Professional résumé

Lukáš Nádvorník
Home page: `https://www.mff.cuni.cz/en/kchfo/ooe/staff/nadvornik`

Education and professional career:

2019-present	Assistant Professor, Faculty of Mathematics and Physics, Faculty of Mathematics and Physics, Charles University (CUNI), Czech Republic
2017-2019	Postdoctoral Fellow, Free University of Berlin, Department of Physics, Berlin, Germany
2016-2017	Postdoctoral Fellow, Fritz Haber Institute of the Max Planck Society, Department of Physical Chemistry, Berlin, Germany
2011-2016	Research Assistant, Institute of Physics, Czech Academy of Sciences, Czech Republic
2016	Ph.D. degree in quantum optics and optoelectronics, Faculty of Mathematics and Physics, CUNI
2011	M.S. degree in physics, Faculty of Mathematics and Physics, CUNI

Accomplishments, awards, and international recognition:
21 papers in international peer-reviewed journals, 11 of them during last 2 years, including 6 papers in Nature Publishing Group and Advanced Materials journals; h-index: 9/10 (Web of Science/Google Scholar), citations: 336/527, 6 invited talks at international conferences since 2019.
Award of the Bernard Bolzano Foundation, section Physics, 2021
Milan Odehnal Prize of the Union of Czech Mathematicians and Physicists, 2016
Award of Ioannes Marcus Marci Spectroscopy Society, 2016
Best Student Oral Award, International Symposium on Optics and its Applications, 2015
Dean's Award for representation and propagation, Faculty of Mathematics and Physics, CUNI, 2014

International experience:
3-years-long postdoctoral position in prof. T. Kampfrath's group at Fritz Haber Institute of the Max Planck Society and at the Free University of Berlin, Berlin, Germany; acquired knowledge of the time-domain THz spectroscopy, ultrashort laser pulse (< 10 fs) techniques, development of spintronic emitters of THz radiation, electromagnetic modeling.

Professional experience:
Time-domain terahertz (THz) spectroscopy of magnetically ordered metals, semiconductors and insulators; experimental investigation and modelling of ultrafast spin transport in metallic multilayers; design and contruction of efficient spintronic emitters of THz radiation; experimental pump-probe methods of ultrafast laser spectroscopy; magneto-optical and THz investigation of dynamics in antiferromagnets; THz and ultrafast spintronics, nanofabrication of semiconductor and metallic devices; spin-relaxation phenomena in semiconductors and metals; construction of optical and THz experimental setups.

Teaching:
Advanced and basic courses from optics and solid states for PhD. and undergraduate students at Faculty of Mathematics and Physics, CUNI.
Supervisor of 2 doctoral, 2 master (2 defended) and 4 bachelor thesis (1 defended).

Main activities over last 3 years:
Discovery of intrinsic mechanism of anisotropic magnetoresistance (Phys. Rev. X 2021), study of THz spin transport and spin-to-charge conversion in magnetic metals and insulators (2x Adv. Mater. 2021; 2x Phys. Rev. B 2022; Adv. Mater. Interf. 2022), switching of antiferromagnet by THz pulses (Phys. Rev. Appl. 2021), determination of THz spin transport through an antiferromagnet (Appl. Phys. Lett. 2022), THz photocurrents in semiconductors (2D Mater. 2021), pump-probe

technique and teporally resolved magnetooptics (Adv. Funct. Mater 2021; New J. Phys 2020) and fast manipulation with polarization of THz pulses (Optica 2021). Patent on novel spintronic emitters of THz radiation (European Patent Nr. EP4080178A1, 2022). Construction and development of a setup for THz time-domain spectroscopy (Laboratory of THz spintronics, `https://www.mff.cuni.cz/en/kchfo/ooe/laboratories/thz`.