Curriculum Vitae

Partner Institution: Institute of Physics of the Czech Academy of Sciences – HiLASE Centre

Dipl.-Ing. Mihai George Mureșan, Ph.D., M.Sc.

Education

2009 – 2015 (Ph.D.) – Doctoral studies, Program: Physics, Field: Plasma Physics, Faculty of Science, Masaryk University.

Thesis: Plasma Enhanced CVD of Multicomponent Functional Coatings.

2008 – 2009 (M.Sc.) – Master's studies, Field: Applied Technical Sciences, Focus: Condensed Matter Physics, Faculty of Applied Sciences and Engineering, Ovidius University of Constanța.

Thesis: Multilayer Metallic Nanostructures: Deposition and Characterization.

Relevant Work Experience

2025 – onward – HiLASE Centre, Institute of Physics of the Czech Academy of Sciences – Group leader, laser-induced damage threshold (LIDT).

2015 – 2024 – HiLASE Centre, Institute of Physics of the Czech Academy of Sciences – Researcher, laser-induced damage threshold (LIDT).

2013 – 2015 – HiLASE Centre, Institute of Physics of the Czech Academy of Sciences – Vacuum Engineer.

2010 – 2012 – Lab technician and Ph.D. student, Faculty of Science, Masaryk University – Thin film deposition.

Internships: Institute Fresnel (Marseille, France), Science and Technology Facilities Council (Oxford, UK), Center for Physical Sciences and Technology (Vilnius, Lithuania).

List of Major Projects

2024 – Present – EH22_008/0004573 – Breakthrough Laser Technologies for Smart Manufacturing, Space, and Biotech Applications (2024–2028, MSM/EH)

2017 – 2020 – TAČR, Epsilon, TH02010579 – Stable Thin Films for Optical and Monocrystalline Materials – project team member.

2016 – 2019 – MPO, TRIO, FV10764 – Tricolor Compact X-ray Source – Principal Investigator for HiLASE.

Experience with R&D Projects

2020 – 2023 – TAČR, Trend, FW01010361 – Transmission of Ultrashort High-Energy Laser Pulses through Microstructured Fiber – project team member.

2017 – 2023 – H2020-WIDESPREAD-01-2016-2017 – Teaming Phase 2 – HiLASE Centre of Excellence – project team member.

2016 – 2019 – LM2015086 – HiLASE: New Lasers for Industry and Research – project team member.

Justification for Project Participation

The demand for advanced semiconductor laser processing is rapidly growing, driven by the increasing complexity and precision required in modern electronics, photonics, and quantum technologies. At the HiLASE Centre, we are witnessing a significant expansion of research and industrial interest in this area, particularly in high-resolution laser structuring, damage threshold engineering, and ultrafast material modification. Our ongoing work spans topics from laser ablation and annealing to the development of multibeam systems. To meet these exciting challenges and sustain our momentum, we are actively seeking new talents—motivated researchers and engineers eager to contribute to cutting-edge projects at the intersection of lasers and semiconductors.

Supervising experience

During my PhD, I supervised one master's student and two bachelor's students, guiding them through experimental work and thesis development. Currently, I am supervising a PhD student focused on laser-matter interaction and advanced optical diagnostics, further building on my experience in mentoring early-stage researchers.