

Justas Deveikis

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Nationality : Lithuanian

EDUCATION

PhD in Physics

2021-2025

University of Warwick, Coventry, UK

- ✓ Investigated materials: layered lead halide perovskites, widely applicable in optoelectronics and photovoltaics.
- ✓ Experiments: designed, improved and aligned spectrometers, such as UV-visible absorption, transient electronic and vibrational absorption, and optical-pump terahertz-probe spectroscopy.
- ✓ Coding: wrote a program to analyse the experimental spectroscopy data and automated temperature-dependent experiments.
- ✓ Teamworking: participated in a collaboration with researchers from the University of Glasgow and published our findings in a peer-reviewed journal.
- ✓ Award: granted beamtime at Central Laser Facility, Rutherford Appleton Laboratory, UK, to carry out two-dimensional infrared (2DIR) spectroscopy measurements on layered perovskites.
- ✓ PhD Thesis (preliminary): *Investigation of Layered Lead Halide Perovskites: Temperature-dependence of Steady-State Optoelectronic Properties and Exciton Recombination Dynamics*

Master of Science (by Research) in Physics

2020-2021

University of Warwick, Coventry, UK

- ✓ Fabrication of a photonic device: photolithography, physical vapour deposition via magnetron sputtering carried out in the cleanroom.
- ✓ Application: implemented the device in a terahertz time-domain spectrometer to detect azimuthally- and radially-polarised terahertz beams using electro-optic sampling.
- ✓ Computation: carried dipole array simulations to model the electric field emitted by the device.
- ✓ Publications: published the work in a peer-reviewed journal and contributed to other publications.
- ✓ Master's Thesis: *Controllable Generation of Linearly-, Azimuthally-, and Radially-Polarised Terahertz Beams Using Multi-Pixel Photoconductive Emitters.*

Bachelor's Degree (with honours) in Physics

2016-2020

Kaunas University of Technology, Kaunas, Lithuania

- ✓ Notable courses: Maths, Statistics, Quantum Mechanics, Optics, Object-Oriented Programming.
- ✓ Grade average: 9.8/10.0, where 10.0 is best. Top 10% of undergraduate class.
- ✓ Thesis: *Absorbers Based on Diamond-like Carbon Nanocomposites with Metal Nanoparticles.*

PUBLICATIONS

- ✓ **Deveikis, J.**, Giza, M., Walker, D., Liu, J., Wilson, C., Gallop, N. P., Docampo, P., Lloyd-Hughes, J., & Milot, R. L. (2024). Temperature-Dependent Structural and Optoelectronic Properties of the Layered Perovskite 2-Thiophenemethylammonium Lead Iodide. *The Journal of Physical Chemistry C*, 128(31), 13108–13120.
- ✓ Chopra, N., **Deveikis, J.**, & Lloyd-Hughes, J. (2023). Active THz beam shaping using a one-dimensional array of photoconductive emitters. *Applied Physics Letters*, 122(6), 61102.
- ✓ **Deveikis, J.**, & Lloyd-Hughes, J. (2022). Multi-pixel photoconductive emitters for the controllable generation of azimuthal and radial terahertz beams. *Optics Express*, Vol. 30, Issue 24, Pp. 43293-43300, 30(24), 43293–43300.
- ✓ Mosley, C. D. W., **Deveikis, J.**, & Lloyd-Hughes, J. (2021). Precise and accurate control of the ellipticity of THz radiation using a photoconductive pixel array. *Applied Physics Letters*, 119(12), 121105.

CONFERENCE PROCEEDINGS

- ✓ Poster presentation "Pump-probe spectroscopy of layered halide perovskites with different organic spacers", International Conference on Ultrafast Phenomena, Barcelona, Spain, 2024.
- ✓ Poster presentation "Temperature-dependent studies of layered perovskite ThMA₂PbI₄", International Conference on Hybrid and Organic Photovoltaics, London, UK, 2023.

- ✓ Talk titled “Controllable Generation of Azimuthal and Radial Terahertz Beams Using Multi-Pixel Photoconductive Emitters”, Optical Terahertz Science and Technology Conference, Budapest, Hungary, 2022.

KEY SKILLS

Laboratory techniques

- Fs laser beam alignment for ultrafast spectroscopy spectrometers.
- Ultrafast pump-probe spectroscopy: transient vibrational and electronic absorption, optical-pump terahertz-probe, two-dimensional infrared.
- Terahertz time-domain spectroscopy.
- Photoluminescence emission spectroscopy: steady-state and time-resolved using the time-correlated single-photon counting (TCSPC) method.
- UV-Visible absorption spectroscopy; assembled custom-built spectrometer.
- Proficient glovebox user; handling samples that are air/environment sensitive.
- Experienced using a cryostat and Linkam stage for measurements at liquid nitrogen temperature.
- Fabrication in the cleanroom: designing photomasks, performing photolithography, physical vapour deposition to produce multi-layered photonic devices.
- Spectroscopic ellipsometry.

Collaboration and communication

- Participated in collaborations between research groups at the University of Warwick and the University of Glasgow.
- Presented research findings at three international conferences and research group meetings.
- Demonstrated labs for second year undergraduate students.
- Carried out training sessions for new users in the cleanroom.

IT

- Programming Languages: Python, C++.
- Scientific software: MATLAB, Latex.
- Computer Operating Systems: Windows, Linux.

Writing

- Published two publications in peer-reviewed journals.
- Wrote a successful research proposal to conduct experiments at the Central Laser Facility, Rutherford Appleton Laboratory, UK.

REFEREES

- ✓ Prof James Lloyd-Hughes (PhD supervisor), Ultrafast & Terahertz Photonics Group, Department of Physics, University of Warwick, Coventry CV4 7AL j.lloyd-hughes@warwick.ac.uk.
- ✓ Dr Rebecca Milot (PhD supervisor), Ultrafast & Terahertz Photonics Group, Department of Physics, University of Warwick, Coventry CV4 7AL rebecca.milot@warwick.ac.uk.