

Seminar on Computational Laser Systems (Measurement Systems Seminar/BIOLAS), WS 2024/2025

Date: Tuesday, 4. DS., 13:00 – 14:30, BAR 218 (regular seminar, extra dates are in red)

Date	CW	Lecturer	Topic
07 Oct 16:30 (BAR 17)	41	Jonas Kreissl	Entwicklung und Validierung eines Software-Frameworks zur Modellierung medizinischer Roboter (<i>DA Defense, deveritec, TG</i>)
Wed. 09 Oct. 17:00	41	Fang Lyu	Hardware-based system integration to improve the SNR of ultrasound measurements (<i>SA Defense, HE</i>)
Mon., 14 Oct. 13:00	42	Hannes Bischoff Hasan Shakir	Designing a compressive waveguide for single channel ultrasound imaging "Classification and Analysis of Postural abnormalities using CNN" Application presentation ultrasound
15 Oct.	42	Dr. Johannes Gürtler, Dr. Lars Büttner	Introduction to Seminar & Presentation of Topics for Students
22 Oct.	43	Arjun Ananth	Singular value decomposition for operational condition compensation of water monitoring of fuel cells (<i>SA Defense, ZD</i>)
24 Oct. 9:20 BAR 17	43	Jiali Sun	Transfer learning based physics-informed neural networks for phase retrieval of multimode fibers (<i>DA Defense, QZ</i>)
28 Oct., 13:00 ZOOM*		Jiawei Sun China	Artificial Intelligence for optical imaging and manipulation <i>(ZOOM only; see link below*)</i>
29 Oct.	44	Vireak Dam Rongfei Hou	Reinforcement learning based axial scanning (<i>DA intermediate report, KS</i>) Fiber-endoscopic imaging restoration using generative adversarial network (<i>DA Defense, TW</i>)
05 Nov.	45	Leon Stiffel Robert Wendland	Tomographic reconstruction of flames using neuronal networks with physical loss function (<i>DA intermediate report, JG</i>) Optogenetic control of cardiomyocytes (<i>DA Defense, FS</i>)
12 Nov.	46	Niklas Weise	Process Chain Implementation of laser ablation at multi-Core fibers (<i>SA Defense, JD</i>)
19 Nov.	47	- no show? -	<i>(JC: absence)</i>
26 Nov.	48	Dr. Lars Büttner	Laser Safety & Hazardous Substances Briefing (only for MST members)
03 Dec.	49	- no show? -	<i>(JC: absence)</i>
10 Dec.	50	John Böhm	Digital optical phase conjugation with second-harmonic guide stars (<i>DA Defense, NK</i>)

17 Dec.	51	Jie Zhang	Scanning tomography towards label-free 3D imaging <i>(DA Intermediate Report, DK)</i>
	52	- no show -	Christmas vacation
	1	- no show -	Christmas vacation
07 Jan.	2	Prof. Roman Schnabel (IQP Uni Hamburg)	"Quantum Correlated Light - Routinely used in Gravitational Wave Detectors"
14 Jan.	3	Eric Lischinski Jingchun Hua	Generative Adversarial Network for agricultural segmentation <i>(DA Intermediate Report, TW)</i> Fiber imaging using autoencoders <i>(DA Intermediate Report, TW)</i>
21 Jan.	4	Ying Zhang Yiqun Zhang	Large-dynamic and high-precision wavefront measurement technology based on phase difference technology under broadband light conditions Multi line-of-sight wavefront detection technology
28 Jan.	5	N.N.	student defenses
05 Feb.	6	N.N.	student defenses

*ZOOM room:

<https://tu-dresden.zoom.us/j/89265210633?pwd=Mm82TWdRQmFoeUdSVXFYKy84QmZmZz09#success>

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

Attention: This page not to be published!

Ideas for external speakers:

Who?	Status
Roman Schnabel	confirmed, date t.b.d.
Caroline Murawski	
HoloEye GmbH	
ILA 5150 GmbH	

Absence JC:

18.09. – 02.10.2024

20.-25.10. ICO-ZA

19.11-30.11. Singapore, Hongkong, Shenzhen, Shanghai

17.12. - 20.12.2024 London

~28-30.01. ist die Photonics West