – 10 THz) is seen as one of the promising way to address these requirements. But today, many fundamental scientific and technological challenges are still to be explored and overcome.

At the same time, allocation of the bands for THz communication is not yet done. It is thus also important to start, as early as possible, the identification of candidate bands which will be optimal from a technological point of view, while at the same time answering to the needs in the most promising and highly desirable verticals applications and use cases.

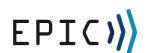
Scope

This 2nd workshop aims at bringing together key actors currently working on, or having interest, in THz communications in order to explore future R&I plans for the period beyond 2020. The main goal of the workshop will be to have an overview of the current state of the art of the research in this area, to discuss the main challenges still to be explored, to highlight key research directions for future R&I actions and to share opinions on the foreseen frequency bands which could be good candidate to be supported by the EU in the global allocation exercise.

The workshop will be concluded by a panel session with the plenary speakers to summarise ideas and provide an input to EC for future calls.

Registration free of charge at

<https://www.eventbrite.ie/e/2nd-towards-terahertz-communication-workshop-tickets-51878969394>



WORTECS





Second Towards TeraHertz Communications Workshop

An ICT-09-2017 Cluster Workshop

Programme

Plenary Session: Toward THz Communications

Plenary Chair Claudio Paoloni, Lancaster University, UK

Introduction to the ICT-09-2017 Cluster

Dr. Alan Davy; Waterford Institute of Technology, Ireland

EC perspective on the challenges of THz communications

European Commission

European flagship on THz science and technology-TERAFLAG

Dr.-Ing Yaning Zou; TU Dresden, Germany

Recent Japanese developments on THz communications

Prof. Tadao Nagatsuma; Osaka University, Japan

Terahertz wireless communications: a photonics perspective

Prof. Daniel Mittleman; Brown University, USA

Session 1: THz Communication Electronic and Photonic Components and Systems

Session Chair Angeliki Alexiou, University of Piraeus, Greece

Photonic approaches to THz communications

Prof. Guillaume Ducournau; University of Lille, France

ULTRAWAVE – Technology for D-band Point to multipoint distribution

Prof. Claudio Paoloni; University of Lancaster, UK

DREAM – D-band Radio solution Enabling up to 100 Gbps reconfigurable Approach for Meshed beyond 5G networks

Dr. Vladimir Ermolov; VTT, Finland

TERAPOD – Terahertz-based ultra-high bandwidth wireless access networks

Prof. Cyril Renaud; University College London, UK

THz micromachining – enabling the large-scale exploitation of the THz frequency spectrum?

Prof. Joachim Oberhammer; KTH Royal Institute of Technology, Sweden

Session 2: THz Communication Networks, Protocols and Architectures and User Cases

Session Chair Thomas Kürner, TU Braunschweig, Germany

Opening the THz-spectrum for communication for 5G and beyond

Dr. Wolfgang Tempel; Nokia Bell Labs, Germany

EPIC – Enabling Practical Wireless Tb/s Communications with Next Generation Channel Coding

Dr. Onur Sahin; InterDigital, UK

TERRANOVA – Terabit/s Wireless Connectivity by TeraHertz innovative technologies to deliver Optical Network Quality of Experience in Systems beyond 5G

Prof. Angeliki Alexiou; University of Piraeus, Greece

THz Communication Networks, Protocols and Architectures and User Cases

Dr. Yinggang Li; Ericsson, Sweden

Session 3: THz Communication Spectrum and Physical Layer

Session Chair Onur Sahin, InterDigital, UK

Standards aspects of THz communications

Prof. Dr.-Ing. Thomas Kürner; TU Braunschweig, Germany

WORTECS – Wireless Optical/Radio Tera-bit CommunicationS

Mr. Olivier Bouchet; Orange, France

End user perspective on THz communication spectrum and physical layer

Dr. Petr Jurčík; Deutsche Telekom, Czech Republic



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Organising Committee

General Chairs: Claudio Paoloni, Lancaster University, UK
Alan Davy, Waterford Institute of Technology, Ireland

Rapporteur: Bruce Napier, Vivid

ICT Beyond 5G Cluster Steering Committee

Alan Davy	Waterford Institute of Technology, Ireland
Angeliki Alexiou	University of Piraeus, Greece
Bruce Napier	Vivid Components Ltd., Germany
Onur Sahin	InterDigital, UK
Mir Ghoraishi	pureLiFi, UK
Vladimir Ermolov	VTT Technical Research Centre, Finland
Claudio Paoloni	Lancaster University, UK
Thomas Kürner	TU Braunschweig, Germany

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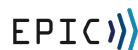
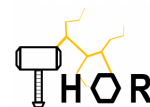
Six projects from the H2020 call ICT-09-2017 and one project from the call EU-Japan have been funded:

DREAM	www.h2020-dream.eu
EPIC	epic-h2020.eu
TERAPOD	terapod-project.eu
TERRANOVA	ict-terranova.eu
ULTRAWAVE	ultrawave2020.eu
WORTECS	wortecs.eurestools.eu
THOR	thorproject.eu

These seven projects have agreed to form an unofficial cluster in order to try to coordinate some dissemination activities to maximise the impact of the projects.

Acknowledgement

The ICT Beyond 5G Cluster is grateful to the European Commission for the great support of the workshop.



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