

6th SFB/TRR 142 Workshop

“Tailored Nonlinear Photonics”

Venue “HOTEL DER SCHNITTERHOF”, Bad Sassendorf



October, Tuesday 1, 2019

9:30	Welcome
Session 1: Excitons in semiconductors	
9:40	“Freezing of exciton dephasing and rephasing by Rabi flops in InGaAs/GaAs quantum dots” Sergey Poltavtsev (A02)
10:00	“Second harmonic generation spectroscopy of excitons in Cu ₂ O” Andreas Farenbruch (B01)
10:20	Coffee break
Session 2: Nonlinear spectroscopy and many-body physics	
10:40	“Optical inter-subband nonlinearities in hexagonal GaN/AlN multi-quantum wells” Jan Mundry (B02)
11:00	“Two-Photon Interactions in Bulk Semiconductors: Theory and Experiment” Laura Krauss-Kodytek, Wolf-Rüdiger Hannes (A07)
11:20	“Many-body quantum clustronics” Mackillo Kira (Invited talk)
12:20	Lunch break
Session 3: Cavity polaritons	
13:20	“Ultrafast strain-induced switching of a bistable cavity-polariton system” Alexey Scherbakov (A06)
13:40	“Optical control of vortices in polariton condensates” Bernd Berger (A04)
14:00	“Nonlinear polariton fluid in microcavities and waveguides” Paul Walker (Invited talk)
15:00	Coffee break
Session 4: Silicon based photonics	
15:20	“Si photonic chips in SOI-CMOS compatible technology” Christoph Scheytt (Invited talk)
16:00	Principal investigator meeting
17:30	Dinner in Soest
20:00	Social Event Bowling in Soest

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October, Wednesday 2, 2019

Session 5: Nanooptics

9:00	“Efficient nonlinear nanoantennas: Plasmonic vs. dielectric devices” Christian Golla (C05)
9:20	“Wavelength multiplexed nonlinear plasmonic metasurface holography” Daniel Frese (A08)
9:40	“Nonlinear dielectric metasurfaces” Guiseppe Leo (Invited talk)
10:40	Coffee break and – important – room checkout

Session 6: Ferroelectrics/Nonlinear quantum optics

11:00	“Polarons and bipolarons in LiNbO ₃ - atomic structure and optical response” Falko Schmidt (B04)
11:20	“Realization of tailored waveguide structures in LiNbO ₃ and KTP: Technological aspects and applied characterization methods” Peter Mackwitz (B05)
11:40	“Progress towards investigating measurement-induced nonlinearities with superconducting detectors on integrated waveguides” Jan Philipp Höpker (C06)
12:00	Lunch break (13:00 conference photo)

Session 7: Nonlinear quantum optics

13:10	“Orchestrating PDC Temporal modes” Jano Gil Lopez (C01)
13:30	“Nonlinear quantum interferometers” Dr. Kai Hong Luo (C02)
13:50	“Tailoring light for nonlinear photonic lattices” Cornelia Denz (Invited talk)
14:50	Concluding remarks
15:00	Coffee and farewell