



# Photonics Newsletter

July 2008



[http://cordis.europa.eu/fp7/ict/photonics/home\\_en.html](http://cordis.europa.eu/fp7/ict/photonics/home_en.html)

## In this issue

- ❖ Photonics21 president, Martin Goetzeler, meets Commissioner Viviane Reding;
- ❖ Photonics21 Mirror Group;
- ❖ European Photonics Innovation Village 2008 Awards, Strasbourg, April 2008;
- ❖ European Photonics Clusters meeting, Strasbourg, April 2008;
- ❖ Photonics21 at the European Parliament;
- ❖ Russian-European match-making events;
- ❖ 2<sup>nd</sup> concertation meeting – FP7 photonics projects, September 2008;
- ❖ ICT 2009-2010 workprogramme
- ❖ Eurostars ensures fast-track research finding for innovative SMEs;
- ❖ PULSERS-II/UROOF stand receives the 'Best Demonstration Stand' award in ICT-Mobile Summit 2008 in Stockholm;
- ❖ The OLLA project delivered its final milestone;
- ❖ More Project News: NEMIS, ZODIAC, MUSIS, NATAL, VERTIGO, ICU and PhotonFab;
- ❖ VCSEL-day offered a common platform for VCSEL and VECSEL-related EU projects, 21<sup>st</sup> May 2008;
- ❖ Future events

## Photonics21 president, Martin Goetzeler, meets Commissioner Viviane Reding

Martin Goetzeler, president of Photonics21 and CEO of Osram met with Commissioner Viviane Reding on the 11<sup>th</sup> of June 2008 in Brussels. This was their first meeting since Martin Goetzeler took over from Alexander von Witzleben as president of Photonics21 last December.



The main purpose of this strategic meeting was to discuss the progress that Photonics21 has made in the last two years in bringing together the key research players in Europe. Other topics which were covered included education and training in photonics, the contribution of photonics to key policy areas such as energy saving, future directions for Photonics21 and photonics research in Framework Programme 7.

Accompanying Mr. Goetzeler were Berit Wessler from Osram and Markus Wilkens from the Photonics21 secretariat.

## Photonics21 Mirror Group

The Mirror Group brings together the representatives of the national funding bodies dealing with photonics research. The Mirror Group, which is chaired by the European Commission, was set up a year ago and has met four times so far, the last meeting taking place on the 12<sup>th</sup> of June. The objective of the meetings is to bring about better coordination between the research programmes nationally and at European level and ultimately to build up a bigger critical mass of photonics funding which is needed in Europe.

One of the tools the Mirror Group will use for this is the "ERA-NET Plus". The ERA-NET Plus allows the Member States and the EC to set up a common fund of money which can be used to

support trans-national research on a chosen topic of strategic importance. Member States which are interested in participating in this action contribute 2/3<sup>rd</sup> of the funding and the remaining 1/3<sup>rd</sup> comes from the Commission. This fund is used to finance trans-national research projects which are selected from a single call.

The Mirror Group has reached an agreement that the topic of this ERA-NET Plus will be '*next generation broadband access*'. The likely total size of this action will be about 30M€ funding, 20M€ coming from participating Member States and 10M€ from the Commission. The next steps for the Mirror Group are to work out the details of the call, agree on procedures and to start the process of allocating budget from the national programmes. The call for projects is expected to be launched in January 2010.

This is the first time that this type of joint funding will be done in the area of photonics and it is another indication of the greater recognition by the Member States of the importance of photonics. We hope that this action will be the first of a number of joint funding activities between the Member States and the European Commission. Further actions could address any topic of common interest.

For further information on the Mirror Group or the ERA-NET Plus, please contact [Ronan Burgess](#).

### European Photonics Innovation Village 2008 Awards, Strasbourg, April 2008

The European Photonics Innovation Village Awards Ceremony took place on Wednesday April 9th, during [Photonics Europe Congress](#) in Strasbourg (France). The European Photonics Innovation Village was organised by [Rhenaphotonics Alsace](#) and [SPIE Europe](#), under the patronage of the [Photonics Unit](#) of the European Commission. Among 12 prototypes of high quality, the Jury distinguished 5 excellent teams and bestowed 5 prizes. Winners also received 3000 euros and advertorials (13400 euros worth) to support the emergence of their projects.



Bernard Kress, Gustav Kalbe, Patrick Meyrueis, Paul Smigielski, Giancarlo Righini, Hugo Thienpont and Kevin Harding (Jury) with the winners : René Reichle, Jean-Bernard Lecourt, Vincent Lauer, Thomas Geernaert and Sara Van Overmeire

The Innovation Village Judging Panel was chaired by Gustav Kalbe (European Commission, Photonics Unit, Belgium) and its members were : Kevin Harding (President of SPIE), Hugo Thienpont, (Vrije Universiteit, Belgium), Giancarlo Righini (CNR, Italy), Paul Smigielski (Rhenaphotonics Alsace President, France), Patrick Meyrueis (Rhenaphotonics Alsace & Laboratoire des Systèmes Photoniques (ULP/INSA), France) and Bernard Kress (Laboratoire des Systèmes Photoniques (ULP/INSA), France).

The 5 awards were:

1) **Best Overall Product** [Diffractive / refractive endoscopic UV-imaging system](#)  
René Reichle, Institut fuer Technische Optik (ITO) - Universitaet Stuttgart, Germany und Institute for combustion and gas dynamics of the University of Duisburg-Essen, Germany

- 2) **Best Marketability** [Femtosecond-pulse fibre laser for microsurgery and marking applications](#) Jean-Bernard Lecourt, Multitel, Belgium
  - 3) **Best Design** [Flexible Artificial Optical Robotic Skins](#) Thomas Geernaert, Vrije Universiteit Brussel, Belgium
  - 4) **Best Application** [Micro-optical detection unit for lab-on-a-chip](#) Sara Van Overmeire, Vrije Universiteit Brussel, Dept. Applied Physics and Photonics, Belgium
  - 5) **Best Technology** [3D Tomographic Microscope](#) Vincent Lauer, Lauer Microscopie, France
- For further information see the [Phenaphotonics Alsace web site](#).

### European Photonics Clusters meeting, Strasbourg, April 2008

This [First European Photonics Cluster meeting](#) was also organised during [Photonics Europe Congress](#) in Strasbourg (France) on Thursday April 10<sup>th</sup>.

The meeting was considered a success, with 55 people from 28 clusters attending (more than was originally expected). There was lively participation from the attendees, not only through their presentations but also during the discussion and subsequent follow-up. The agenda and list of attendees is available at <http://www.rhenaphotonics.fr/epcm.php>.

It is evident that there are **differences between the clusters**: some are long established whilst others are just starting; some are self-financing while others are dependent on public support (to some extent); some appear to focus primarily on communication/education/ dissemination while others have a broader range of activities including financial support; some are organised in a top-down fashion and others more bottom-up; some are specialized in a given domain or technology (e.g. in France) while others cover all photonics technologies (e.g. in Germany); some are industry-led or -oriented while others are more academic. This diversity made the meeting more interesting and allowed for a good exchange of ideas. Many said afterwards that it was interesting to see how others did things so as to appraise their own activities.

The **use of public funding** was discussed. The view was that this is needed particularly for starting up activities, as it is difficult to ask for a membership fee without being already able to offer some services, but many said that public funding isn't needed in the longer term and some clusters have become completely self-financing within a few years. Others believe that they should receive some public funding given their role as supporting the area and technology, and given the extra costs of some activities which do not bring immediate but rather longer-term benefits (e.g. awareness-raising in schools, etc.).

**European versus national and/or regional funding** was also raised, with many seeking some European support. It was explained that European funding could only be granted in cases where there is evident European added value, and that it cannot be applied to replace regional or national support. That being said, if there is a trans-national component of the activities, with benefits in more than one country, there could be a case for European funding.

The **role of the Photonics21 technology platform** vis-à-vis the clusters needs to be made clearer. Some attendees saw the platform as the sole communication channel to the Commission and welcomed this meeting as an alternative. Others saw it as not being broadly representative of the complete photonics community across Europe. At present, the clusters' members can participate only as individuals in the Photonics21 technology platform. The Commission representatives will consider this and explore, with those involved, options for the better involvement and integration of the clusters.

Most participants supported **continuing such meetings** in the future, which could be structured around selected topics of common interest to be proposed by the participating clusters. The follow-up of this first initiative has already been discussed in the way that the organisers (Rhenaphotonics Alsace and the Photonics Unit) would like to keep intact the "spirit of a photonics clusters community" that appeared this day. It was decided not to diffuse email lists of the attendees but to create a shared place (Internet web pages) for attendees to post their messages and news.

For further information contact [John Magan](#) (European Commission, Photonics unit) or [Véronique Parasote](#) (Rhenaphotonics Alsace)

## Photonics21 at the European Parliament

On 24<sup>th</sup> April 2008, Martin Goetzeler, CEO of OSRAM and President of Photonics21 headed a Photonics21 delegation to meet with the European Parliament Science Technology Options Assessment Panel (STOA).



Philippe Busquin, Chairman STOA, Malcolm Harbour, Vice Chairman STOA and Martin Goetzeler - CEO OSRAM, President Photonics21 (from right to left)

The aim of the meeting was to demonstrate how Photonics will contribute to major European societal challenges such as the ageing society, the next generation information society and energy efficiency. The presentations were well received by the STOA panel and led to a lively discussion with the Photonics21 delegation on topics ranging from investment in communication networks to energy efficient lighting. The STOA Panel meeting was initiated by Photonics21 Board of Stakeholders and delegation member Patrick Meyrueis, Louis Pasteur University of Strasbourg, France. The Photonics21 delegation was kindly supported by SPIE Europe and EOS.

## Russian-European match-making events

On 12 March 2008, alongside the [PHOTONICS 2008](#) exhibition in Moscow, [EOS](#) and the [Laser Association \(LAS\)](#) organized a match-making event with 60 European and Russian photonics experts to identify partners for FP7 photonics projects.

Russia has outstanding and world-leading researchers in the area of Photonics and modern optics - three Nobel Prize Winners in this field are solid evidence and a good enough reason for the Photonics Unit of the European Commission to foster the integration of Russian photonics experts in FP7 research projects. As a first step, in order to evaluate common research interests of Eastern and Western European partners, the EC Photonics Unit proposed this match-making event and the Laser Association actively supported this idea (see further details on [EOS newsletter April 2008 issue](#)).



Prof. Ivan B. Kovsh (President of LAS) and Thierry Van der Pyl (Head of Photonics Unit, EC)



Thierry Van der Pyl explains the Commission's expectations of the cooperation with Russia

Negotiations to fully associate Russia to FP7 are underway. Therefore, and in view of the next ICT calls that are expected to be launched in 2009 (including the two from the photonics area), a follow-up ICT information and brokerage event will take place in Moscow on 23-25 October 2008.

Information about Russian ICT research priorities will be given, as well as orientations about the EU's ICT Workprogramme in FP7 and how Russian organisations can already participate and receive funding.

For the photonics area, sessions will take place at which participants from industry, research organisations and universities from both European and Russian sides will have the opportunity to present their organisation, their research interests and the cooperation sought with the other side.

If you are interested to participate please contact [Christoph Helmuth](#) (Photonics unit, EC).

## 2<sup>nd</sup> Concertation meeting – FP7 photonics projects, September 2008

The 2<sup>nd</sup> concertation event will bring together the FP7-ICT Photonics related projects. The event will take place on the 18<sup>th</sup> – 19<sup>th</sup> September 2008, at [ICFO](#) – *The Institute of Photonic Sciences* in Barcelona, Spain. The objectives of this event are to:

- Contribute towards building a European Photonics community;
- Encourage the exchange of information and best-practice between projects;
- Engage the actors in a discussion on topics and challenges of common interest;
- Contribute to the reflection on the European Photonics policies and strategies;
- Provide feedback on the implementation of the Framework Program;
- Achieve synergy and cross-fertilisation among projects.

For more information, agenda and registration see [the event's web site](#).

## ICT 2009-2010 Workprogramme

The next ICT workprogramme for 2009-2010 is currently being discussed by the Member States and is expected to be published in November 2008. Due to the high anticipation for this workprogramme, some descriptions of its content have already been published elsewhere but these are only speculative and could be misleading. Please be reminded that the ICT workprogramme itself is the ONLY official document which describes the areas called for in 2009-2010.

## Eurostars ensures fast-track research funding for innovative SMEs

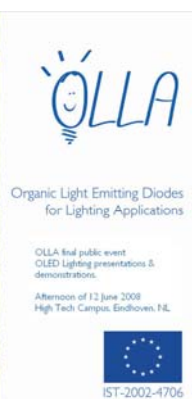
Small and medium enterprises (SMEs) frequently find it difficult to obtain financial support or their often high-risk research and development (R&D) projects. The Eurostars Programme offers ambitious and innovative SMEs a single access point at national level to both national and European research funding. It provides a fast-track application procedure, harmonised evaluation and synchronised funding timetables, leading to fast results that can be brought to market rapidly. More than 400 Mio Euro public funding is available for the period 2007-2013.

The next cut-off date for the evaluation of proposals is **Friday 21 November 2008**. Photonics SMEs are strongly encouraged to visit Eurostars' website <http://www.eurostars-eureka.eu/search> and to contact their national contact office (see details on the website) to further explore the funding opportunities.

## PULSERS-II/UROOF stand receives the 'Best Demonstration Stand' award in the ICT-Mobile Summit 2008 in Stockholm

The PULSERS Phase II booth was one of the biggest in the ICT-Mobile Summit 2008. The demo was showing results coming out of 2 research projects PUSLERS II and UROOF. Mr Cunningham (Conference chair) mentioned amongst others the convincing coherence between the projects' objectives and the achieved results.

## The OLLA project delivered its final milestone



At the end of the project's period, the OLLA project consortium presented its final milestone: the basic technology for a white OLED (Organic Light-Emitting Diode) light source, with an efficacy of 50.7 lumens per watt at an initial brightness of 1.000 cd/m<sup>2</sup> based on the Novald PIN OLED technology. The OLLA project is a joint basic research consortium, headed by Philips Lighting. The presentation took place on the 18th June 2008 in Aachen, Germany.

For more information see OLLA [6<sup>th</sup> press release](#).

## More project News

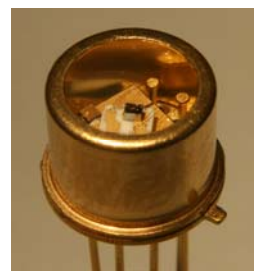


In the **NEMIS** project both partners Université Montpellier 2 (France) and the Walter Schottky Institut (Germany) developed the first electrically pumped GaS<sub>6</sub>-based VCSELs emitting at 2.3 μm at the end of 2007.

These devices are key components for gas analyzers for environmental monitoring and the detection of hazardous gases. Shortly afterwards the industrial partners Siemens and Vertilas realized the first CO-detector with above mentioned devices. Further information can be found on the project website: <http://www2.wsi.tum.de/e26/nemis>. The results were presented in numerous papers and international conferences.

In the remaining year of the NEMIS project the research activities will focus on the development of VCSELs emitting at 2.7 and 3.3 μm and innovative highly sensitive detectors for gases such as CO, NH<sub>3</sub>, CH<sub>4</sub> or CO<sub>2</sub>.

The Figure on the left shows a VCSEL laser device emitting at 2.3 μm for gas sensing applications mounted in a TEC header.

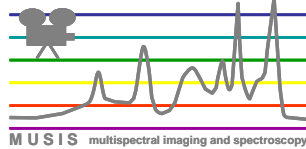


On 30 April 2008 the Integrated **Project ZODIAC** (<https://zodiac.if.pwr.wroc.pl>) was successfully completed. Over the last 3 years the European project consortium comprising major industrial and academic players in the field of nanophotonics and telecom research

achieved significant breakthroughs in quantum-dot (QD) lasers for telecom applications. More particularly, the project has improved the degree of control for InGaAs- and InP-based QD material fabrication and QD-based device processing with view to enable the manufacturing of higher performant next-generation telecom lasers. During its last 12 months the project has demonstrated 2 QD-based directly modulated single mode prototype lasers at 1.3 and 1.55 μm for telecom applications as well as a QD-based polarisation-independent semiconductor optical amplifier (SOA) operating at 1.55 μm.

## More project News

A 40 months STREP project called **MUSIS** (**MULTiSpectral terahertz, infrared, visible Imaging and Spectroscopy**) on terahertz, infrared, visible imaging and terahertz spectroscopy started in May.



The project will develop new photonic components working in real time at room temperature. The components, which have the potential of low-cost mass production, are aimed for the use in different application fields including security and safety, life science and production technology.

The project consortium, which is coordinated by Bosch, comprises partners from academia (Swiss Federal Institute of Technology Zurich), research institutes (CEA-LETI - Grenoble, Fondazione Bruno Kessler - Trento), industry (Bosch, Rainbow Photonics - Zurich), and end users (Zurich airport). On June 11 a user workshop was held in Zurich in order to gather the needs of end users from different potential application fields of the technology. These user needs will be considered for the start of the technical developments in MUSIS.

**NATAL project:** after recently demonstrating the first semiconductor disk laser based on quantum dots operating at 1040 nm (Newsletter March 2008) researchers from Technical University of Berlin (TUB) and Tampere University of Technology (TUT) now presented devices emitting at 950 nm and 1220 nm (Int. Conf. on Metalorganic Vapor Phase Epitaxy ICMOVPE XIV, Metz, France, June 2008).



Different kind of stacked InGaAs dot layers were implemented into resonant gain structures at TUB: Sub-monolayer dots for 940 nm and 1040 nm operation, and Stranski-Krastanow dots operating in the first excited state and the ground state for 1040 nm and 1210 nm emission, respectively. TUT achieved 0.45 W cw output power at 950 nm and 0.3 W from 21 dot layers at 1210 nm, featuring very temperature-stable characteristics with a low threshold.



At this year's Conference on Lasers and Electro-Optics (CLEO) exhibition in San Jose, CA (USA) the NATAL consortium (IST 016769) also tried a novel format to raise international awareness in combination with initial product demonstration activity. Being in its final year of research, all European partners of the NATAL consortium contributed to the content and format with a remarkable show presence. Flanked by direct email invitations to interested parties before the show, the partners of the consortium presented their

individual and joint project work efforts in form of direct contributions to the conference program, but in addition also with a professionally styled show booth, discussing openly current issues with conference and show participants right at the show floor. A lively exchange was held on the project results in the field of semiconductor laser developments and applications, but also of future marketing and production activities.

Interested researchers, project coordinators or consortium members in the laser field are encouraged to contact [Wilhelm Kaenders](#) for more details.

## Project News (continued)

The **VERTIGO project** pushes the high-power semiconductor diode laser, well known for its excellent beam quality, to the long-wavelength regime above 2  $\mu\text{m}$  in order to enable new applications in e.g. optical sensing and free-space communication.



The project, now in its third and final year, has already set a new international benchmark concerning output power and power efficiency for these laser sources (see the newsletters and publications available at [www.2micron-laser.eu](http://www.2micron-laser.eu)). Besides the fundamental laser development, VERTIGO is developing laser modules for implementation in specific applications (see Figure below: compact 2.3  $\mu\text{m}$  laser module).



Further on, the consortium constantly maps out the potential of these new versatile laser sources for further applications. In order to stimulate this process, the consortium will organise a workshop on the design and applications of these long-wavelength lasers on Wednesday, September 10<sup>th</sup> as part of the [MIOMD-IX conference](#).

Six European leading companies and research establishments have joined forces in the strategic research project "Infrared Imaging Components for Use in Automotive Safety Applications **ICU**".



ICU aims at prototyping a low-cost infrared night vision system that can resolve a pedestrian or animal on the road. The infrared imaging system will be developed to provide high contrast images of warm (living) objects completely independent of ambient light conditions and is expected to considerably increase safety on the roads. In particular if we get such a system within a few years in our cars it will reduce accidents involving pedestrians, cyclists and animals thereby reducing the death toll and the number of seriously injured. "Besides applications in the automotive, the infrared imaging system will also find use in security, surveillance, process automation, thermography, retail and, smart buildings" says Tom Krekels from Umicore.

The ICU project kicked off in Brussels on May 27<sup>th</sup> 2008 and will run for two and a half years until October 2010.

The **PhotonFAB support action**, starting September 2008, will support research projects, academia and SMEs in Europe by enhancing the ePIXfab silicon photonics service (<http://www.epixfab.eu/>). ePIXfab provides cost-sharing shuttle runs for research and prototyping of silicon photonics ICs. PhotonFAB will bring an improved technology portfolio, an enhanced design interface, user education, extensive documentation, and a roadmap. Kick-off sessions will be held at two conferences, and will explain about the project and how to effectively use the service. A first kick-off session will be held at Group IV photonics, in Sorrento, 17-19 September 2008, and will be geared towards the specialized public. A second session will be held at ECOC 2008 (21/9-25/9), Brussels, in the exhibition hall, 24 September 2008.

## VCSEL-day offered a common platform for VCSEL and VECSEL-related EU-funded projects, 21<sup>st</sup> May 2008

The first VCSEL-day meeting was held on the 21<sup>st</sup> of May 2008 in the Technical University of Denmark, Copenhagen.



The aim of this workshop was to form a common platform between different VCSEL or VECSEL related projects in the framework program 6 and 7 (FP6 and FP7).

In the course of the meeting representatives of the projects ODIN, NATAL, MOSEL, VERTIGO and NEMIS presented their work and discussed current issues with the participants.



A discussion was held on the topic of future activities and possible research projects in the field of semiconductor laser developments and applications in Europe. The participants concluded that the VCSEL-day should be held once a year to maintain the contacts between the projects and form a European VCSEL network. Interested project coordinators or consortium members are encouraged to contact [Mr. Kashani](#) or [Mr. Gilet](#).

## Future Events

### September 2008

#### FP7 Photonics Concertation Meeting

18-19 September 2008 – Barcelona

This event is the second of this kind, and concentrates this time on the 27 new FP7 projects launched following ICT call 2. The objectives of the event are: to contribute towards building a European Photonics community; to encourage the exchange of information and best-practice between projects; to engage the actors in a discussion on topics and challenges of common interest; to contribute to the reflection on the future European Photonics policies and strategies; to provide feedback on the implementation of the Framework Program; to achieve synergy and cross-fertilisation among projects. The meeting will be organised by ICFO - 'The Institute of Photonics Sciences' (Barcelona). The event is on principle open to any representative of the Photonics community. More details on [http://cordis.europa.eu/fp7/ict/photonics/concertation180908\\_en.html](http://cordis.europa.eu/fp7/ict/photonics/concertation180908_en.html)

#### Microoptics conference MOC'08

25-27 September 2008 – Brussels

MOC '08 provides a central forum for state-of-the-art scientific and technical information covering a wide range of micro-optic and micro-photonics topics and related fields, from fundamental research to systems and applications. A special session entitled "Micro-Optics in Europe: achievements of the EU funded Network of Excellence NEMO" ([www.micro-optics.org](http://www.micro-optics.org)) will be organized on Thursday morning 25 September 2008 and can be attended without paying a registration fee by everyone who is interested. More information can be found on <http://www.tona.vub.ac.be/MOC08>.

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## Future Events (Continued)

### October 2008

#### Information and Brokerage event in Moscow

23-25 October 2008 – Moscow

An ICT information and brokerage event will take place in Moscow on 23-25 October 2008. Information about Russian ICT research priorities will be given, as well as orientations about the EU's ICT Workprogramme in FP7 and how Russian organisations can already participate and receive funding.

## Summer break



*The Photonics team wishes you  
a nice Summer break!*

*See you back in September!*

