

Seminar on Computational Laser Systems (Measurement Systems Seminar/BIOLAS), SoSe 2026

Date: Monday, 3. DS., 11:10 – 12:40, BAR I88 (regular seminar, extra dates are in red)

Date	CW	Lecturer	Topic
13.04.	16	Jakob Dremel Dr. Lars Büttner	Introduction to Seminar & Presentation of Topics for Students
20.04.	17	Elena Goi FSU Jena	Nanoprinted Neural Networks for High-Content and High-Throughput Classification
22.04 9:20 TOE0315		t.b.a	Biomedical Sensors & Actuators
27.04.	18	Qingyuan Zeng Nacef Chaouch	Ultrasound multimode waveguide with slanted geometry (<i>SA defense, CO</i>) Simulation of ultrasound propagation in the human brain (<i>SA defense, CO</i>)
04.05.	19	Mathis Mueller	Optical Coherence Tomography measurements of erosion during sputtering (<i>SA defense, JD</i>)
08.05., 9:30, BAR 17	19	Katharina Blessing (MPI, Erlangen)	Flexible catheter development for endoscopy (lens design), Setting up and advance polarisation sensitive optical coherence tomography, tbd
11.05.	20	Yaokuan Zhang	Experimental investigation of single-channel ultrasound imaging (<i>DA defense, ZD</i>)
13.05. 9:20 TOE0315		t.b.a	Biomedical Sensors & Actuators
18.05.	21	Chuan Shi Shiyue Chen	Computational 3D Endoscopy with Microlens Arrays (<i>DA intermediate report, TG</i>) Multidimensional demultiplexer of multimode fiber using optical diffractive neural networks (<i>DA intermediate report, QZ</i>)
22.05., Friday, 14:00, BAR17	21	Rehearsal	Dr Clemens Bilsing, DGaO Hamburg, Award Presentation, “3D Localization Microscopy with Real-Time Adaptive-Optics Correction for Multiphase Microfluidic Flows”- (All slides in English—as always)
25.05.	22	– no seminar –	Pfingsten / Pentecost
28.05., Thursday, 13:00, BAR17	22	Rehearsal	Jakob Dremel: Jtg. Dt. Ges. Neurochirurg. 07.-10.06., Aachen Dr Stefan Krause: Optica Quantum 2.0 Conf. 14.-18.06., Glasgow/UK
01.06.	23	Dr. Lars Büttner	Laser Safety & Hazardous Substances Briefing (only for MST members)
08.06.	24	-	(JC: travel)
15.06.	25	-	(JC: travel)
22.06.	26	Yared Zhena Qilin Pan	Quantum Technology – Measurements with qdots (tdb) Reconstruction algorithms for optical tomography (<i>SA defense, BY</i>)
24.06., 11:00 BAR17	26	Ünal Onur, Zeiss Hub Dresden	OCT for biomedicine, tbd
24.06., 16:00	26	Clemens Bilsing	Rehearsal Talk for Lisbon conference, “3D Measurements of

			Transient Microscopic Phenomena using a Double-Helix Point Spread Function and a Convolutional Neural Network”
24.06., 17:00, ZOOM	26	Sandra Mamani, The Institute for Ultrafast Spectroscopy and Lasers at City College of New York, NYC	"Advanced Light-Matter Interactions in Biological Tissue: From Structured Light to Ultrafast Optical Kerr Spectroscopy" Papers on: Transmission of classically entangled beams through mouse brain tissue / analysis of vector vortex beams / optical vector vortex beams are Majorana-like photons / Optical Kerr effect in tissues from elderly male patients with Alzheimer's disease
25.06., 14:00/16:00	26	SICK Prize Awarding	all
29.06. ZOOM	27	Zhang, Jialong	Deep Learning assisted 4D computational ultrasound imaging (<i>DA defense ZD</i>), via Zoom
30.06., 14:50 REC C 213	27	Prof Markus Gräfe	Seeing Without Looking: Nonlinear Interferometers for Quantum Imaging with Undetected Light (Physics Colloquium)
01.07., Wed, 10:00 BAR17	27	Sven Richter	Challenges in neurosurgery towards sustainable progress in EKFZ digital medicine
02.07, 9:00 ZOOM	27	Christoph Lederbogen, CORE, Japan	Characterization and investigation of Through-Glass-Vias (TGVs)
03.07., 12:00	27	Bowen, Xian, Juergen	Rehearsal for Sustainable Photonics, 3 talks
06.07.	28	Christian Heyer Timon Johannes Boettger	Cramer-Rao Lower Bound for 3D Localization Microscopy with Double-Helix Point Spread Function (<i>CB</i>) Optimizing the Performance in Quantum Imaging (<i>SK</i>)
13.07.	29	-	(JC: travel)
20.07.	30	-	(JC: travel)
10.08., 14:00, BAR 17	33	Prof Kay-Uwe Giering, IIS Fraunhofer	New perspectives on quantum communication and postprocessing, tbd
14.08., 15:30, BAR17	33	Joseph Rosen, Professor <small>School of Electrical and Computer Engineering Ben-Gurion University of the Negev, Israel</small>	Roadmap on incoherent digital holography, tbd
28.9. ...not possible...shift to 8.10., 15:00	40	Chuan Shi	Computational 3D Fiber Endoscopy using Microlens Arrays (<i>DA defense, TG</i>)

*ZOOM room:

<https://tu-dresden.zoom.us/j/89265210633?pwd=Mm82TWdRQmFoeUdSVXFKy84QmZmZz09>

External lecturers are shown in bold, in green are checks and in red are changes. Attention: The seminar plan can be subject to short-term changes, see Internet. The slides should be written in English. The lectures can be presented either in German or English (save the slides in the intranet). Organization: Dr. L. Büttner, BAR 28, Tel. 463-35314

Structure of the talks: 1) Scientific Question; 2) State of the art / literature survey; 3) Problem / Hurdles; 4) Hypotheses / Methods / Advantages and Disadvantages; 5) Transfer to real-world applications / Requirement for implementation in applications; 6) Vision