



# ONDREJ SLEZAK, PH.D.

Leader of Laser Modeling Team

## CONTACT

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## LANGUAGES

Czech (native)  
English (advanced)  
German (basic)

## EDUCATION

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

2008 - 2012

Ph.D. in Applied Physics

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

2003 – 2008

M.Sc. in Physical Engineering

## WORK EXPERIENCE

**HiLASE Centre, Institute of Physics, Czech Academy of Sciences – Leader of Laser Modeling Team**

2011–present

Research Topics: Theory and numerical modeling of the thermo-optical phenomena, Stress-induced birefringence, Thermally-induced wavefront distortions, Magneto-optics, Optical isolators, Polarimetry of optical components and materials. From 2020 promoted to the position of the leader of laser modeling team.

## SKILLS

- Thermo-, elasto-, and magneto-optical analytical and numerical calculations and their experimental validation.
- Organisation skills and leadership of research teams. *Principal investigator* of the grant by Technological Agency of the Czech Republic – Optical Isolator.
- Supervision and mentoring of students and postdocs – supervisor of 2 PhD, 1 master, and 2 Bc theses, responsible for *lectures and seminars* of nonlinear optics, classical electrodynamics, and numerical methods at Czech Technical University in Prague and Masaryk University in Brno.
- *Research internships* at National Institute for Fusion Science, Japan; University of Tokyo, Japan; Korea Advanced Institute of Science and Technology, Korea.

## LIST OF CERTIFICATES AND AWARDS

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- *Visiting associate professor* at National Institute for Fusion Science, Japan. 2 months period in 2018.
- *Guest Editor* of the special issue of Applied Sciences, MDPI, „Recent Advances in Crystalline and Ceramic Materials for Laser Optics“.

## LIST OF PUBLICATIONS (TOP 5)

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- O. Slezak, A. Lucianetti, M. Divoky, M. Sawicka, and T. Mocek; Optimization of Wavefront Distortions and Thermal-Stress Induced Birefringence in a Cryogenically-Cooled Multislab Laser Amplifier, *IEEE J. Quantum Electron.* 49(11) 960-966 (2013).
- O. Slezak, R. Yasuhara, A. Lucianetti, and T. Mocek; Wavelength dependence of magneto-optic properties of terbium gallium garnet ceramics, *Opt. Ex.* 23(10) 13641-13647 (2015).
- O. Slezak, R. Yasuhara, A. Lucianetti, and T. Mocek; Temperature-wavelength dependence of terbium gallium garnet ceramics Verdet constant, *Opt. Mat. Ex.* 6(11), 3683-3691 (2016).
- O. Slezak, R. Yasuhara, D. Vojna, H. Furuse, A. Lucianetti, and T. Mocek, Temperature-Wavelength Dependence of Verdet Constant of Dy<sub>2</sub>O<sub>3</sub> Ceramics, *Opt. Mat. Ex.* 9(7), 2971-2981 (2019).
- O. Slezak, M. Sawicka-Chyla, M. Divoky, J. Pilar, M. Smrz, T. Mocek, Thermal-stress-induced birefringence management of complex laser systems by means of polarimetry, *Sci. Rep.* 12(1) 18334(1)-18334(7) (2022).

## LIST OF PATENTS AND UTILITY MODELS

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- M. Divoky, T. Mocek, M. Sawicka-Chyla, O. Slezak, J. Huzvicka, V. Kmetik, M. Koselja, and A. Lucianetti, *Optical element, especially laser slab and process for preparing thereof*, Patent number CZ 305707 B6.

TEAMING FOR SUCCESS