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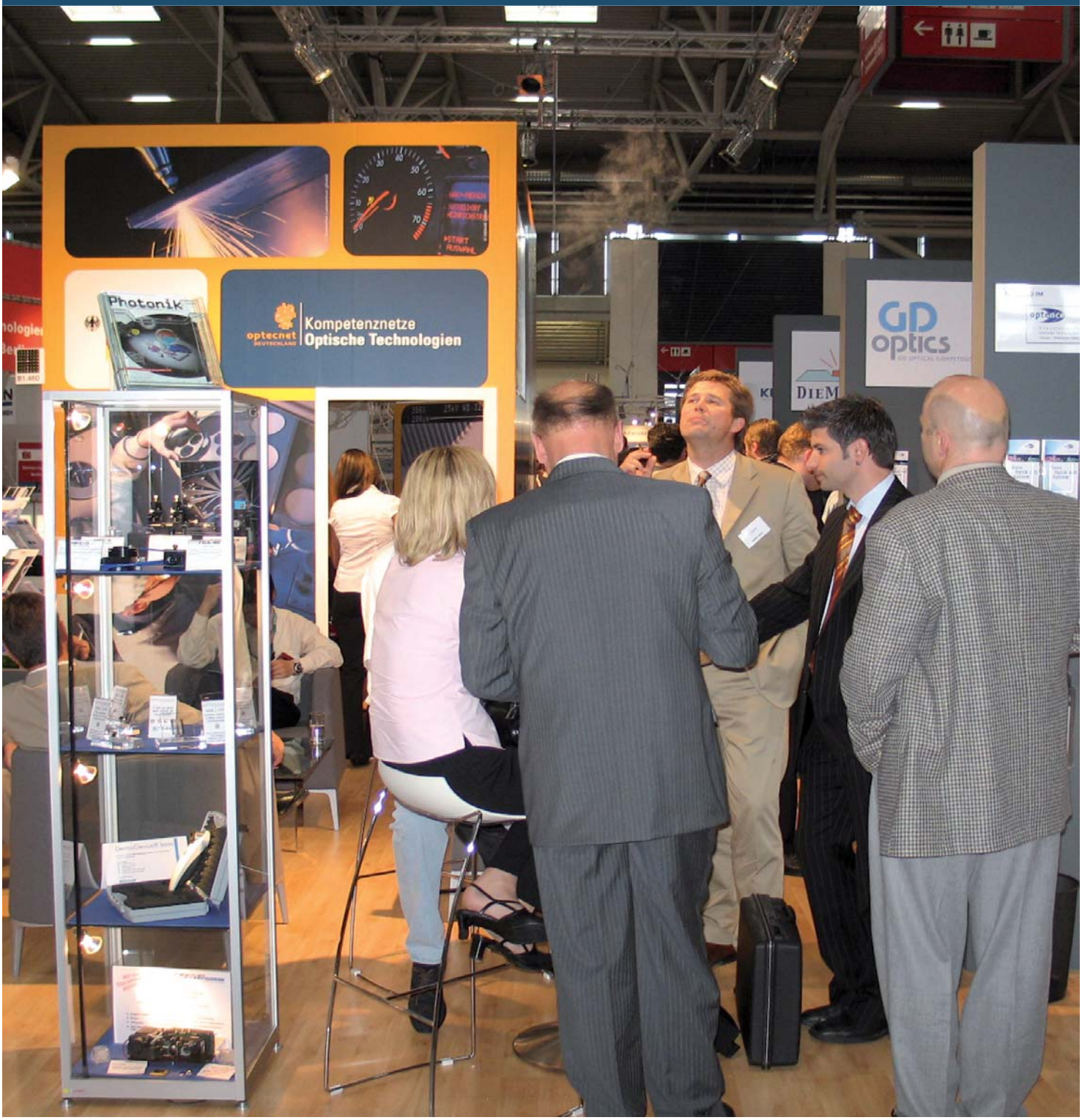
Kompetenznetze
Optische Technologien

OptecNet News LASER 2007



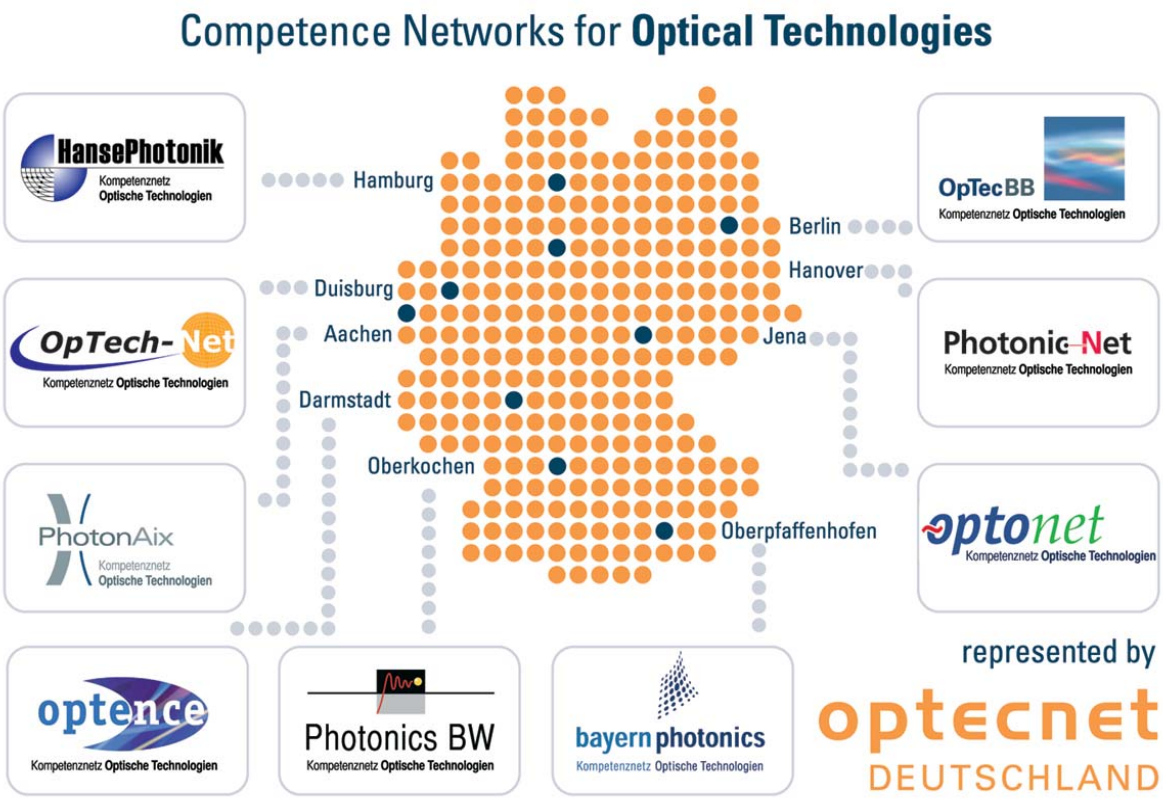
OptecNet News LASER 2007

Content

Laser 2007 - introduction of the co-exhibitors at the joint exhibition stand

Latest news of the regional Competence Networks for Optical Technologies

- **PhotonicNet: Innovative light sources open up new vistas**
- **OpTecBB: Berlin's Senator Harald Wolf informs about the Development of the Competence Field of Optical Technologies**
- **OpTecBB delegation visits the South Korean Photonics Mekka Gwangju**
- **OpTech-Net seminar “In-building networks with POF cables” a great success**
- **bayern photonics: Optic Design Special Interest Group, Bavaria / Baden Wuerttemberg**
- **Photonics BW - 7th European Framework Programme**



Dear ladies and gentlemen, dear members of the Competence Networks for Optical Technologies,

Photonics specialists from all over the world will gather in Munich from 18 to 21 June 2007, when everything at the fair ground is going to focus on light.
Well-known companies as well as small and medium-sized firms and innovate start-up's will come and showcase their products, services and innovations during these four days. *LASER.World of Photonics 2007* will see a participation of the German Competence Networks for Optical Technologies for the third year running.

At our joint exhibition stand 24 co-exhibitors will offer a broad range of products and services.

In this fair issue of the OptecNet Newsletter we'd like to introduce all the co-exhibiting companies at the stand to you. Furthermore you'll read about the latest news of the regional Competence Networks for Optical Technologies.

Enjoy reading our exhibition issue!

OptecNet News LASER 2007

Welcome at our joint exhibition stand!

In the following you'll get a first glimpse about the exhibitors at our joint exhibition stand and the new products they offer ...

Agfa-Gevaert HealthCare GmbH

The Optics Centre is part of the Agfa-Gevaert HealthCare GmbH. It is company-wide responsible for the development and manufacturing of optical and opto-electronic components and modules. The Centre also offers these services to potential partners.

Baden-Württemberg International

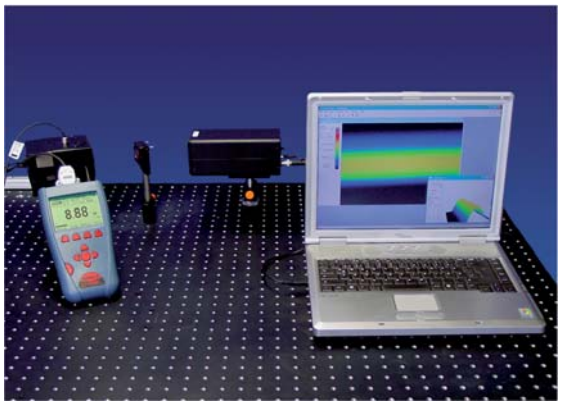
Baden-Württemberg International (bw-i) initiates cooperations between local and foreign companies through programs aimed at penetrating key markets across the globe. It also promotes Baden-Württemberg as a centre of business, education, and research – both in Germany and abroad. In addition, bw-i provides advice and assistance to foreign companies looking to invest in the area, and organises projects in selected countries.

CINOGY GmbH

CINOGY GmbH was established in 2006 as a spin-off company of the HAWK - University of Applied Sciences and Arts in Göttingen. The core competencies of CINOGY GmbH are embedded in the research, development and construction of innovative products in the field of laser and plasma technology.

Products at LASER 2007

CINOGY presents its LaserDec® detector system. It is based on an image converter which can be used as a monitoring system for high-end lasers in the infra-red range.

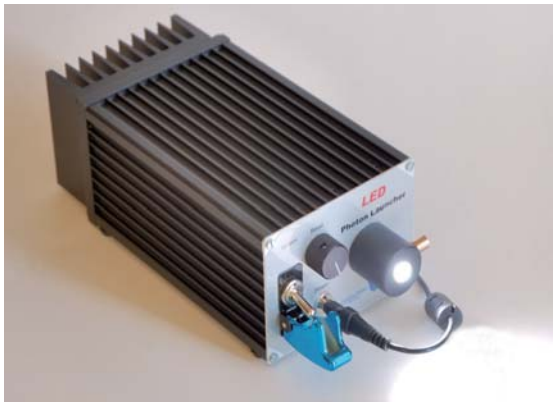


Collischon Optik Design

Collischon Optik-Design develops diffractive optics for a wide range of applications as well as illumination systems for industrial applications. Furthermore, the company works in the field of lens design.

Products at LASER 2007

Collischon Optik-Design exhibits its new product, the Photon Launcher, a LED fibre optic light source to be used in microscopy and image processing.

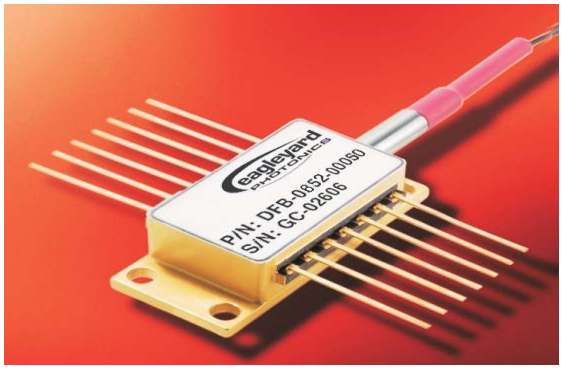


eagleyard Photonics GmbH

Since its foundation eagleyard Photonics GmbH has become a leading provider of High Power Laser Diodes with wavelengths ranging from 650 to 1120 nm. Customers worldwide integrate Laser Diodes “made by eagleyard” into their systems, e.g. for applications in medicine, metrology and spectroscopy.

Products at LASER 2007

The company presents its DFB productline in the 14-in butterfly package with PM fiber for popular wavelenghts such as 760/785/852/976/1060 nm. Additionally, the 10 W CDL laser line will be displayed. It is available at wavelengths of 808 nm, 940 nm, 980 nm and 1064 nm and addresses the requirements of manufacturers of medical instruments.



Feldmann GmbH / FDS Group

In the past 45 years, Feldmann GmbH has acquired outstanding competence in the technological field of “Precision Graduations, Thin-Film Technology, Processing Precision Optics (IR-Optics) and Opto-mechanical system engineering”. The company develops and produces individual parts as well as large series according to customer specific requirements.

Fraunhofer- Institut für Angewandte Festkörperphysik (IAF)

The Fraunhofer IAF is a leading research and technology centre for compound semiconductors and their application in microelectronics and optoelectronics. Its research activities cover microwave and millimetre-wave monolithic integrated circuits, mixed signal and multifunctional integrated circuits , infrared sensors, lasers and LEDs as well as CVD diamond components

Present research activities include the development of novel semiconductor diode lasers, light emitting diodes, semiconductor disk lasers, and quantum cascade lasers for the spectral range reaching from the ultraviolet (350 nm) to the mid-infrared (12 µm). Furthermore, the technology for the fabrication and processing of synthetic CVD-diamond is available at Fraunhofer IAF.

Fresnel Optics GmbH

Fresnel Optics. A Reflexite Company is a manufacturing and sales organisation located in Thuringia, Germany. The company was founded under its present name in 1991 as a subsidiary of the Reflexite Corporation in Avon (USA). It offers 0standard production and custom fabrication of plastic optical components and sub-assemblies, with the complete chain of optical design, tool fabrication and precision polymer replication, based on compression and injection molding, product enhancement, and custom finishing.

OptecNet News LASER 2007

FUJIFILM Recording Media GmbH

FUJIFILM Recording Media GmbH in Kleve is a subsidiary of the FUJIFILM Group, a world-wide market leader in the area of optics. The company produces and sells magnetic and optical data storage media (CD, DVD, VHS, and many others) and one-way cameras named “Quicksnap” for the European market.

GD Optical Competence GmbH

Founded in 1992, GD Optics develops and produces state-of-the-art moulded optics in glass for highest requirements. The components are applied in telecommunication systems, optical length and angle measurement, optical sensors, laser diode collimators, laser distance measurement, bar code scanners, medical technology, optical data storage.

Ingenieurbüro Goebel GmbH

The company focuses on laser and LED safety and electromagnetic compatibility on safety and electromagnetic compatibility of customer specific products.
Based on the recent industry standards, it develops standard conformable safety concepts and provides classification and safety certificates for products of its customers.

Korth Kristalle GmbH

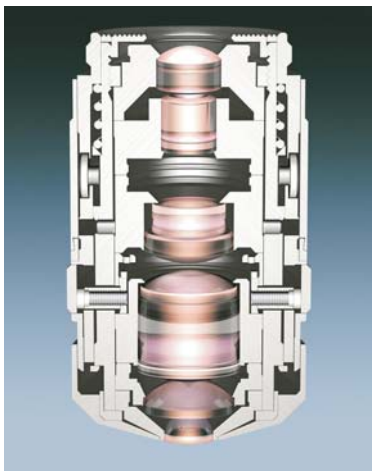
Korth Kristalle GmbH has been manufacturing crystals in Kiel/Altenholz for more than 55 years. The company’s products are primarily used in IR and UV spectra, where they have manifold applications, e.g. in astronomy, space exploration and for research purposes.

Leica Microsystems CMS GmbH

At LASER 2007, Leica will be represented by its own Optic Center. Leica Optic Center is a leading global innovator, manufacturer and supplier of high precision optical solutions for - but not limited to - microscopes and related instruments. Leica Optic Center manufactures a comprehensive portfolio of optical systems used in a wide variety of applications requiring vision, measurement, analysis or lithography, including applications in the life sciences (such as bio-technology research and medicine), the material sciences, space exploration, industrial inspection and the semiconductor manufacturing industry.

Products at LASER 2007

At the joint exhibition stand, Leica Optic Center presents its twin objective set-up for the Mikroscope Leica TCS 4PI as well as water immersion objectives for the DUV range and polarisation optics.



Luphos GmbH

Luphos GmbH was founded in summer 2006 as a spin-off of the Institute of Applied Sciences at Darmstadt University of Technology. The main device developed by Luphos is a high precision range measurement system based on an optical Multi-Wavelength Interferometer (MWLI).

Products at LASER 2007

The company presents the sensor head of the Multi-Wavelength Interferometer.

Mahr GmbH

Mahr is a medium-sized global Group in the investment goods industry whose name is traditionally associated with the terms industrial metrology, quality and innovation as well as high-quality measuring instruments for testing work piece geometry.

Key elements in its product portfolio also include high-precision gear metering pumps (spinning pumps) and highly accurate rotary stroke bearings as a universal component in mechanical systems.

Products at LASER 2007

Mahr exhibits the new MarSurf LD12 2D scans and the 3D topography of aspheres. The combination of high precision components, the MarSurf LD120 contour measuring instrument and a rotational axis, allows recording a net of linear and circular scans of rotationally symmetric aspheric objects. The system is assigned to control the production process of optical components even in early stages, where interferometers can not be applied due to the rough surface.

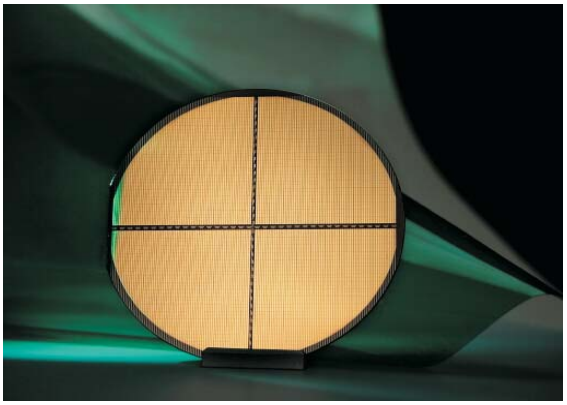
m2k-laser GmbH

Since 2001 the company has been producing diode lasers according to a huge variety of customer requirements. These lasers are famous for high-power operation and outstanding brightness as well as wavelengths between 760 nm and 2300 nm. During the past years m2k-laser has been established as the market leader concerning GaAs based tapered diode lasers and tapered amplifiers.

Products at LASER 2007

At this years exhibition, m2k-laser shows high-power diode lasers in the wavelength regime 1.9 µm to 2.1 µm. These lasers can be used for medical applications (e.g. laser

surgery), optical pumping of mid-infrared solid-state lasers (e.g. pump source of Ho:YAG) or for material processing (e.g. for processing transparent plastics).



Micreon GmbH

Micreon is a spin-off company of the Laser Zentrum Hannover e.V. and was founded in 2003. It is the first micro-machining company specializing in contract manufacturing and technological services using ultra fast laser sources. Ultra fast laser technology has all the advantages necessary for current and future miniaturisation applications with processing resolutions in the sub-micrometer range that are not only smaller, butof higher quality than comparable con-ventional methods.

microtec GmbH, testlab for opto+ micro-electronics

The company is an independent and certified test house for semiconductors and other electronic components. The company focuses on the following fields of activity: test-engineering and test qualification and environmental tests, failure analysis, reliability support.

OpSys Project Consulting

OpSys Project Consulting offers comprehensive project management services in the field of optical system development to meet the challenges of today's photonics industry. Within the company's virtual engineering network OpSys Project Consulting selects the most appropriate partners in optics design, mechanical design, system integration and prototyping in order to fit each individual customer requirement.

Products at LASER 2007

As exhibitor at the OptecNet joint exhibition booth, OpSys presents several product samples of custom designed micro display light engines and other optical and opto-mechanical assemblies.

design!struktur

From first sketch and design layouts until mechanical design of parts and complex assemblies, from procurement of parts to assembly and commissioning – all this represents the company design!struktur. Within development of customized engineering solutions, design!struktur offers a wide range of options, from initial drafts via product design and construction

of single mechanical elements all through to complex system solutions.

Optikkomponenten & Kristalle GmbH

In 1996 Optikkomponenten & Kristalle GmbH was established in Berlin-Adlershof, Research and Industrial Park. The company is specialized in manufacturing optics of all different types of optical glasses and crystals. Being a small company, Optikkomponenten & Kristalle is able to act flexible in executing customer's demands.

TGZ Halbleitertechnologie an der Universität Stuttgart

The transfer and founder centers (TGZ) of the technology transfer initiative (TTI) at the University of Stuttgart intend to intensify the cooperation between university and industry. The TGZ Semiconductor Technology hereby concentrates in the fabrication, charac-terization and the advanced training in the field of optoelectronic III-V-semiconductors.

Universität Duisburg-Essen, Zentrum für Halbleitertechnik und Optoelek-tronik (ZHO)

The Department has been engaged in the development of photonic components for more than 15 years. The main focus is on prototype fabrication of optoelectronic components, in particular high speed components and their implementation into sub-systems or modules, which are used either in optical signal processing and . communications (including wireless mm-wave access), biophotonic human micro system implants or sensing applications.

Universität Hamburg, Institut für Laser-Physik

The Institute was founded in 1991. It is designed as a centre of basic and applied research and of advanced teaching. Research is focused on the interaction of light and matter, the development of novel coherent light sources and corresponding detection and preparation techniques.

Present research activities involve laser spectroscopy and quantum optics, degenerate quantum systems, growth and characterisation of novel laser crystals, development of novel coherent light sources including non-linear frequency conversion techniques and novel laser systems designed for specific applications.

WiRO mbH

WiRO is a consultancy that focuses on location marketing and support for the region of East Württemberg. The services offered by WiRO are directly aimed at improving the economic capacities in order to strengthen the economic performance of the region of East Württemberg.

OptecNet News LASER 2007

Latest news of the regional Competence Networks for Optical Technologies

Innovative light sources open up new vistas

Goslar 15. Mai 07 - InnvationsForum Photonik took place at the magnificent Kaiserpfalz.

Beeing invited by PhotonicNet and the Technical University of Clausthal, about one hundred people shared a wonderful time travelling through almost one century of research and development of light – starting with Einsteins basic explanations (theories) and ending up with cutting-edge ultrashort pulses and organic lasers. Moreover, an important focus of the event was the award ceremony of the Kaiser-Friedrich-Forschungspreis 2007.

Dr. Werner Späth

Not only the dignified ambience of the Aula Regis, but also the prominent speakers were worth the travel to the beautiful town of Goslar near the Harz mountains: Dr. h.c. Werner Späth, former head of development at Siemens/ Osram Opto Semiconductors, shared alomost all stages of the “silent revolution” of light sources. “To have a long breath and to believe in what you do was always very important.”

It was worth to stick to it: Todays LEDs shine 100 times brighter than in the beginning. Fibre optics made of Silica reach bit rates of 10 Terabit/s. And the efficiency of high power lasers reaches 70 percent now. The following speaker, former CEO of Trumpf Laser, Paul Seiler, gave an impressive review of laser history from the first laser light by Theodore Maiman in 1960 up to today’s lasers, i.e. highly specialized tools for industry and research. He underlined the importance of the laser funding by the BMFT in the eighties, especially by supporting joint projects between research and industry in order to reach a leading position on the world market.

Two academic experts gave a glance on current research in this field: Professor Riedle from LMU Munich is working on femtosecond pulses as an important tool to measure very fast processes or precise material processing; Professor Kowalsky

from Brunswick is specialized in organic materials in electronic and photonic fields, enabling, i.e. organic displays (OLED) or, still far from market launch, organic lasers.

With a vivid and humorous lecture about “Einstein and the modern optics”, Professor Danzmann, Director of the Max Planck Institute for Gravitational Physics (Albert Einstein Institute), pointed out, that without Einstein, we wouldn’t have reached the current state of research. Einstein's theory of space, time and gravity predicted a number of new phenomena as the so-called gravitational waves, an important field of study of Danzmann’s institute in Hanover.

The Laureates

A complete novel display technology convinced the jury: The Kaiser-Friedrich-Forschungspreis 2007 was awarded to the Institute for High Frequency Technology (TU Brunswick).

With a special active-matrix the researchers obtain essential efforts towards highly transparent organic displays. Compared with LCD-Displays, OLED promise brilliant colours, less weight and lower costs of production. The latest improvement will enable a wide range of applications as in-time surgery-support, cooperative construction or even virtual artwork. Dr. Jochen Stöbich, who funded the price of 15.000 Euro, wants to encourage researcher to create innovative ideas which is indeed the basis of entre-preneurial success.

“The optical technologies have very high potentials and are worth to keep an eye on!”

Award ceremony: Dr. J. Stöbich, Dr. T. Riedl, Dr. H.-H. Johannes, Dipl.-Ing. Jens Meyer, Dipl.-Ing. Michael Kröger (from left to right)

Further information:
www.kaiser-friedrich-forschungspreis.de

www.photonicnet.de

Berlin’s Senator for Economics, Techno-logy and Women’s Issues, Harald Wolf, informs about the Development of the Competence Field of Optical Technologies

On the occasion of the 6th round trip "Wie aus Wissen Arbeit wird" ("How work comes from knowledge"), Senator Harald Wolf visited on May 16th 2007 enterprises and facilities within the Optical Technologies Area. He became informed about the progress of two outstanding innovation projects, which Berlin promotes by its future

The project Berlin Access focuses on the development of a new technical solution for a glass fibre connection (Fiber To The Home). This project includes optical transmission and receipt components, as well as other components and a prototype in the private dwelling. Several Fraunhofer Institutes, the Heinrich Hertz Institute, the IZM/Teltow as well as some members companies of the Competence Network for Optical Technologies OpTecBB e.V. Merge Optics GmbH, the FOC GmbH, Berliner Glas KGaA, Herbert Kubatz GmbH & Co are involved in this fastidious project. The new product shall be manufactured in Berlin – beginning with the development of the technology up to the installation of the transceiver. First application developments are already on the way into the market.

(see also: http://www.zukunftsfonds-berlin.de /tsb_berlin_access_06.pdf.)

The project DELIOS focuses on the development of an intelligent traffic light. Therefore a camera including a picture analysis computer is attached to the traffic light mast. So the traffic light is able to sense the traffic coming from different directions and thus can optimize the traffic light circuit, the flows of traffic and the waiting periods at the traffic lights by means of an own control logistics or via a connection with central traffic computers. The project is coordinated trough the company Hella Aglaia Mobile Vision GmbH.

(http://www.zukunftsfonds-berlin.de /tsb_delios_06.pdf)

Senator Wolf: „The future fund projects presented today are two examples of a multitude of successful developments, which contributed to the fact that the industry develops above average well. The use of optical technologies has large growth chances in the region-chances that we must and want to use."

Optec-Berlin-Brandenburg (OpTecBB) e.V. coordinates the Berlin competence field for Optical Technologies by bundling the core competencies of the capital region. In the area of the optical technologies research, development and application are successfully interlaced.

www.optecbb.de

OpTecBB delegation visits the South Korean Photonics Mekka Gwangju

Within the scope of the pilot project "Research Marketing South Korea" by the Federal Ministry of Education and Research an OpTecBB delegation visited Gwangju and organized a one-day workshop with research institutes of the region and the Chosun University The workshop took place in the newly established Kimdaejung Convention Center.

In subsequent discussions in these research institutes, the Chosun University, the industry association KAPID (Korean Association for Photonics Industry Development) as well as the City Government of Gwanju it became clear that South Korea pursues very ambitious goals in the area of photonics and intends to become one of the leading industrial economies in this field within the next years. Gwangju plays thereby as industrial site a key role. A further co-operation was agreed for the project MoUs.

www.optecbb.de

OpTech-Net seminar "In-building networks with POF cables" a great success

Broadband services, such as video on demand (VoD), peer-to-peer fast file transfer, video conferences, VoIP etc., become more and more important for private dwellings and industrial sites. But at the moment, each of these networks is optimized for a particular set of services which complicates the introduction of new services and the creation of links between them. A single broadband multi-service in-building network could provide an efficient solution to host all existing and upcoming services jointly. Optical fibre is an excellent candidate for implementing such a network, in particular multimode Polymer Optical Fibre (POF). The large bandwidth and ease of installation as well as the low costs make POF a very attractive medium for broadband in-building networks in small industrial sites

as well as in private dwellings. For this reason OpTech-Net e.V. offered on March, 22nd, 2007 for the first time a seminar on "In-building networks with POF cables" for electro-technical craftsmen. The seminar war realised in cooperation with the Department of Optoelectronics of the University of Duisburg-Essen, the federation of builders of electronic and information technology systems for North-Rhine Westphalia and the Netzwerktechnikum Dortmund. In this seminar the participants were acquainted with the basic questions of in-building networks as well as the techniques, the needed devices, standards and their installation. In the afternoon all participants could assemble active and passive components, devices and networks. For most of them it was the first contact with POF and the related components. Due to the great success of the seminar, it will be held again on August 28th, 2007 in Duisburg.

For further information, please contact Dipl.-Ing. Dirk Kalinowski: Phone +49 203 379 4658 / E-Mail: info@optech-net.de

www.optech-net.de

Optic Design Special Interest Group Bavaria / Baden Wuerttemberg

The two regional Competence Networks for Optical Technologies, PhotonicsBW (Baden Wuerttenberg) and bayern photonics (Bavaria) have, as part of their recent linking-up of their members, established special interest workgroups including one for Optic Design.
As of 10 November 2005, in addition to the regular separate meetings of bayern photonics, joint meetings from both networks are now held, too.

Up to now, six joint meetings have been held with an average attendance of 30 participants. The attendees are very enthused about both, the organization and the subject matter of these meetings. The meetings offer highly selective, continuing education at a good intellectual level and, at the same time, offer an invaluable platform for the exchange and discussion of personal experiences and problem solving.

„Contacts are the primary, and most important, reason to participate in the networking," says the moderator, Dr. Gross (Carl Zeiss AG). There are also recognizable long term benefits, for example, locating cooperation partners as well as accredited education activities (e.g. diploma theses) within the member organizations. The possibilities and opportunities are many-sided. Dr. Gross comments further, „Simply the establishing of joint cooperative efforts by Dr. Sickinger of the Bavarian Group and Dr. Ehrhardt of Photonics BW, has improved"the composition of the groups and resulted in a much broader and deeper, positive handling of the various themes."

This statement accurately reflects the opinion of the other members. The workgroups offers, through many specialized themes, (e.g. Optimizing Lighting, Freeform Surfaces, and DOE's) the opportunity to evaluate the „state-of-the-art"of their partner participants.

Dr. Herbert Gross / Carl Zeiss AG

One can compare the products and performances of the other participants to their own efforts and thereby better recognize one's own strength and weakness'. These and many other advantages underline the success and advantages of the joint Bavaria/Baden Wuerttemberg cooperation and also represent a success for the Optical Technologies Competence Network in general.

www.bayern-photonics.de

7th European Framework Programme for Research and technological Development has begun

The first calls for proposals made within the scope of the 7th Framework Programme for Research and technological Development of the European Commission (FP7) occurred at the end of December 2006.

For the whole Europe, 50,5 billion Euro are provided for funding cross-border R&D projects for the period 2007-2013, which corresponds to an annual allocation of 7,22 billion €, an increase of more than 40% compared to the previous programme. The 7th Framework Programme consists of four specific programmes, which correspond to the four main objectives pursued by the European research policy.

The „Cooperation“ field (32,365 billion €) is sub-divided into 10 thematic priorities focusing on trans-national research cooperation within the scope of joint projects and networks. The „Ideas“ field (7,460 billion €) deals with the formation of a European Research Council (ERC) in order to support “Frontier Research“, as researchers have suggested. The „People“ field (4,728 billion €) supports measures called the „Marie Curie actions“, encouraging training and career development of researchers. The „Capacities“ field (4,217 billion €) supports central aspects of the amelioration of innovation capacities throughout Europe, like the development of research infrastructures, research for the benefit of mall and medium-sized enterprises (SMEs) or the reinforcing of intensive cluster initiatives in research at regional level. Besides, a specific programme deals with non-nuclear research activities of the Joint Research Centre (1,751 billion €) and it is also to mention the nuclear research programme EURATOM, for which 4,061 billion € are provided.

As the budget repartition shows, the „Cooperation” programme is the core and largest component of FP7. Cooperation projects between universities, industry, research centres and public authorities have to correspond to one of the ten thematic priorities divided as follows:health food, agriculture and biotechnology; Information and communication technologies (IT);nano-sciences, nanotechnologies, materials & new production technologies (NPT); energy; environment (including climate change); transport (including aeronautics); socio-economic sciences and humanities; Security and Space.

Concerning the optic industry, it is possible to consider trans-national R&D activities in all thematic fields. However, very good possibilities are especially to explore in the IT, health and NPT sectors. The „Capacities“ programme comprises a specific area for SME-specific research projects. Indeed, the European Commission wants to finance SMEs’ mission oriented research, irrespective of the thematic priority, just as it has already been done in the previous programme CRAFT.

The particularity is that the so-called

research service providers are financed by 100%.A company is considered as a SME if it employs less than 250 people and disposes of an annual turnover under 50 Million €..

The funding level is different from an activity to another. Each one is financially supported to the following extent: R&D Activities: 50% (Exception: public and non-profit R&D organisations and SMEs 75%); Demonstration activities 50%; Training activities 100%; Management activities 100%; Fundamental Research ("Ideas" Programme) 100%; Coordination and Support Measures 100%; Measures in favour of researchers'careers (Marie Curie actions) 100%.

Apart from a few exceptions, proposals require an international consortium of applicants who have to be located in different European countries. The formation of a consortium should always take the added value chain of the targeted product or process into account. For the rest, if necessary, the relevant regional Innovation Relay Centre (IRC) can help find appropriate partners. A lot of them don't only support the consortiums during the application period but also help them in the project implementation by assuming significant parts of the project management.

Moreover, the EU supports the formation of international project groups through the promotion of cluster initiatives in the field of optic technologies. The OMNINET Project

is an outstanding example for this, led by the French initiative Optic Valley and composed by 15 partners from 6 European countries.

Further information:

http://irc.cordis.lu/cordis.europa.eu/fp7/home.html
http://cordis.europa.eu/fp7//ict/photonics/home_en.html
http://www.europe-innova.org

www.photonicsbw.de

Imprint

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