

6. URSI Austria Commission Meeting – Graz

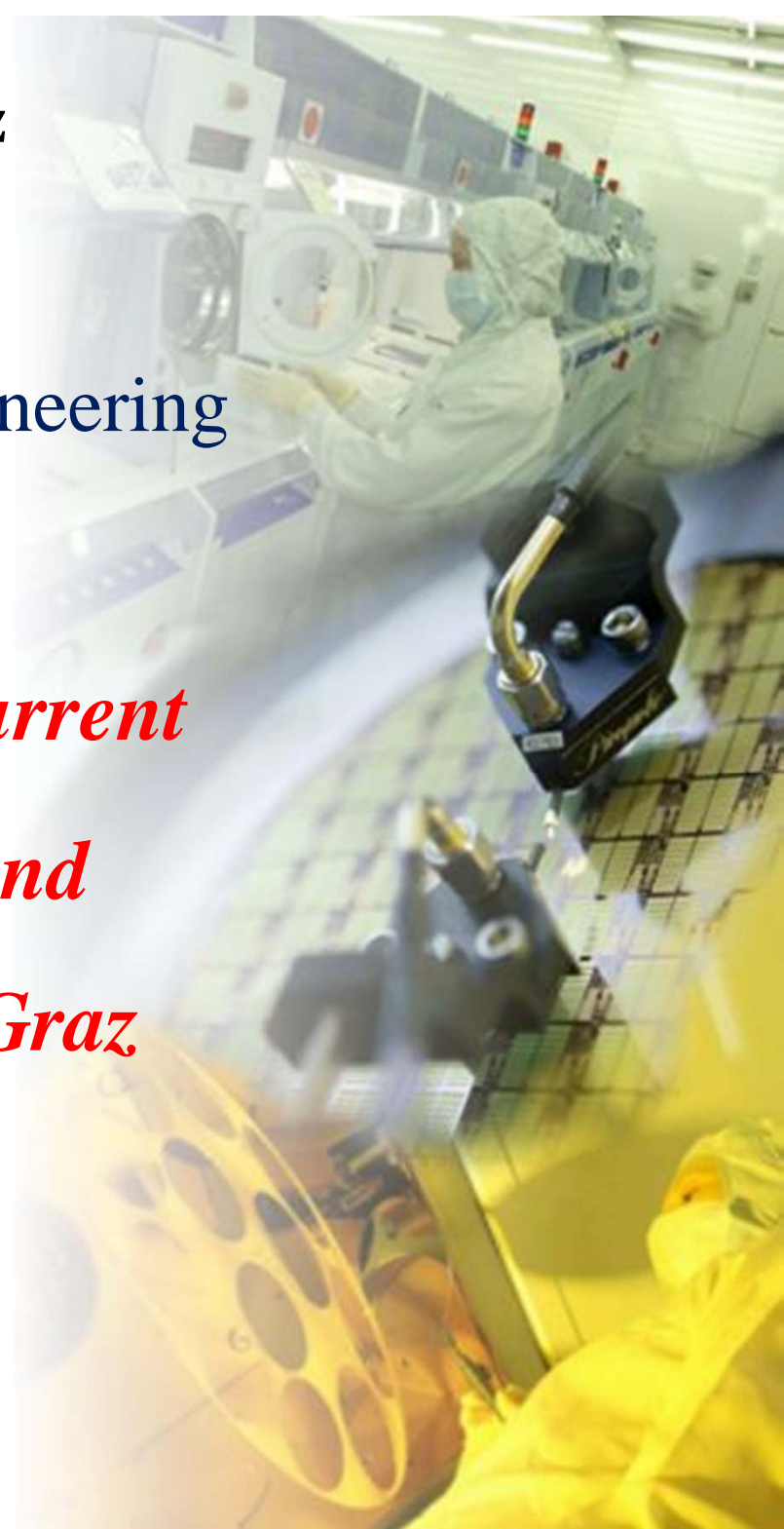
11. 1. 2018, University of Graz

Institute for Microwave and Photonic Engineering

***URSI – B, Fields and Waves: Current
activities in Microwave Photonics and
Broadband-Communications at TU Graz***

URSI - B

Austria





IHF, Currently involved in 3 COST Actions related to Photonics and Optical Communications

6. URSI Austria Commission Meeting – Graz

Contributions of TU Graz in **COST Actions** MP1401, CA 15127 (RECODIS) and CA 16220, **ESA project** and national project **TRITON**
Conferences organised at IHF

Erich Leitgeb

URSI Com.- B



COST Actions: IC1101 (finished in 2016)

Contributions of the OptiKom_IHF_TUG at
Institute for Microwave and Photonic Engineering TU
Graz in international projects, URSI Austria and to
Photonics Austria

**COST Actions: Currently MP1401, CA 15127
(RECODIS) and CA 16220 (Kick-Off in 11/2017)**

.... URSI – B “Fields and Waves”



EUROPEAN COOPERATION IN SCIENCE AND TECHNOLOGY

URSI – Com. B



Contributions to URSI – B “Fields and Waves”

ESA project Hybrid-PDT WP300 and 400

TRITON (started in 5/2017)

and IEEE Tech. Co-Spons. conferences
organised at IHF: INMMIC 2017 (April 2017)
and CoBCom 2018 in July 2018

Current COST MP 1401

COST Action MP 1401: Advanced fibre laser and coherent source as tools for society, manufacturing and lifescience <http://www.aflaser.eu/what-is-aflaser/>

WG1: Materials, Fibres, Components and Technology

WG 2: New laser and amplifier devices

WG 3: Applications

last meeting in Jena 9 / 2017 next in Vienna 2 / 2018

In 2017, summer school in Prague (4 students from TU Graz participated)

Current COST CA 15127 (RECODIS)

COST Action CA 15127 : Resilient communication services protecting end-user applications from disaster-based failures (RECODIS) <http://www.cost-recodis.eu/>

WG1: Large-scale natural disasters

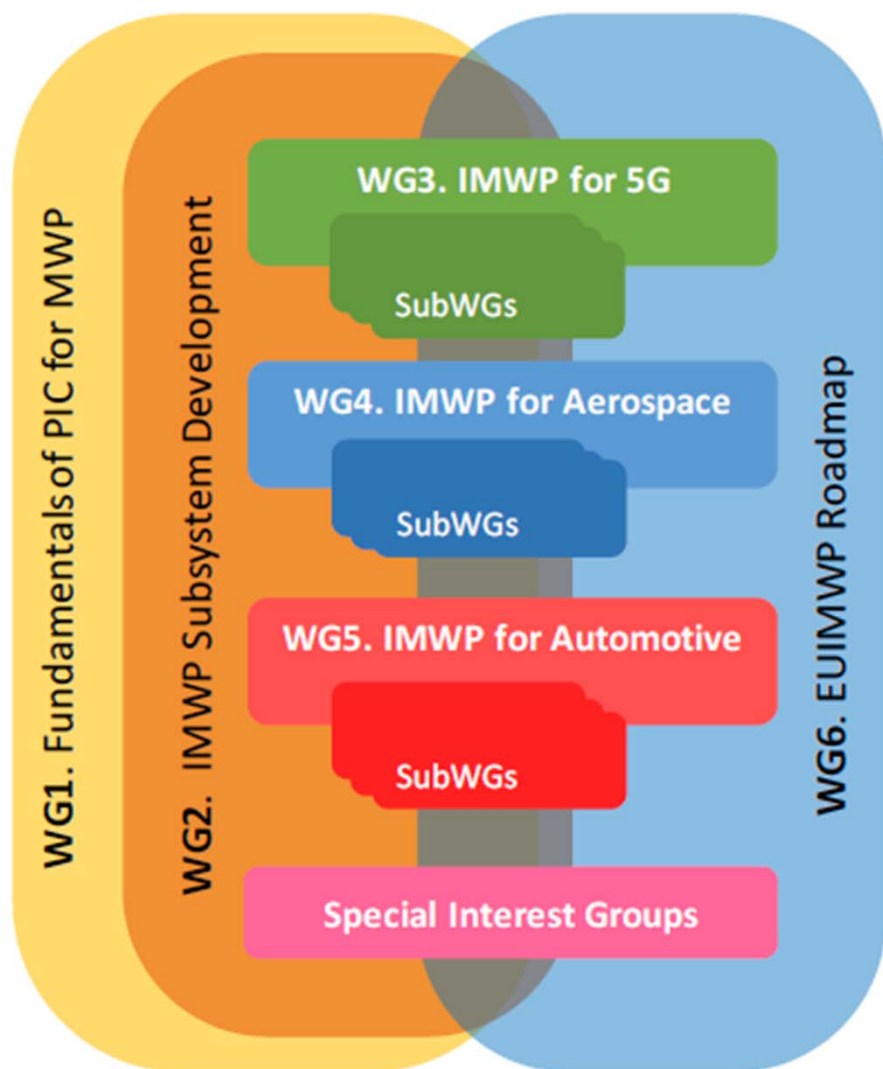
WG 2: Weather-based disruptions

WG 3: Technology-related disasters

WG4: Malicious human activities

next meeting in Portugal 1/ 2018

Each WG focuses on different classes of challenge to communication networks; **Book planned** as final document; **3 STSM's** were carried out by PhD students of TU Graz, **1 STSM** was hosted by TU Graz



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COST CA 16220

European Network for High Performance Integrated Microwave Photonics

...well suited to the national
project TRITON

and related to COST MP 1401

Next meeting 2 / 2018

National Research project Triton

“Heterogeneous Integration of Millimeter-Wave Technology”

- Program: Production of the Future
- Funded by:
 - Austrian Research Promotion Agency (FFG)
 - Austrian Ministry for Transport, Innovation and Technology (bmvit)
- Duration: May 2017 – April 2020
- Partners:
 - Austrian Institute of Technology – Lead partner
 - Vienna University of Technology
 - Infineon Technologies AG
 - ams AG
- Overall project volume: €2,7 Mio



TECHNISCHE
UNIVERSITÄT
WIEN
Vienna University of Technology

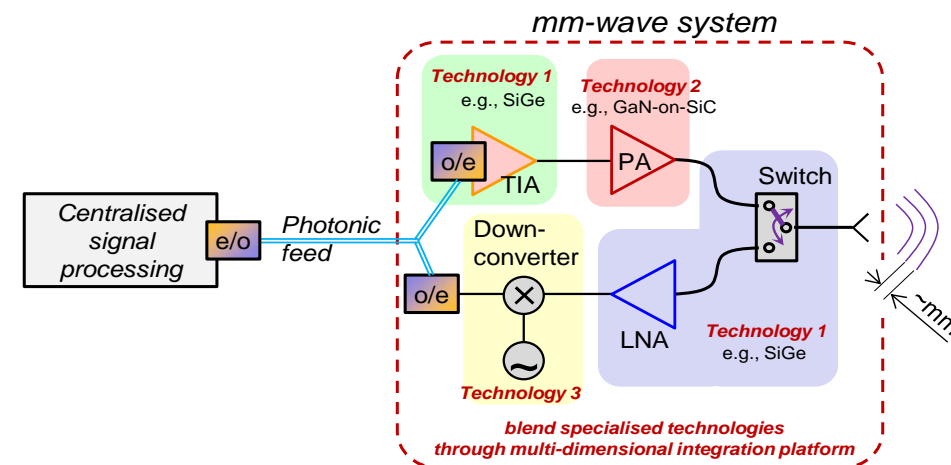
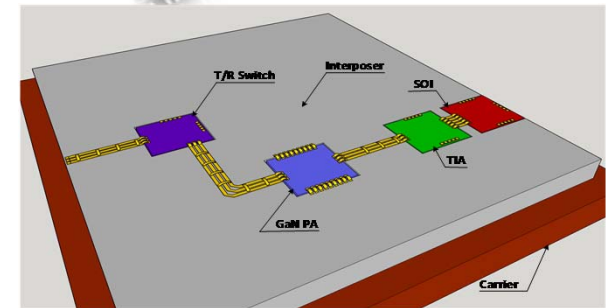


FFG

Triton ‘Heterogeneous Integration of Millimeter-Wave Technology



- Research goals:
- Heterogeneous integration
- Implementing photonic to mm-wave radio link transition
- Supported technologies:
 - Si CMOS interposer
 - SiGe: Transimpedance amplifier (TIA)
Low noise amplifier (LNA)
 - GaN-on-SiC: Power amplifier
 - Flexible and large scale
2.5D hetero integration





URSI – Com. B

Prime Contractor Joanneum Research

IHF (Optical Communications Hardware Development)

Further Subcontractors: RUAG Switzerland and RUAG Sweden, Airbus Toulouse

System Study of Optical Communications with a Hybridised Optical/Rf Payload Data Transmitter

Kick-Off Meeting (Start 4th November 2015)

WP100 and WP200 finished, *WP300 under work*

WP300 (Bread-Board Demonstrator)

.....and WP400 (Measurements)

Conference Organisation at TU Graz since 2008 at IBK (4410) and since 2011 at IHF (4510)



The Mediterranean Journals:
- Computer & Networks
- Electronics & Communications

IEEE Communications
Chapter - UK/RI

2008 and 2011 Communication field: CSNDSP 08 and ConTEL 2011



6th Symposium on Communication Systems, Networks and Digital Signal Processing (**CSNDSP 08**), 23-25 July 2008, ~ 250 Participants

11th International Conference on Telecommunications (**ConTEL 2011**), June 15-17, 2011, *always in Zagreb before*, ~ 200 Participants, together with COST IC0802 Meeting and Workshop

First Conference at IHF in Optical
Communications the NOC 2013 and

ICTON 2014

*International Conference on
Transparent Optical Networks*

~ 500 participants (with COST IC1101 Meeting)!!!!!!

**The 13th International Conference on Telecommunications, ConTEL
2015, Graz, Austria, July 13-15, 2015,**
Graz University of Technology

<http://www.contel.hr/2015/>



ConTEL 2015

**Officially techn. co-sponsored by: Communications
Society – COM; Austria Section COM/MTT Joint
Chapter; Croatia Section COM Chapter**

**ConTEL 2015
again in Graz**



2016 and 2017

CoBCom 2016 *a new Conference initiated,*

***1st International Conference on Broadband
Communications for Next Generation Networks
and Multimedia Applications***

Graz, September 14th – 16th, *2016*, <https://www.cobcom.tugraz.at>

INMMIC 2017 Conference,

***The International Workshop on Integrated Nonlinear
Microwave and Millimetre-wave Circuits***

<http://www.inmmic.org> 20th till 21st of April 2017 at IHF



CoBCom 2018

held in Graz, 11th till 13th of July 2018 at IHF

<https://www.cobcom.tugraz.at>

2nd International Conference on Broadband Communications for Next Generation Networks and Multimedia Applications

