

Symposium New Trends in Laser Systems and their Applications
for Photonic Quantum Systems and Emerging Technologies (SYLA)

jointly organised by
the Short Time-scale Physics and Applied Laser Physics Division (K) and
the Wissenschaftliche Gesellschaft für Lasertechnik (WLT)

Volkher Onuseit
Institut für Strahlwerkzeuge
Universität Stuttgart
Pfaffenwaldring 43
70596 Stuttgart
geschaeftsfuehrung@wlt.de

Andreas Görtler
A. B. von Stettensches Institut -
Gymnasium
Am Katzenstahl 18A
86152 Augsburg
agoertler@gmx.de

Alexander Horn
Laserinstitut
Hochschule Mittweida
Technikumplatz 17
09648 Mittweida
horn4@hs-mittweida.de

The first part of the Symposium will present production technologies for integrated photonic (quantum-) systems. As quantum and photonic technologies transit from laboratory research to real-world applications, scalable and robust production processes are becoming critical. This session focuses on advanced manufacturing technologies enabling the industrialization of integrated photonic and quantum systems. The second part will present laser sources for emerging technologies. Laser sources are essential enablers of disruptive technologies that are set to shape the future across multiple high-impact fields. This session highlights advancements and specific requirements for laser systems in groundbreaking areas like quantum systems, photonic chips, nuclear fusion, and EUV lithography.

Overview of Invited Talks and Sessions

(Lecture halls P1 and HS 20)

Invited Talks

SYLA 1.1	Tue	11:00–11:30	P 1	3D printing of integrated optics on thin-film lithium niobate for quantum photonic applications — ●MORITZ HINKELMANN, ALEXANDRA RITTMEIER, ELISAVET CHATZIZYRLI, PHILIPP GEHRKE, MUHAMED A. SEWIDAN, ANDREAS WIENKE, DIETMAR KRACHT, MICHAEL KUES
SYLA 1.2	Tue	11:30–12:00	P 1	Photonic Quantum Sensors and Their Fabrication Using Femtosecond Laser Micromachining — ●TOBIAS MENOLD
SYLA 1.3	Tue	12:00–12:30	P 1	3D printed micro-optics: Novel fabrication enabling innovative designs — ●MICHAEL SCHMID, SIMON THIELE, NILS FAHRBACH
SYLA 2.1	Wed	14:30–15:00	HS 20	Low-Noise Quantum Frequency Conversion for NV-Based Quantum Network Nodes — ●BERND JUNGBLUTH, FABIAN GEUS, LUDWIG HOLLSTEIN, HANS HUBER, FLORIAN ELSÉN
SYLA 2.2	Wed	15:00–15:30	HS 20	ZEISS Innovation: EUV lithography, a European Success story — ●DIRK HEINRICH EHM
SYLA 2.3	Wed	15:30–16:00	HS 20	Advancements in Infrared Spectroscopy with Undetected Photons — ●CHIARA LINDNER, FRANK KÜHNEMANN
SYLA 2.4	Wed	16:00–16:30	HS 20	Ultrafast 2µm fiber lasers for scientific and industrial applications — TOBIAS HEUERMANN, CHRISTIAN KERN, ZIYAO WANG, EVGENY SHESTAIEV, ●OLIVER HERRFURTH, CHRISTIAN GAIDA, TINO EIDAM

Sessions

SYLA 1.1–1.3	Tue	11:00–12:30	P 1	Production Technologies for Integrated Photonic (Quantum) Systems
SYLA 2.1–2.4	Wed	14:30–16:30	HS 20	Laser Sources for Emerging Technologies – Enabling the Future