

OWTNM

2018

**XXVI International Workshop on
Optical Wave & Waveguide Theory and Numerical Modelling**

Bad Sassendorf, Germany, April 13–14, 2018

XXVI International Workshop on Optical Wave & Waveguide Theory and Numerical Modelling



(contributors, affiliations)



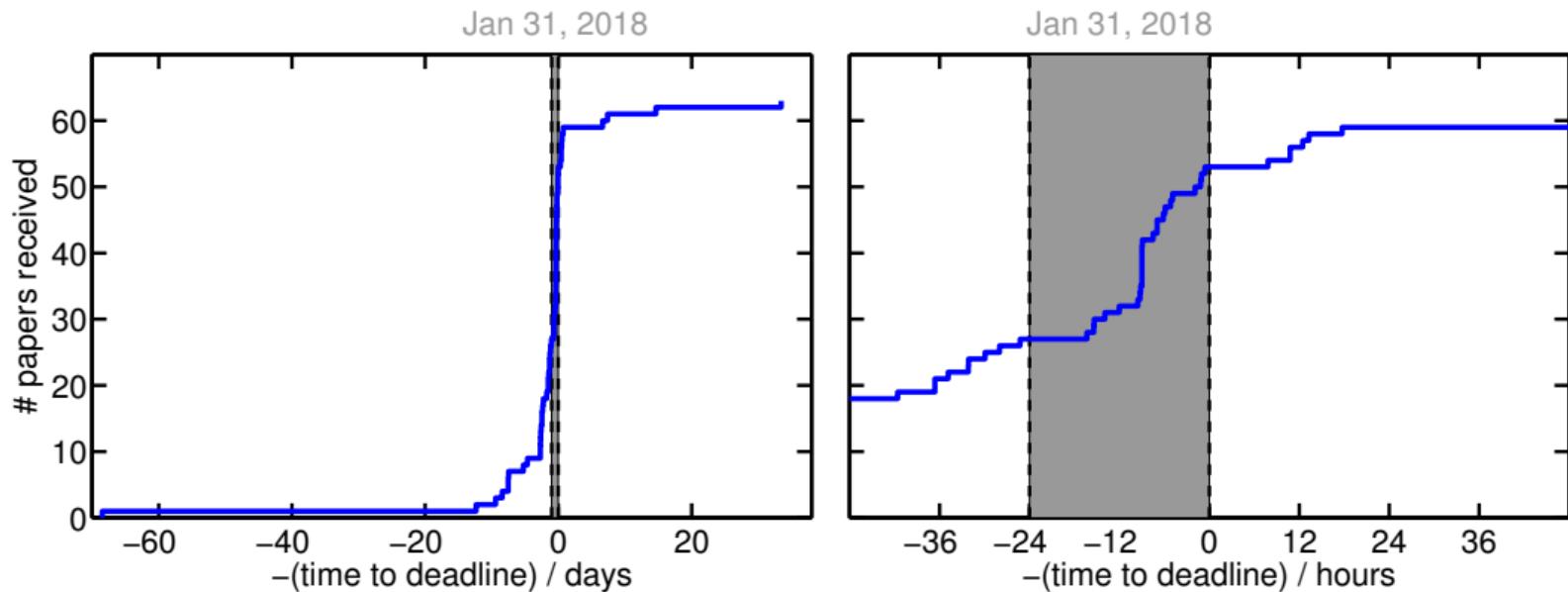
XXVI International Workshop on Optical Wave & Waveguide Theory and Numerical Modelling

≈ 65 participants,

- 45% student, 55% regular registrations,
- 95% academia / institutions, 5% commercial affiliation.

XXVI International Workshop on Optical Wave & Waveguide Theory and Numerical Modelling

Submission timeline:



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Technical program:

- 62 scientific presentations,
- 8 oral sessions, 1 poster session,
- 10 ¾ h talks, 2 h posters,
- 4 h of coffee & lunch breaks (+ workshop dinner).

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Last minute changes:

- Swap of papers O-4.1 and O-8.1.
- Cancellation of Poster P-20.

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Technicalities:

- Posters:
on display Friday, 8:30 – Saturday, 16:30,
- Oral presentations:
upload in advance (check), contact chairs,
15 min / 30 min *including discussion.*

Friday 09:00 – 10:15, Functional devices

- 09:00 D.N. Chigrin (invited),
Multiphysics simulations in nanophotonics
- 09:30 L. Ebers, M. Hammer, J. Förstner,
Slab waveguide steps with rounded corners at oblique incidence
- 09:45 N. Dhingra, J.C. Song, G.J. Saxena, E.K. Sharma,
B.M.A. Rahman,
*Germanium Telluride Phase Change Material based 1×2
Electro-Optic Switch*
- 10:00 A.E. Kaplan, A. Parini, G. Bellanca, P. Bassi, S. Trillo,
*A Compact Wavelength Router Dynamically Reconfigurable
through Destructive Interference*

Friday 10:45 – 12:00, Quantum optics / active devices

- 10:45 J. Münzberg, A. Vetter, F. Beutel, W. Hartmann, S. Ferrari,
W. Pernice, C. Rockstuhl (invited),
Design of integrated quantum optical single-photon detectors
- 11:15 P.-I. Schneider, L. Zschiedrich, X. Garcia-Santiago, S. Burger,
Optimization of quantum optical devices with machine learning
- 11:30 F. Spallek, A. Buchleitner, T. Wellens,
Upconversion in optimized photonic multilayer structures
- 11:45 H. Lüder, M. Gerken,
FDTD modelling of nanostructured OLEDs: analysis of simulation parameters for accurate radiation patterns

Friday 13:00–14:30, Numerical methods

- 13:00 N. Gregersen, J. R. de Lasson, L. H. Frandsen, O.S. Kim,
O. Breinbjerg, F. Wang, O. Sigmund, A. Ivinskaya, A. Lavrinenko,
P. Gutsche, S. Burger, T. Häyrynen, J. Mørk (invited),
*Benchmarking state-of-the-art optical simulation methods for
analyzing large nanophotonic structures*
- 13:30 G. Granet,
Multidomain spectral method for optical-waveguide analysis
- 13:45 H. Kleene, D. Schulz,
*An Assessment of Faber Polynomial Expansions for the Time
Domain Solution of Maxwell's equations*
- 14:00 M.M.R. Elsawy, G. Renverze, *Vector solver for 2D highly
nonlinear plasmonic waveguides: a rigorous analysis*
- 14:15 R. Kumar, A. Sharma,
Analysis of Absorption in the Absorbing Boundary Condition

Friday 15:00 – 16:30, Waveguide theory



- 15:00 J. García de Abajo (invited),
*Quantum Physics with Plasmons in Graphene and other
Atomic-Scale Systems* (!)
- 15:30 L. Cahill,
Field Solutions for Large Area Graded-Index Waveguides
- 15:45 P. Kwieicen, I. Richter, V. Kuzmiak, J. Ćtyroký,
*Magnetooptic Rigorous Coupled Wave Analysis – numerical
investigation of nonreciprocal waveguiding structures*
- 16:00 A.-L. Fehrembach, B. Gralak, A. Sentenac,
*Vectorial semi-analytical model for Fano resonances in guided
mode resonance gratings*
- 16:15 L. Yuan, Y.Y. Lu, *Bound States in the Continuum Surrounded by
Ultra-strong Resonances*

Friday 16:30 – 18:30, Poster session



TRR 142

Tailored Nonlinear Photonics

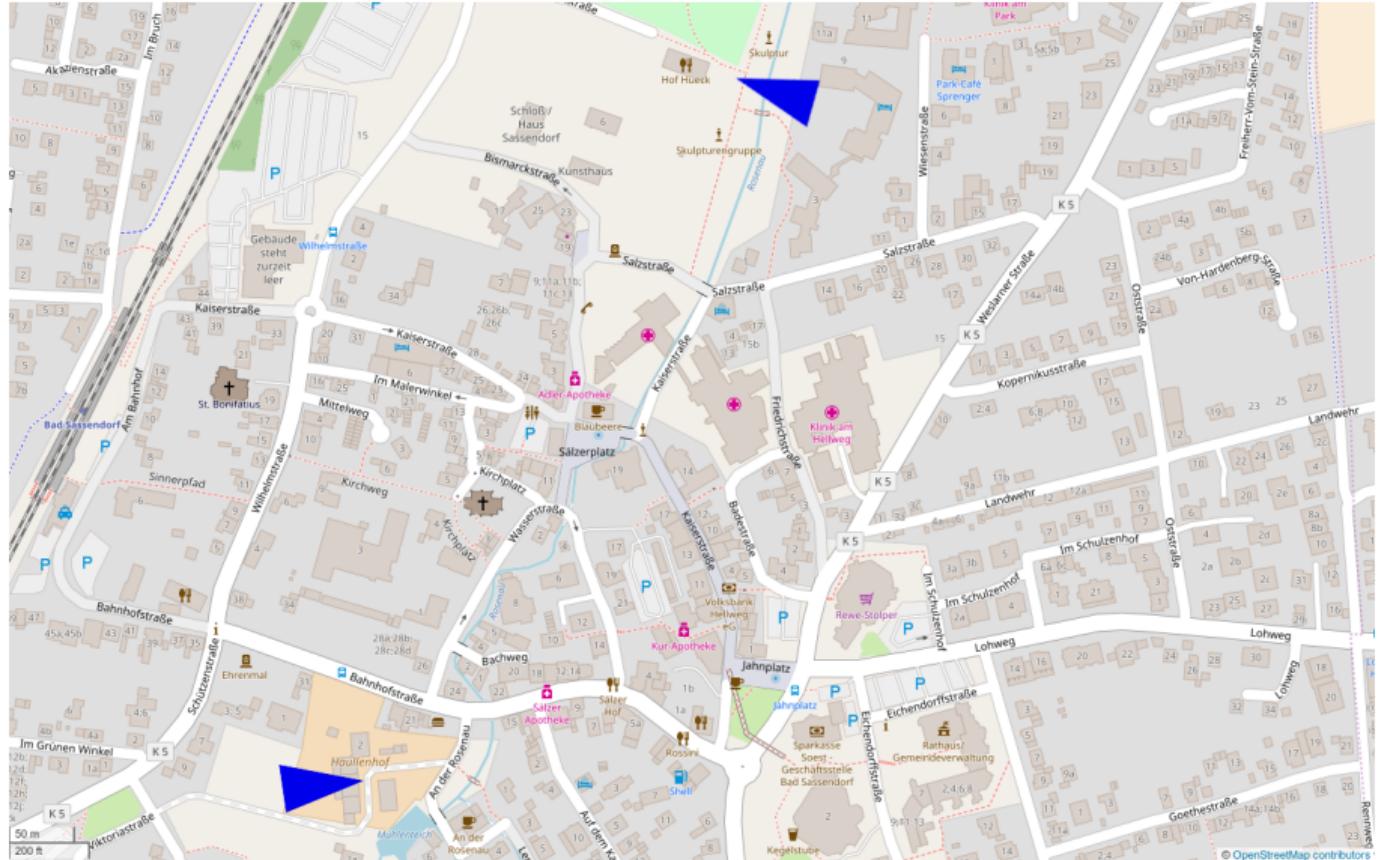


PhoeniX Software

Solutions for Micro and Nano Technologies



Workshop dinner: All OWTNM-participants are cordially invited to the restaurant of the hotel Hof Hueck at **19:00**.



Walking time ≈ 10 min, departure 18:40, courtyard in front of this building.

Friday 16:30 – 18:30, Poster session



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Saturday 09:00 – 10:15, Plasmonics

- 09:00 A. Trügler (invited),
Plasmon and phonon polariton mapping in an electron microscope
- 09:30 M. Burda, P. Kwiecien, I. Richter,
Nonlocal resonant behavior in plasmonic nanostructures: analytical and numerical approaches
- 09:45 V. Myroshnychenko, N. Nishio, F.J. García de Abajo, J. Förstner, N. Yamamoto,
Nanoscale Imaging of Plasmon Modes of Metal Nanoparticles by Cathodoluminescence Spectroscopy
- 10:00 T. Weiss, E.A. Muljarov,
On the mechanisms of plasmon-enhanced chiroptical response

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Saturday 10:15



JCMwave



Group photo!

Saturday 10:45–12:00, Nonlinear Photonics

- 10:45 K. Busch (invited),
Atom-Surface Interaction: Theory and Computations
- 11:15 W. Spiller,
The numerical investigation of colliding optical solitons as an all-optical-Gate using the Method of Lines (MoL)
- 11:30 V. Jandieri, R. Khomeriki, D. Erni, W.C. Chew,
All-Optical Digital Amplification in Nonlinear Photonic Crystal Waveguides
- 11:45 I. Allayarov, S. Upendar, M.A. Schmidt, T. Weiss,
A New Definition for the Kerr Nonlinearity Parameter

Saturday 13:00 – 14:30, Biosensing and metamaterials

- 13:00 F. Michelotti (invited),
Theory and concepts for all-dielectric biosensing
- 13:30 M.Y. Azab, M.F.O. Hameed, A.M. Nasr, S.S.A. Obayya,
Multifunctional Plasmonic Photonic Crystal Fiber Biosensor
- 13:45 T. Repän, A. Novitsky, M. Willatzen, A. Lavrinenko,
Reversed phase propagation for hyperbolic surface waves
- 14:00 S.A. Hack, J.J.W. van der Vegt, W.L. Vos,
"Cartesian" light: Unconventional propagation of light in a 3D crystal of bandgap cavities
- 14:15 J. Čtyroký, P. Kwiecien, I. Richter, J.H. Schmid,
J. Gonzalo Wangüemert-Pérez, Í. Molina-Fernández,
A. Ortega-Moñux, P. Cheben, J. Litvik, M. Dado,
Design of Apodized and Chirped Bragg Gratings in Subwavelength Grating Metamaterial Waveguides

Saturday 15:00–16:15, Functional (nano-) photonics

- 15:00 S. Phang, A. Vukovic, F. Fotsa-Ngaffo, G. Gradoni, S.C. Creagh,
P.D. Sewell, T. Benson (invited),
*Non-Hermitian Photonics from Parity-Time Symmetry to
Pseudo-Hermitian Structures* (!)
- 15:30 D.S. Kumar, S.C. Creagh, S. Sujecki, T.M. Benson,
*Modelling capture of pump power in the core using deformed step
index fibre*
- 15:45 F. Negredo, M. Blaicher, A. Nesic, P. Kraft, J. Ott, W. Döfler,
C. Koos, C. Rockstuhl,
Efficient Optimization of the Trajectory of Photonic Wire Bonds
- 16:00 M.V. Cojocari, A.A. Basharin,
*Spatial separation of electric and magnetic field in toroidal
metamaterial*

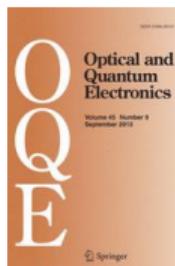
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Thanks!

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**Topical collection of *Optical and Quantum Electronics*,
submission deadline: August 1, 2018.**

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