

MARTIN SMRŽ, PHD.

Head of Advanced Laser Development department

EDUCATION

Czech Technical University in Prague, Faculty of Nuclear Sciences and Physical Engineering

1999 – 2005

M.Sc. in Physical Engineering

Czech Technical University in Prague, Faculty of Nuclear Sciences and Physical Engineering

2005 – 2012

Ph.D. in Applied Physics

WORK EXPERIENCE

Institute of Physics, Czech Academy of Sciences – Head of Advanced Laser Development dept. (at HiLASE Centre)

2020 – present

- Management of the scientific team (>35 people)
- PI and team member of many grants and scientific projects
- realization of contracted research projects
- development of high power thin-disk laser platform Perla

Internships:

National institute for fusion science (Japan, 2016), Centre for free electron laser (Desy Hamburg, Germany, 2014), Massachusetts Institute of Technology (USA, 2013)

Hilase centre, Institute of Physics, Czech Academy of Sciences – Researcher

2011 – 2020

- development of new generation of diode pumped solid state lasers for hi-tech industrial applications

Institute of Physics, Czech Academy of Sciences – Research Assistant

2004 - 2011

- handling and diagnostics of ultrashort laser pulses at SOFIA laboratory

PHONE:

+420 314 007 752

+420 723 948 574

WEB:

www.hilase.cz

LinkedIn:

<https://www.linkedin.com/in/martin-smrz-44b87346/>

RESEARCHER ID:

www.researcherid.com/rid/H-2161-2014

E-MAIL:

martin.smrz@hilase.cz

LANGUAGES

English

German

Russian

Portuguese

TEAMING FOR SUCCESS

SKILLS

- leadership skills gained at the HiLASE centre (team leader of thin disk laser development, head of the ALD department)
- supervision of undergraduate (11 defended theses) and postgraduate (4 defended theses) students
- Professional and laboratory skills gained during the years of scientific career in ultrashort pulse laser development
- organisation skills gained through working experience as a Principal Investigator / Coordinator in various national and international research & development projects:
 - *Applications of Ho:YAG thin disk laser - TAČR Delta*
 - *Highly stable femtosecond fiber oscillator – TAČR Gama II*
 - *Development of DUV seed laser for semiconductor lithography using solid-state laser amplifier at 1485 nm – TAČR Delta II*
 - *Development of photonics sources for laser micromachining of dielectric crystal materials – National centre of Competence*
 - *Hollow core fiber delivery system for picosecond pulses – TAČR Trend*
 - *Development of a 100 W commercial picosecond Perla laser for a commercial customer – contracted research*
- participation on solving of various research projects like an investigator
- reliability, flexibility, perseverance

LIST OF SELECTED PUBLICATIONS

- Diode pumped high power lasers, chapter in *Advances in High-Power Fiber and Diode Laser Engineering*, Institution of Engineering and Technology, (2019), ISBN-13: 978-1-78561-751-5
- Picosecond thin-disk laser platform PERLA for multi-beam micromachining, *OSA Continuum* **4**(3), 940-952, (2021)
- New observations on DUV radiation at 257 nm and 206 nm produced by a picosecond diode pumped thin-disk laser, *Optics Express*, **22**(17), 24286 – 24299, (2019)
- *Investigation of the lasing performance of a crystalline-coated Yb:YAG thin-disk directly bonded onto a silicon carbide heatsink*, *Optics Express* **30**(5), 7708-7715, (2022)
- 150 J DPSSL operating at 1.5 kW level, *Optics Letters* **46**(22), 5771-5773, (2021)
- LIPSS-based functional surfaces produced by multi-beam nanostructuring with 2601 beams and real-time thermal processes measurement, *Scientific Reports* **11**(1), 22944, (2021)

In total 43 impacted papers (WOS), 72 proceedings, 443 citations (WOS)

LIST OF PATENTS

- A method and a device for heat removal from a flat NIR-MIR laser mirror (# LU101456B1)
- Mounting system for nonlinear optical elements controlled by electric field (#CZ 307 066).
- Dispersion scope for diagnostics of ultrashort pulses (#CZ 304 373)
- Dispersion modulation unit (#CZ 304 375)
- 2 patents pending