

ABBE SCHOOL OF PHOTONICS PRESENTS



**DOCTORAL STUDENT'S CONFERENCE FOR
THE DISCUSSION OF OPTICAL CONCEPTS**

**21ST – 25TH MARCH 2011
NAUMBURG, GERMANY**

SUBMISSION DUE: 1ST DEC 2010

DoKDoK

**1st Doctoral Student's Conference for
the Discussion of Optical Concepts**

NONLINEAR OPTICS
ULTRAFAST OPTICS
PLASMONICS
ATTOFEMTOSECOND OPTICS
HIGH HARMONICS
OPTICAL SENSING
BIOPHOTONICS
FIBRE OPTICS
MODELLING
GREEN PHOTONICS
OPTICAL DESIGN
NANOFABRICATION
HIGH POWER LASERS
METAMATERIALS

Final Report

www.asp.uni-jena.de/dokdok



1st Doctoral Student's Conference for the Discussion of Optical Concepts (DoKDoK) Final Report

The first Doctoral Student's Conference for the Discussion of Optical Concepts (DoKDoK) was held at the Euroville resort in Naumburg on March 21st to 25th. DoKDoK was attended by 79 participants from 19 institutions, mostly PhD students but also Master students and junior PhDs with a background in Physics, Engineering and Chemistry, sharing a common interest in Photonics. The core of the conference program was formed by 67 scientific presentations, both oral and in form of posters, aimed at an audience with broad topical background. Oral presenters were given generous time to introduce the audience into their specific topic and a lively discussion after talks proved that this concept worked out well. While there was a formal poster session, during which a jury judged the poster contributions and their presentations by selecting the poster price winners, all posters were visible in the reception hall throughout the conference.



Sören Richter, Astrid Bingel, Kay Dietrich, Dennis Lehr and Benny Walther are receiving the DoKDoK poster price.

This allowed the poster presenters to intensely interact with the rest of the audience. All these measures helped to bring together experts of various and usually non-interacting fields of research and will spark many fruitful collaborations. The program was augmented by ample opportunity for scientific discussion and networking during receptions and the social day program.

Contributors were supplemented by Prof. Philip Russell and Prof. Matthew Zepf, two internationally renowned senior researchers in the fields of photonic crystal fibres and high intensity physics, who each gave inspiring keynote talks aimed at giving an overview over the basics and recent development in their fields.



Audience view of a talk given at DoKDoK.

An additional tutorial on the laser acceleration of electrons was given by Prof. Malta Kaluza. Other senior scientific personal was absent to foster scientific independence, openness of discussion, and to remove barriers imposed by perceived gradients of authority. The result was a relaxed atmosphere in which new ideas could be developed and collaborations forged.

DoKDoK was made possible by various sponsors, which allowed the organizers to offer heavily subsidized admission rates, including all social events – allowing scientists from institutions with very strict budgetary regulations to participate. The sponsors included five scientific institutes, four industry partners and one scientific society. While the scientific

institutions have a direct interest in supporting DoKDoK most industry partners wanted to present themselves to future, leading, scientific employees and enriched the academic conference by their applied view on careers paths and research, focussing heavily on the implementation of scientific results into actual products.

The conference venue was chosen in Naumburg to be sufficiently close for most participants to reduce travel times and allow partial attendance if wanted, yet far enough to encourage staying at evening events. The location of the venue in the historic city of Naumburg did also provide a rich cultural background during the social day, which was introduced to let the dense information of the first two conference days settle and provide yet another informal opportunity for scientific discussions.



DoKDoK participants Peter Nolte, Martin Otto, Stefan Fahr, and Thomas Paul are talking about a collaboration project.

In summary the organizing committee is convinced that DoKDoK was a great success. Although much of DoKDoK's benefit is indirect and therefore hard to measure it is clear that the conference has fulfilled its role of bringing young researchers from various areas of photonics together in a relaxed and focussed atmosphere, allowing them to communicate their scientific skills, results, and problems to a broad and competent audience. The vivid discussions, animated conversations, and concentrated listening, as well as the numerous and positive feedback of participants, lead the organizers to believe that the concept for DoKDoK has proven as extremely successful. To gain maximum benefit it should be installed as a regular topical meeting of young scientists, in order to continuously improve and strengthen the inter-institutional ties in the local and regional photonics community. Such continuity would also allow for future conceptual development which will sharpen the profile of the Abbe School of Photonics as a provider of excellent and state-of-the-art education of young researchers in the global photonics community.



A group of DoKDoK participants is smiling for the camera.

Participant's feedback

...the conference was successful way beyond expectation...the discussions were extremely intense and professional...

Christian Helgert
Institute of Applied Physics,
Friedrich-Schiller-
Universität Jena, Germany



The DoKDoK audience during a talk.

...DoKDoK was a very enlightening event...normally one does not know what others do and which fields they are working on...it brings forward the own work...

Florian Just
Institute of Photonic Technology, Jena, Germany

...DoKDoK was great...it has clarified several different ideas and gave a welcome feedback from students working on different fields with different views...

Susette Germer
Helmholtz-Centre Dresden-Rossendorf, Germany

...a perfect opportunity to get in contact with colleagues working in the field of optics...

Christoph Zeh
Fraunhofer Institute for Nondestructive Testing, Dresden, Germany

.. a great opportunity to know about recent research in photonics, but also to know what the companies are doing...

Paul Vargas Jentsch
Institute of Photonic Technology, Jena, Germany

...DoKDoK was an outstanding [...] opportunity to get in contact with other enthusiastic PhD students...ideal to build up a comprehensive network between adjacent topics in the field of optics...the participants will benefit from this event...I am looking forward to the next DoKDoK...

Alexander Hartung
Institute of Photonic Technology, Jena, Germany

DokDok was a nice oportunity [...] to gain an insight into other people's work and the possibilities there are [...] new collaborations and/or projects will be a long term outcome of this get-together...

Martin Schaffer
Institute of Applied Optics, Friedrich-Schiller-Universität, Jena, Germany

Some Facts about DoKDoK

- Number of Participants: 79
- Talks given: 44
- Posters presented: 23

Participating Institutions

- Institute of Applied Physics, Friedrich-Schiller-Universität, Jena, Germany
- Institute of Photonic Technology, Jena, Germany
- Institute of Applied Optics, Friedrich-Schiller-Universität, Jena, Germany
- Institute of Physical Chemistry, Friedrich-Schiller-Universität, Jena, Germany
- Institute of Optics and Quantum Electronics, Friedrich-Schiller-Universität, Jena, Germany
- Institute of Condensed Matter Theory and Solid State Optics, Friedrich-Schiller-Universität, Jena, Germany
- Helmholtz-Institute Jena, Germany
- Helmholtz-Centre Dresden-Rossendorf, Germany
- Fraunhofer Institute for Applied Optics and Precision Engineering, Jena, Germany
- Centre for Innovation Competence SiLi-nano, Martin-Luther-University Halle-Wittenberg, Germany
- Institute of Physics, Martin-Luther-University Halle-Wittenberg, Germany
- Fraunhofer Institute for Nondestructive Testing, Dresden, Germany
- Max Born Institute for Nonlinear Optics and Short Pulse Spectroscopy, Berlin, Germany
- University of Applied Sciences, Ilmenau, Germany
- Randall Division of Cell & Molecular Biophysics, King's College, London, UK
- Moscow State University, Moscow, Russia
- Max-Planck-Institute for the Science of Light, Erlangen, Germany
- Queen's University, Belfast, UK

Sponsors

- The Abbe School of Photonics
- Helmholtz Institute Jena
- Carl Zeiss AG
- Layertec GmbH
- Fraunhofer Institute for Applied Optics and Precision Engineering
- Institute of Photonic Technology
- JENOPTIK AG
- OSA - Jena Student Chapter
- Institute of Optics and Quantum Electronics
- Thorlabs GmbH



Benny Walther is explaining to industry sponsors how a new kind of artificial hologram could improve real world devices.

General Topics

- Plasmonics & Metamaterials



- Micro- & Nanofabrication
- High Intensity Physics
- High Power Lasers & Applications
- Biophotonics & Optical Sensing
- Green Photonics
- Fibre, Guided Wave & Nonlinear Optics

On behalf of the Organizing Committee



Falk Eilenberger – DoKDoK Conference Chairman