



EUROPEAN COOPERATION
IN SCIENCE AND TECHNOLOGY

International Conference on THz and Mid Infrared Radiation And Applications to Cancer Detection Using Laser Imaging

Workgroup Meetings of COST ACTIONS MP1204 and BM1205

October 10 - 11, 2013, Sheffield, UK



Conference Programme

Thursday, October 10			Friday, October 11		
time	Presentation title/ author	Chair	time	Presentation title/ author	Chair
9:45 – 10:00	Opening				
10:00 – 10:40	Manijeh Razeghi - Women in Thz Invited Keynote Talk Pushing the frontiers of monolithic integration: a compact THz revolution	Mauro Pereira and Dragan Indjin	10:00 – 10:40	Angela Dyson - Women in Thz Invited Talk Mechanisms for THz Generation in GaN	Manijeh Razeghi
10:40 – 11:10	Maurizio Dabbicco - Invited Talk Optical Feedback Interferometry in Semiconductor Lasers		10:40 – 11:20	Renata Butkutė - Women in Thz Invited Talk Bismides for Laser Diode Active Layers	
11:10 – 11:40 coffee break			11:20 – 11:40 coffee break		
11:40 – 12:05	Johanes Koeth - Invited Talk Tunable single mode quantum cascade lasers with shallow-etched distributed Bragg reflector	Kamil Kosiel	11:40 – 12:20	Martin Koch - Invited Talk Devices to guide and manipulate THz waves	Angela Dyson
12:05 – 12:30	Santiago Royo - Invited Talk Skin and laser imaging research activities at CD6		12:20 – 13:00	Miriam Vitiello - Women in Thz Invited Talk Nanowire and graphene FETs as powerful detection systems across the THz range	
12:30 – 12:55	Janis Spigulis - Invited Talk Multimodal skin imaging: concept and prototype device		13:00 – 13:20	Tomasz Ochalski Optical emission of a strained direct band-gap Ge quantum well embedded inside InGaAs alloy layers	
12:55 – 13:30	Paul Dean - Invited Talk Coherent imaging and sensing using the self-mixing effect in terahertz quantum cascade lasers		13:20 – 13:40	Anna Szerling - Women in THz Epitaxy and device fabrication for AlGaAs/GaAs THz quantum-cascade lasers	
13:30 – 15:00 lunch			13:40 – 15:00 lunch		
15:00 – 15:25	Lukas Emmenegger - Invited Talk Recent advances in QC laser spectroscopy for ambient air monitoring	Oleg Mitrofanov	15:00 – 15:40	Irmantas Kašalynas - Invited Talk Multispectral terahertz imaging with the compact THz detectors designed for room temperature operation	Miriam Vitiello
15:25 – 15:50	Thierry Bosch - Invited Talk Blood flow measurements by self-mixing laser velocimetry		15:40 – 16:20	Oleg Mitrofanov - Invited Talk High-spatial resolution THz near-field imaging using surface waves	
15:50 – 16:15	Francesco Mezzapesa - Invited Talk QCLs based coherent imaging via optical feedback interferometry		16:20 – 16:40	Mauro Pereira Recent progress in microscopic approaches to transport and optics of semiconductor TERA-MIR materials	
16:15 – 16:35	Adonis Bogris Noise properties of injection locked quantum cascade lasers		16:40 – 16:50	Closing address	
16:35 – 18:00 Coffee and poster session					
18:00 – dinner			18:00 – dinner		

List of posters

Advanced SAR and computational mutagenesis used in evaluation of cancer-inductor potential of the hMad2 native and mutants

S. Avram, M. Mernea, D. Mihailescu

Corelations between skin cancer and heart disease

Paloma Menea

Zero Bias Schottky Junctions for Terahertz detection

R. Casini, A. Andreone, M. Ortolani, E. Giovine, V. Foglietti

Electrical properties of nanocrystalline In-doped zinc ferrites

Ž. Cvejić, M.Pavkov-Hrvojević, S. Rakić, S. Skuban, V.V. Srdić

Self-mixing effect in a multi-transverse-mode VCSEL and polarization dynamics of the first order transverse modes

Maria Carmela Cardilli, Francesco De Lucia, Maurizio Dabbicco

Interaction of light and valence band excitations in a semi-conductor microcavity at terahertz frequencies

Inuwa A. Faragai and M.F. Pereira

Vacuum microdiodes as possible sources of THz radiation

Marjan Ilkov, Kristinn Torfason, Andrei Manolescu, Agust Valfells

The ability of THz spectroscopy to discriminate between protein solutions with different pH values: implications for cancer detection

M. Mernea, O. Grigore, A. Ionescu, O. Calborean, T. Dascalu, D. Mihailescu

Modelling Optical Nonlinearities in Anisotropic Semiconductors

C. I Oriaku and M.F. Pereira

Sub-THz Photonic Crystal Devices

W. J. Otter, S. Hanham, N. Ridler, A. S. Holmes, N. Klein, S. Lucyszyn

Quantum cascade laser beam quality measurements using a goniometric system

E. Pruszyńska-Karbownik, L. Kowalczyk, K. Regiński, P. Karbownik, K. Kosiel, B. Mroziewicz

Discussion of the development aspects of the quantum cascade laser simulation software

R. Reeder, A. Udal, E. Velmre, Z. Ikonic, P. Harrison, D. Indjin

Generation of THz Radiation Using Switchable Metamaterials

Marco A. Ribeiro

Measurements of subband electronic and lattice temperatures in scattering-assisted terahertz quantum cascade devices

M. V. Santacroce, P. Patimisco, G. Scamarcio, V. Spagnolo, M. S. Vitiello, E. Dupont, S.Fatholouloumi, S. R. Laframboise, S. G. Razavipour, Z.Wasilewski

Room temperature nanodetectors for sensing, security and biomedical applications across the far-infrared

Leonardo Viti, Dominique Coquillat, Daniele Ercolani, Wojciech Knap, L. Sorba and Miriam S. Vitiello.

Simulated gain bleaching from temperature and intensity in quantum cascade lasers

D. Winge, M. Lindskog, A. Wacker

Photoluminescence study of heat transport in semiconductor periodic nanostructures

A. Wójcik-Jedlińska, D. Urbańczyk, K. Kosiel, M. Szymański, M. Wasiak, M. Bugajski

Optimized Second Harmonic Generation in GaInAs/AlInAs Quantum Cascade Lasers

A. Gajić, J. Radovanović, V. Milanović, D. Indjin and Z. Ikonić

Optimization of GaN THz QCLs

A. Grier, A. Valavanis, J. D. Cooper, D. Indjin, Z. Ikonić, P. Harrison

THz metal mesh filters on thick fused silica substrate

F. Hu, W. J. Otter, S. Lucyszyn

<http://tera-mir.org/events/>