



summer school

International Photonics Cluster
Berlin · Tucson · Ottawa

07th-11th August 2006

Humboldt University
of Berlin
Institute of Physics
Newtonstraße 15
D-12489 Berlin
www.optecbb.de/summerschool

Campus Berlin Adlershof

Adaptive Optics and Microoptics

Supported by



Pioneers in Photonic Technology

WISTA-MANAGEMENT GMBH

Sponsored by



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Monday, 07th of August

14.00 Registration
19.00 Welcome Reception

Tuesday, 08th of August

Theory of Microoptics
Introduction to diffractive optics
Dr. Andreas Hermerschmidt, HOLOEYE Photonics AG

09.30-10.00 Rigorous numerical methods of grating diffraction for micro-optical elements
Dr. Bernd Kleemann, Carl Zeiss AG

10.00-10.30 Thin film microoptical approaches
Dr. Rüdiger Grunwald, Max-Born-Institut für Nichtlineare Optik und Kurzzeitspektroskopie

10.30-11.00 Coffee Break

11.00-12.30 Flexible modeling and design for Microoptics with LightTrans Virtuallab™
Prof. Dr. Frank Wyrowski, Lighttrans GmbH

12.30-14.00 Lunch Break

Fabrication of microoptics
Micro- and nano-scale optical components fabricated by use of VLSI
Margit Ferstl, Fraunhofer-Institut für Nachrichtentechnik Heinrich-Hertz-Institut

14.30-15.00 The preparation of micro molding tools by LiGA technique
Dr. Daniel Schondelmaier, Berliner Elektronenspeicherring - Gesellschaft für Synchrotronstrahlung (BESSY) m. b. H.

15.00-15.30 Micro machining technologies for optical applications
Dirk Oberschmidt, Fraunhofer-Gesellschaft zur Förderung der angewandten Forschung e.V.

15.30-16.00 Coffee Break

Implementation of microoptical elements
16.00-16.30 Diffractive Fizeau Null Lenses - diffractive optical lenses for measurements on aspheres
Jean-Michel Asfour, DIOPTIC GmbH

16.30-17.00 Geometrical sensor calibration by means of diffractive optical elements
Dr. Adrian Schischmanow, Deutsches Zentrum für Luft- und Raumfahrt e. V. (DLR)

17.00-17.30 Square shaped »dots« for color laser marking technology with the application in high secure ID Documents
Dr. Klaus Schäfer, ORGA Systems GmbH

20.00 Reception and exhibition of local companies and institutes

Wednesday, 09th of August

Fiberoptics Optical Interconnects
Light propagation in fibers physical and numerical modelling
Dr. Carl Weinert, Fraunhofer-Institut für Nachrichtentechnik Heinrich-Hertz-Institut

09.30-10.00 Resolvable and fixed optical connection technology physical principles and realisation
Cristian Kutza, FOC GmbH

10.00-10.30 Precise optical fiber coupling technologies for photonic modul packing
Dr. Henning Schröder, Fraunhofer Institut für Zuverlässigkeit und Mikrointegration (IZM)

10.30-11.00 Coffee Break

11.00-11.30 High speed optical transmission systems
Dr. Christian-Alexander Bunge, Technische Universität Berlin, FG Hochfrequenztechnik

11.30-12.00 High power fiber lasers
Dr. Jens Limpert, Universität Jena, IAP

12.00-13.30 Lunch Break

13.30-14.30 Time slot for additional confirmed talks as well as for visits at local companies on the WISTA campus

Excursion

Thursday, 10th of August

09.00-09.30 **Optical Materials Nanooptics**
Electronic and structural properties of organic semiconductors
Dr. Norbert Koch, Humboldt-Universität zu Berlin

09.30-10.00 **Optical properties of conjugated organic semiconductors**
Dr. Frank Balzer, Humboldt-Universität zu Berlin

10.00-10.30 **Organic Light Emitting Diodes**
Dr. Karsten Walzer, Technische Universität Dresden

10.30-11.00 Coffee Break

11.00-11.45 **Printed Electronics**
Prof. Dr. Emil J. W. List, Technische Universität Graz

11.45-12.30 **Excitonic processes and lasing in ZnO nanorods**
Holger Lange, Max-Born-Institut für Nichtlineare Optik und Kurzzeitspektroskopie

12.30-14.00 Lunch Break

14.00-14.30 **Applications of Microoptics and Adaptive Optics I**
Spatial Light Modulator technologies and applications
Sven Krüger, HOLOEYE Photonics AG

14.30-15.00 Experiments with liquid crystal micro-displays in advanced university laboratory exercises
Frank Kallmeyer, Technische Universität Berlin

15.00-15.30 Amplitude and phase modulating liquid crystal spatial light modulators in a reference coded holographic data storage system
Dr. Judit Reményi, OPTILINK

15.30-16.00 Coffee Break

16.00-16.30 **MEMS SLM Development & Applications at IPMS**
Dr. Andreas Gehner, Fraunhofer Institut für Photonische Mikrosysteme (IPMS)

16.30-17.00 Inspection in manufacturing by high speed projection systems based on Digital Micromirror Devices
Thorsten Huth, GFMesstechnik GmbH

17.00-17.30 **Adaptive optics in astronomy**
Dr. Jesper Storm, Astrophysikalisches Institut Potsdam (AIP)

Friday, 11th of August

09.00-09.30 **Applications of Microoptics and Adaptive Optics II**
Nondiffracting ultrafast images generated with SLM and microaxicon arrays
Dr. Rüdiger Grunwald, Max-Born-Institut für Nichtlineare Optik und Kurzzeitspektroskopie

09.30-10.00 Interferometric testing of aspheres based on programmableCGHs
Ricarda Kafka, FISBA OPTIK GmbH

10.00-10.30 SHG with high power semiconductor lasers: Interrelation between laser beam characteristics, optical design and properties of nonlinear crystals
Dr. Reiner Güther, Ferdinand-Braun-Institut für Höchstfrequenztechnik

10.30-11.00 Coffee Break

11.00-11.30 An optimisation scheme for display of complex valued holograms on a liquid crystal Spatial Light Modulator
Dr. Unnikrishnan Gopinathan, University College Dublin, National University of Ireland

11.30-12.00 **Applications of Spatial Light Modulators**
Dr. Jonathan Leach, University of Glasgow

12.00-12.30 **Diffractive optical tweezers at an air-liquid interface**
Prof. Dr. Stefan Bernet, Medizinische Universität Innsbruck

12.30-14.00 Lunch Break

14.00-14.30 Phase control in optical processing systems
Dr. Jörg Imbrock, Universität Münster

14.30-15.00 Applications of the high resolution optical reconstruction of digital holograms
Dr. Günther Wernicke, Humboldt-Universität zu Berlin

Registration



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Last Name

First Name

Address

City/Country

Phone/Fax

E-mail

Institution
(when applicable)

Participation fee:
Member of Kompetenznetze Optische Technologien:
Students

200,00 EUR
 100,00 EUR
 50,00 EUR

Date

Signature

Please complete and fax this form before July 14th to:
International Photonics Cluster Summer School,
Mr. Bernd Weidner, + 49.30.6392-1729, Email: summerschool@optecbb.de

We request that you please transfer the
participation fee upon receipt of confirmation
of registration.