

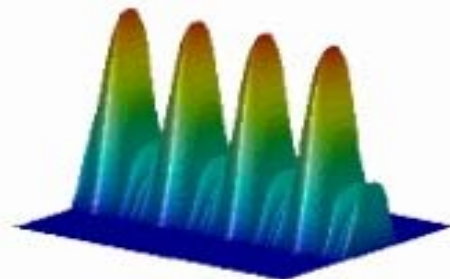
Theme

Numerous studies have been performed to develop new numerical methods for computer simulation and modeling of electromagnetic fields in optical systems. The fields of study include research in efficient computational algorithms for differential and integral equations, parallelization of algorithms on parallel computers, and analysis of different numerical solvers.

These efforts have resulted in the development of efficient computational methods for analysis of scattering, diffraction and imaging in various optical disciplines. Applications include diverse subjects, such as, thin film solar cell modeling, lithography simulation, and laser simulation.

Scope

This two days workshop is intended to introduce modeling basics and theoretical framework of various numerical methods for electromagnetic field simulation such as Finite Element, Finite Difference and Finite integration method. The lectures address practical and innovative aspects of present and future simulation technology.



Monday, 5th May 2008

- 08:30-09:00** Registration
- 09:00-09:15** Opening Remarks
- 09:15-09:30** **Presentation of Research Group**
C. Pflaum (University of Erlangen)
- 09:30-09:45** **Presentation of Research Group**
U. Peschel (Max-Planck Institute)
- 09:45-10:00** **Presentation of Research Group**
A. Erdmann (Fraunhofer Institute – IISB)

Coffee Break

- 10:30-11:30** **Computational electromagnetic:
A Walk Through the Zoo of
Algorithms**
T. Weiland (University of Darmstadt)
- 11:30-12:30** **Unified Modeling for Optical
Engineering**
F. Wyrowsky (University of Jena)

Lunch

- 13:30-15:00** **A Survey of Finite Element
Methods for Maxwell's Equations**
P. Monk (University of Delaware)
- 15:00-15:15** **New Finite Elements for Large-Scale
Simulation of Optical Waves**
B. Heubeck (University of Erlangen)
- 15:15-15:30** **Numerical Simulation of Solid-State-
Lasers**
M. Wohlmutz (University of Erlangen)

Coffee Break

- 16:00-17:00** **Organic Optoelectronic Devices**
U. Lemmer (University of Karlsruhe)

17:00 **Excursion to Bamberg**

Tuesday, 6th May 2008

- 8:30-10:00** **Some Recent Developments on
FDTD and FETD for Metamaterials
and Computational Optics**
F. Teixeira (Ohio State University)
- 10:00-10:15** **Comparison of EMF Simulation
Methods fo the Diffraction
Analysis of Lithographic Masks**
Z. Rahimi (Fraunhofer Institute - IISB)

Coffee Break

- 10:45-11:45** **Fourier Modal Method: From
Grating Theory to More Intricate
Structures**
P. Lalanne (Institute d'Optique, Orsay)
- 11:45-12:45** **Rigorous Simulation of High
Numerical Aperture Imaging
Systems**
P. Toeroek (Imperial College London)

- 12:45-13:00** **Decomposition Method for Fast
Rigorous Lithography Mask
Simulation**
F. Shao (Fraunhofer Institute - IISB)

Lunch

- 14:00-15:00** **Optical Properties of Thin-Film
Solar Cells**
H. Stiebig (Juelich Research Institute)

Coffee Break

- 15:30-16:30** **Special Topics in FE Method
(not confirmed)**
P. Urbach (University of Delft)
- 16:30-17:30** **FEM for the Design of Optical
Components**
F. Schmidt (Zuse-Institute, Berlin)

Registration

Members of the Erlangen Graduate School in Advanced Optical Technology shall participate in this workshop free of charge.

For all external participants there is a registration fee of 100 EUR. This fee includes participation in the workshop, conference documents, lunch and refreshments on both days and the evening event to Bamberg. After receiving the registration, a confirmation letter of the registration will be sent out giving the details on how the payment of the registration fee is to be done.

For cancellation before April 25th, a service charge of 50 EUR will be deducted from the refund. No refunds will be made for cancellations received after April 25th, 2008. Cancellations shall be made in writing. If there is no cancellation before the beginning of the workshop the registered participant has to pay the whole registration fee.

Registrations can be submitted online www10.informatik.uni-erlangen.de/de/Misc/CompOpt2008/ or in writing. All changes and cancellations must be submitted in writing and sent to:

**SAOT - Erlangen Graduate School
in Advanced Optical Technologies
Paul-Gordan-Str. 6
91052 Erlangen, Germany**

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Fax: + 49 9131 85 2 58 51

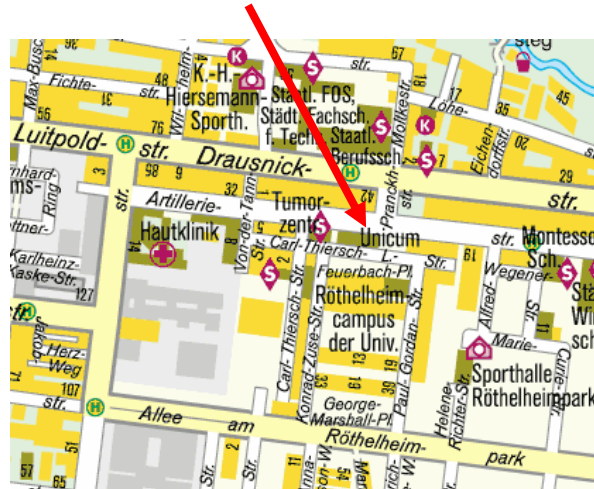
E-mail: SAOT@aot.uni-erlangen.de

Conference language: English

Program may be subject to change.

Conference Venue

Unicum Bar & Bistro
Carl-Thiersch-Straße 9, 91054 Erlangen



Sponsor and Organization

SAOT – Erlangen Graduate School
in Advanced Optical Technology
Paul-Gordan-Str. 6
91052 Erlangen, Germany

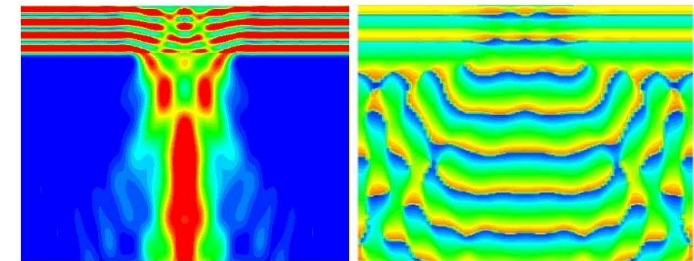
www.aot.uni-erlangen.de



2nd International SAOT Workshop Computational Optics

Electromagnetic Field Simulation
and its Application in Optics

May 5th – 6th, 2008
Erlangen, Germany



Workshop Chair:
Prof. Dr.-Ing. Alfred Leipertz

Organizing Committee:
Dipl.-Mat. Britta Heubeck, M.Sc.Eng. Zhabiz Rahimi,
Dipl.-Mat. Matthias Wohlmuth

**Friedrich-Alexander-Universität
Erlangen-Nürnberg**

