

COST MP 1401, 12. – 15. April 2016
Zadar

Institute for Microwave and Photonic Engineering

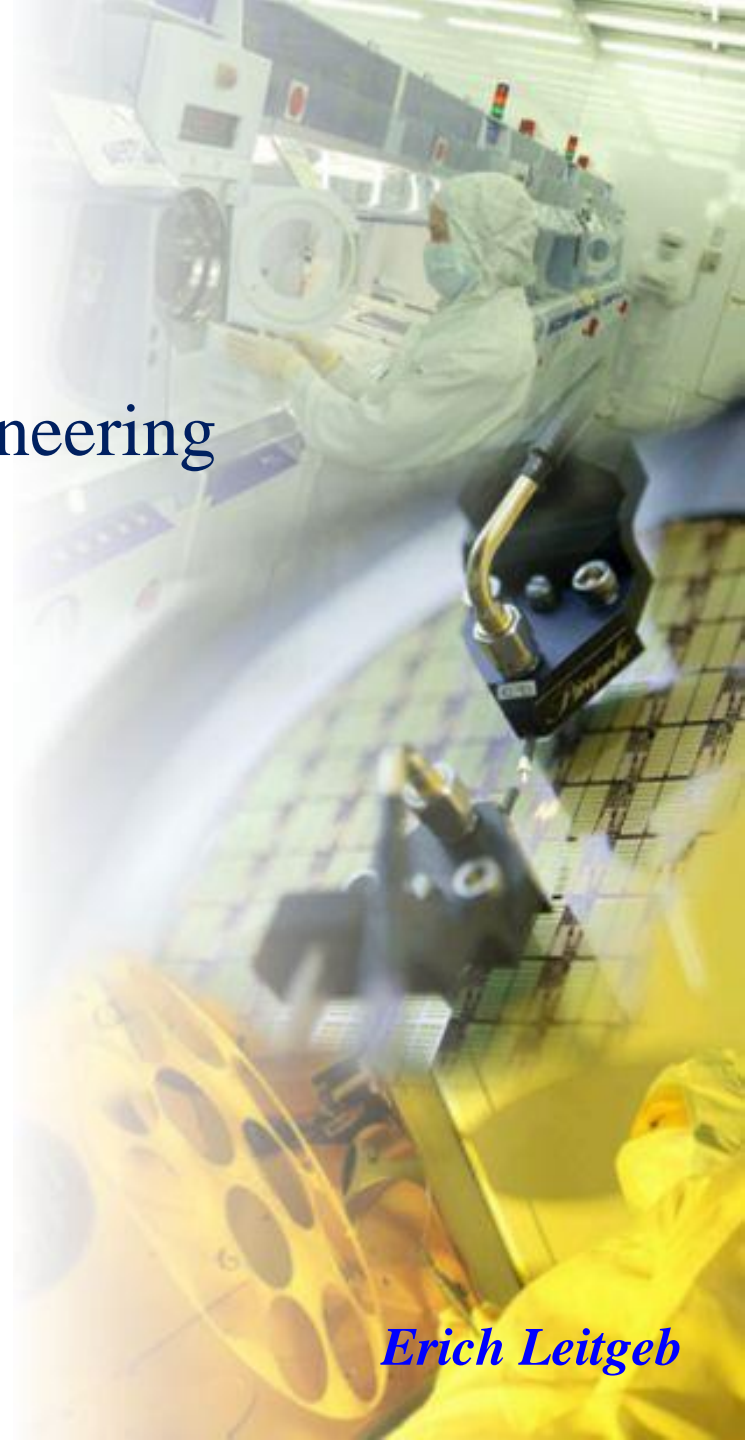
COST MP 1401

Member since end of 2015



Institut für Hochfrequenztechnik

Erich Leitgeb





OptiKom_IHF_TUG

COST Action MP 1401

**Advanced fibre laser and coherent source
as tools for society, manufacturing and
lifescience**

WG 1: Materials, Fibres, Components and Technology

WG 2: New laser and amplifier devices

WG 3: Applications

Meeting in Zadar

<http://www.aflaser.eu/what-is-aflaser/>

Institut für Hochfrequenztechnik - IHF

http://portal.tugraz.at/portal/page/portal/TU_Graz/Einrichtungen/Institute/Homepage Microwaves and Photonics

Datei Bearbeiten Ansicht Favoriten Extras ?
Konvertieren Auswählen

Institute of microwave and photonic engineering

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TU Graz > Organisation > Institutes > Homepages > Microwaves and Photonics

Institute of Microwave and Photonic Engineering



Microwave Technologies



- Design of MW components and systems with low power consumption
- Components and design techniques for mmWave integrated front-ends
- Characterization, modeling and linearization of nonlinear components and systems
- Antennas and transitions
- » RFID components and systems

» Microwave Technologies


Optical Communications



- Design of optical free space communication systems
- Evaluation of optical free space channels on their dependency on atmospheric conditions
- Analysis of optical transmissions in the laboratory
- Design and implementation of optical data links
- Optical measurement techniques (incl. fiber optics)

» Optical Communications

Radar and Microwave Propagation



- Development of radarsystems for measurement of snow avalanches
- Software development of weather information system (WIIS)
- Studies and measurements of microwave propagation and radar systems
- Studies in the area of air traffic surveillance
- Studie of scattering properties of precipitation particles and weather radar technologies

» Radar and Microwave Propagation

SEARCH

CONTACT

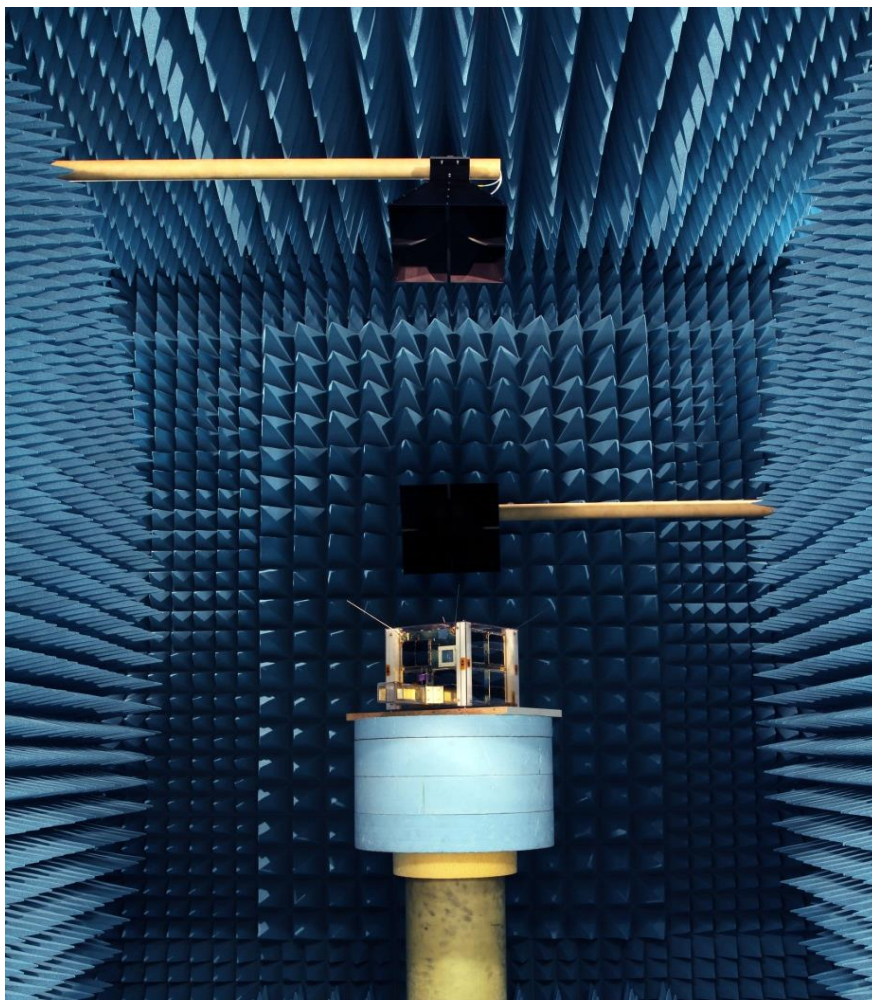
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MW and mmW Research and Teaching Laboratory

- Dedicated Cleanroom (50sqm + 30sqm)
- Spectrum and Signal Analysis (FSQ26)
- Vector Signal Generator (SMU200A)
- Antenna Measurements in Anechoic Chamber



Optical Communications group

- **Optical Lab for Courses and Research**
- **Analysis on optical communication links in the Lab and verification**
- **Integration of optical components into Communication systems and networks**
- **Development and implementation of terrestrial Free Space Optics systems (demonstrator level)**
- **Channel modeling, characterization and measurements of fiber and free space optical systems**





COST IC0802
COST IC1101
COST MP1401

Photonics Austria and URSI Austria

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

**COST Action IC1101 and MP1401,
new ESA project
and conferences organised at IHF**



COST IC1101: Optical Wireless Communications - An Emerging Technology ref to IC0802

- WG1 (Propagation Modeling and Channel Characterization)** will develop, evaluate and validate statistical and empirical channel models for OWC applications and optical bands
- WG2 (Physical Layer Algorithm Design and Verification)** will provide an information-theoretic framework for OWC and investigate practical algorithms and techniques to approach performance boundaries
- WG3 (Networking Protocols)** will deal with upper layer protocol stacks and investigate co-existence and interoperability of OWC with other communication networks
- WG4 (Advanced Photonic Components)** will work on the efficient design, characterization, fabrication and test of state-of-the-art optoelectronic / photonic components and sub-systems for OWC



ESA Contract

Prime Contractor Joanneum Research (DIGITAL)

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

Negotiation Meeting Teleconference (17th September 2015)

Kick-Off Meeting Teleconference (4th November 2015)

1st Progress Meeting in February 2016 (finalised)

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

Englisch? Unterstützen Sie uns

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TU Graz > Einrichtungen > Institute > Homepages > Hochfrequenztechnik > **NOC 2013 / OC&I 2013**

NOC 2013
OC&I 2013

18TH EUROPEAN CONFERENCE ON NETWORK & OPTICAL COMMUNICATIONS
8TH CONFERENCE ON OPTICAL CABLING & INFRASTRUCTURE
JULY 10–12, 2013, GRAZ, AUSTRIA



 **IEEE**
AUSTRIA SECTION

First Conference at IHF in Optical Communications

Internet 100%

<http://noc2013.ihf.tugraz.at>

~ 150 participants in Graz

ICTON 2014

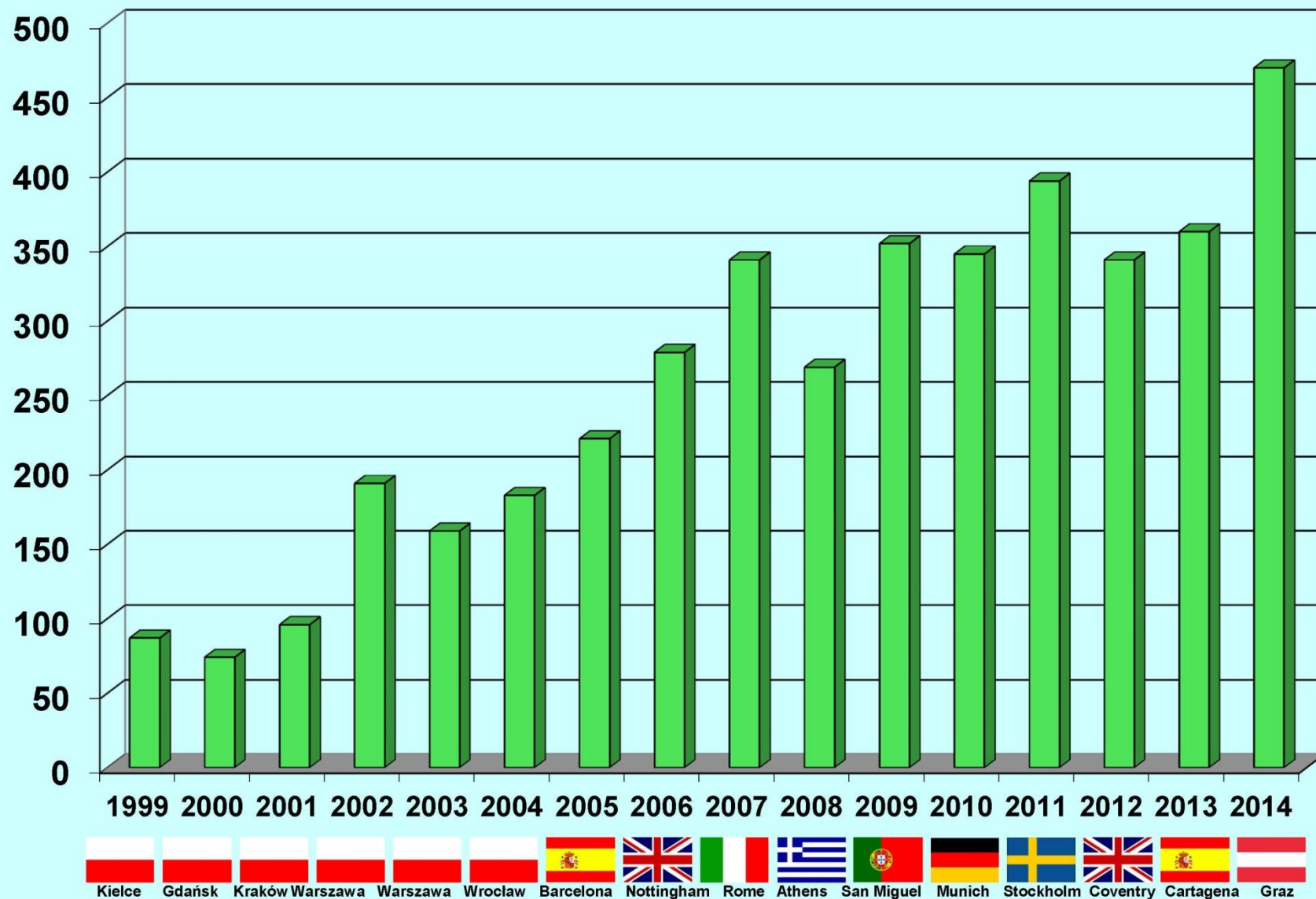
International Conference on Transparent Optical Networks

2014 the 2nd conference in the *Optical
Communications* Field in Graz

Techn. co-sponsored by: IEEE Austria and IEEE
Photonics Society

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

ICTON 1999-2014 Participants



**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**





CoBCom 2016

held in Graz, Austria, September 14th – 16th, 2016

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

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

