

Thursday – 06.05.2010						
8:50	9:00	<b>Opening Address</b>				
9:00	9.30	Markus Korn	European Commission			<i>Ingredients for successful Photonics proposals</i>
<b>SESSION: Quantum Wells for Mid-Infrared Laser Emission</b>						
9:30	10:15	James Gupta	National Research Council	Canada	Invited	<i>GaSb-based Interband Laser Diodes for Hydrocarbon Gas Sensing Beyond 3 <math>\mu\text{m}</math></i>
10:15	11:00	Yves Rouillard	University of Montpellier	France	Invited	<i>Incursion into the 3-4 <math>\mu\text{m}</math> range with quantum well lasers</i>
11:00	11:20	Coffee break				
11:20	11:40	Tony Krier	Lancaster University	UK	Contributed	<i>Mid-infrared GaInSb/AlGaInSb Strained Quantum Well Laser Diodes grown on GaAs</i>
11:40	12:00	Lars Nähle	nanoplus GmbH	Germany	Contributed	<i>DFB Laser Diodes for Sensing Applications beyond 3 <math>\mu\text{m}</math></i>
12:00	12:20	Kristijonas Vizbaras	Technische Universität Munich	Germany	Contributed	<i>Recent Progress on Electrically-Pumped Single-Mode GaSb-based VCSELs Emitting around 2.3 <math>\mu\text{m}</math> and 2.6 <math>\mu\text{m}</math></i>
12:20	12:40	Martin de La Mare	Lancaster University	UK	Contributed	<i>Mid-Infrared Photoluminescence of InAsNSb/InAs Multi Quantum Wells Grown by Molecular Beam Epitaxy</i>
12:40	13:00	Robert Kudrawiec	Wrocław University of Technology	Poland	Contributed	<i>The concept of new dilute nitrides for quantum wells emitting in mid-infrared spectral range</i>
13.20	13.20	Soile Suomalainen	Tampere University of Technology	Finland	Contributed	<i>GaSb-based Distributed Feedback Laser Fabricated by Nanoimprint Lithography</i>
13:20	14:05	Lunch				
<b>SESSION: Interband Cascade Lasers</b>						
14:05	14:50	Igor Vurgaftman	Naval Research Laboratory	USA	Invited	<i>Interband cascade lasers for gas sensing in the 3-4 <math>\mu\text{m}</math> band</i>
14:50	15:10	Adam Bauer	University of Wuerzburg	Germany	Contributed	<i>Interband Cascade Lasers for Hydrocarbon-Sensing Applications</i>
15:10	15:30	Marcin Motyka	Wrocław University of Technology	Poland	Contributed	<i>Fourier mode modulation spectroscopy characterization of mid-infrared semiconductor structures</i>
15:30	15:50	Coffee break				
<b>SESSION: Applications - Part I</b>						
15:50	16:35	Peter Kaspersen	Norsk Elektro Optikk AS	Norway	Invited	<i>Challenges of Mid-Infrared Spectroscopy in Emission Control</i>
16:35	17:20	Stefan Lundqvist	Siemens AB	Sweden	Invited	<i>Process control applications in the Mid Infrared</i>
17:20	17:40	Bernhard Basnar	Vienna University of Technology	Austria	Contributed	<i>Intracavity gas sensing using quantum cascade lasers with chromic transducers</i>
17:40	18:00	Yargo Bonetti	ETH Zurich	Switzerland	Contributed	<i>IrSens: Integrated Sensing Platform for Gases and Liquids in the Near and Mid-Infrared Range</i>
18:00	20:00	<b>Conference Dinner</b>				

Friday – 07.05.2010						
<b>SESSION: Quantum Cascade Lasers</b>						
9:00	9:45	Carlo Sirtori	Université Denis Diderot, Paris	France	Invited	<i>Quantum cascade lasers: a unifying concept for laser action in the 3 to 300 <math>\mu\text{m}</math> wavelength range</i>
9:45	10:30	Ted Masselink	The Humboldt University of Berlin	Germany	Invited	<i>Short-wavelength InP-based QCLs</i>
10:30	12:00	<b>Coffee and Poster Session</b>				
12:00	12:20	Kamil Kosiel	Institute of Electron Technology, Warsaw	Poland	Contributed	<i>GaAs/AlGaAs (<math>\sim 9.4 \mu\text{m}</math>) Quantum Cascade Lasers Operating at the Room-Temperature</i>
12:20	12:40	Michał Wasiak	Technical University of Lodz	Poland	Contributed	<i>Numerical modelling of thermal properties of mounting and processing modification of quantum cascade lasers structures</i>
12:40	13:00	Thomas Slight	University of Glasgow	UK	Contributed	<i>Single Wavelength InGaAs/AlAsSb Quantum Cascade Lasers with Emission in the 3–4 <math>\mu\text{m}</math> Range</i>
13:00	14:00	Lunch				
14:00	14:45	Alexei Baranov	University of Montpellier	France	Invited	<i>Antimonides - alternative materials for quantum cascade lasers</i>
14:45	15:05	Kamil Pierściński	Institute of Electron Technology, Warsaw	Poland	Contributed	<i>Thermoreflectance Analysis of AlGaAs/GaAs Quantum Cascade Lasers</i>
15:05	15:25	Anna Wójcik-Jedlińska	Institute of Electron Technology, Warsaw	Poland	Contributed	<i>Microphotoluminescence characterisation of quantum cascade lasers</i>
15:25	15:40	Coffee break				
<b>SESSION: Applications - Part II</b>						
15:40	16:25	Frank Tittel	Rice University	USA	Invited	<i>Recent advances in mid- infrared semiconductor laser based trace gas sensor technologies</i>
16:25	17:10	Gerard Wysocki	Princeton University	USA	Invited	<i>Molecular dispersion spectroscopy in the mid-IR – new approach to sensitive chemical detection</i>
17:10	17:30	Paweł Kluczyński	Siemens AB	Sweden	Contributed	<i>A Faraday modulation spectrometer for detection of nitric oxide using a room temperature cw DFB QCL</i>
17:30	17:50	Bernhard Lendl	Vienna University of Technology	Austria	Contributed	<i>Liquid Phase Spectroscopy With A Widely Tunable External-Cavity Quantum Cascade Laser</i>
17:50	18:00	<b>Closing Address</b>				

Saturday – 08.05.2010		
10:00	14:30	Touristic programme - guided tour over the most interesting places of Wroclaw downtown

## List of Poster Presentations:

### **GaInAsSb/AlGaInAsSb quantum well lasers for emission around 3.0 $\mu\text{m}$**

S. Belahsene, G. Boissier, P. Grech, G. Narcy, A. Vicet and Y. Rouillard  
*Institut d'Electronique du Sud, UMR 5214 CNRS, Université Montpellier 2,  
34095 Montpellier, France*

### **Nanosecond Time Resolved Characterization Of A Commercially Available Broadband Pulsed External-Cavity Quantum Cascade Laser**

Markus Brandstetter, Bernhard Lendl  
*Vienna University of Technology, Institute of Chemical Technologies and Analytics, Getreidemarkt 9/164AC, 1060 Vienna, Austria*

### **High Quality Epitaxial Growth Of Interband-Cascade-Lasers**

Matthias Dallner, Adam Bauer, Thomas Lehnhardt, Andreas Herrmann, Martin Kamp, Sven Höfling, Lukas Worschech and Alfred Forchel  
*Technische Physik and Wilhelm-Conrad-Röntgen-Research Center for Complex Material Systems, University of Würzburg, Am Hubland, D-97074  
Würzburg, Germany*

### **Trace Detection: A new Source of Cold Species, Application to the Mid-Infrared Spectral Range**

Patrick Dupré  
*Department of Chemistry, The University of York, Heslington, YO10 5DD United Kingdom*

### **Interband Cascade and Quantum Cascade based Monomode Emitters for Hydrocarbon Sensing**

M. von Edlinger<sup>1</sup>, P. Fuchs<sup>1</sup>, L. Nähle<sup>1</sup>, M. Fischer<sup>1</sup>, J. Koeth<sup>1</sup>, A. Bauer<sup>2</sup>, J. Semmel<sup>2</sup>, M. Dallner<sup>2</sup>, S. Höfling<sup>2</sup>, L. Worschech<sup>2</sup>, A. Forchel<sup>2</sup>  
<sup>1</sup> *nanoplus Nanosystems and Technologies GmbH, Oberer Kirschberg 4 ,97218 Würzburg,  
Germany*  
<sup>2</sup> *Technische Physik, Universität Würzburg, Am Hubland, D-97074 Würzburg, Germany*

### **Voltage Tunability of Quantum Cascade Lasers**

J. Friedl<sup>1</sup>, P. Fuchs<sup>2</sup>, J. Koeth<sup>2</sup>, S. Höfling<sup>1</sup>, L. Worschech<sup>1</sup> and A. Forchel<sup>1</sup>  
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<sup>2</sup> *nanoplus Nanosystems and Technologies GmbH, Oberer Kirschberg 4 ,97218 Würzburg,  
Germany*

### **Industrial Trace-Gas Analyzer for Phosgene Monitoring Based on QCL Absorption Spectroscopy**

Sven Glitsch<sup>1</sup>, Markus Nägele<sup>2</sup> and Jürgen Röpcke<sup>1</sup>  
<sup>1</sup> *INP Greifswald, Felix-Hausdorff-Strasse2, 17489 Greifswald, Germany*  
<sup>2</sup> *OptoPrecision GmbH, Auf der Höhe 15, 28357 Bremen, Germany*

### **Study and development of a multi-species buried probe for gas spectroscopy with bidirectional antimonide-based laser diodes.**

M. Jahjah<sup>1</sup>, B. Cousin<sup>2</sup>, Y. El Kaim<sup>2</sup>, Y. Rouillard<sup>1</sup>, B. Jaillard<sup>3</sup> and A. Vicet<sup>1</sup>  
<sup>1</sup> *IES, UMR CNRS 5214, CC067, Université Montpellier 2, Place Eugène Bataillon, 34095 Montpellier cedex 05 – France*  
<sup>2</sup> *LMGC, UMR CNRS 5508, CC048 Université Montpellier 2, Place Eugène Bataillon, 34095 Montpellier cedex 05 – France*  
<sup>3</sup> *Eco&Sols, UMR INRA 1222, 2 place Pierre Viala, 34060 Montpellier – France*

### **Photoluminescence and photoreflectance of AlGaAs/GaAs superlattices for mid and far infrared**

F. Janiak<sup>1</sup>, M. Motyka<sup>1</sup>, J. Misiewicz<sup>1</sup>, M. Wasiak<sup>2,3</sup>, A. Wójcik-Jedlińska<sup>3</sup>, K. Kosiel<sup>3</sup> and M. Bugajski<sup>3</sup>

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<sup>2</sup>*Institute of Physics, Technical University of Łódź, Wólczańska 219, 90-924 Łódź, Poland*

<sup>3</sup>*Institute of Electron Technology, Al. Lotników 32/46, Warsaw, Poland*

### **Optical properties of GaSb - based type II quantum wells emitting in the middle infrared spectral range**

M. Motyka<sup>1</sup>, G. Sęk<sup>1</sup>, K. Ryczko<sup>1</sup>, F. Janiak<sup>1</sup>, J. Misiewicz<sup>1</sup>, A. Bauer<sup>2</sup>, F. Langer<sup>2</sup>, M. Dallner<sup>2</sup>, M. Kamp<sup>2</sup>, S. Höfling<sup>2</sup> and A. Forchel<sup>2</sup>

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<sup>2</sup>*Technische Physik, University of Würzburg, Wilhelm-Conrad-Röntgen-Research Center for Complex Material Systems, Am Hubland, D-97074 Würzburg, Germany*

### **Band gap discontinuities and photoluminescence thermal quenching of GaInAsSb/Al(In)GaAsSb quantum wells**

M. Motyka<sup>1</sup>, F. Janiak<sup>1</sup>, G. Sęk<sup>1</sup>, K. Ryczko<sup>1</sup>, J. Misiewicz<sup>1</sup>, S. Belahsene<sup>2</sup>, G. Boissier<sup>2</sup>, and Y. Rouillard<sup>2</sup>

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<sup>2</sup>*Institut d'Electronique du Sud, Université Montpellier 2-CNRS Montpellier, France*

### **Photoreflectance spectroscopy of InN(Sb)As layers dedicated for mid-infrared emitters**

M. Latkowska<sup>1</sup>, R. Kudrawiec<sup>1</sup>, and J. Misiewicz<sup>1</sup>, Q. Zhuang<sup>2</sup>, A.M.R. Godenir<sup>2</sup>, and A. Krier<sup>2</sup>

<sup>1</sup>*Institute of Physics, Wrocław University of Technology, Wybrzeże Wyspiańskiego 27, 50-370 Wrocław, Poland*

<sup>2</sup>*Physics Department, Lancaster University, Lancaster LA1 4YB, United Kingdom*

### **Band structure of GaInNAsSb/InGaAs/InP quantum wells studied by modulation spectroscopy**

P. Poloczek<sup>1</sup>, R. Kudrawiec<sup>1</sup>, and J. Misiewicz<sup>1</sup>, T. Sarmiento<sup>2</sup> and J. Harris<sup>2</sup>

<sup>1</sup>*Institute of Physics, Wrocław University of Technology, Wybrzeże Wyspiańskiego 27, 50-370 Wrocław, Poland*

<sup>2</sup>*Solid State and Photonics Laboratory, Stanford University, Stanford, California 94305-4075*

### **High Power 2–2.5 μm Semiconductor Disk Lasers**

S. Suomalainen, J. Paajaste, R. Koskinen, A. Härkönen, J. Nikkinen, M. Guina

*Optoelectronics Research Centre, Tampere University of Technology, P. O. Box 692, Tampere, Finland*

### **Influence of pulse mode operating conditions on $T_{\max}$ in $\text{Al}_{0.45}\text{Ga}_{0.55}\text{As}/\text{GaAs}$ quantum cascade lasers**

Anna Szerling, Kamil Kosiel, Piotr Karbownik, Artur Trajnerowicz, Michał Wasiak, Anna Wójcik-Jedlińska, Zenon Gniazdowski, Michał Szymański, Maciej Bugajski

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