

Speaker biography:

Dr Marcin Piotrowski started his scientific career at the National Laboratory of AMO Physics in Torun, Poland, where he worked on laser cooling of neutral rubidium and strontium atoms and contributed to the development of the strontium optical atomic clock and the Bose-Einstein condensate of Rb atoms in the optical dipole trap.

He received his Ph.D. in physics from the Jagiellonian University in Cracow, Poland, in 2015.

He then worked at the Australian national science agency (CSIRO) and Griffith University in Brisbane, Australia, researching laser cooling of thorium and ytterbium ions for quantum computing, precision measurements, and Earth observation applications.

In 2019, he joined the French-German Research Institute of Saint-Louis - ISL (Saint-Louis, France), a binational institute dedicated to defense applications, where he is now a permanent researcher. His current work involves the development of new laser sources emitting in the mid-IR wavelength range, with a particular focus on 2 μm solid-state lasers and high-power parametric mid-IR laser sources based on nonlinear optical crystals.

Key relevant recent publications:

M. Piotrowski, A. Bogas-Droy, G. Spindler, S. Bigotta, and A. Hildenbrand-Dhollande, "Comparative study of high-power CdSiP₂ OPO pumped by an ns-pulsed Ho: LLF laser at 2.06 μm versus the ZnGeP₂ crystal." *Opt. Express*, **33**, 10088-10103 (2025).

M. Piotrowski, G. Spindler, A. Bogas-Droy, and A. Hildenbrand-Dhollande, "CdSiP₂ Optical Parametric Oscillator Pumped by a Nanosecond Ho:LLF Laser at 2.06 μm with Non-Collinear Phase-Matching," *Photonics* **11**, (2024).

M. Piotrowski, M. Schellhorn, G. Spindler, M. A. Medina, C. W. Müller, S. Bigotta, and A. Hildenbrand-Dhollande, "Polarisation compensation in non-planar image-rotating OPO ring resonators," *Opt. Express* **31**, 13226–13242 (2023).

M. A. Medina, M. Piotrowski, M. Schellhorn, F. R. Wagner, A. Berrou, and A. Hildenbrand-Dhollande, "Beam quality and efficiency of ns-pulsed high-power mid-IR ZGP OPOs compared in linear and non-planar ring resonators," *Opt. Express* **29**, 21727–21737 (2021).

M. Piotrowski, M. A. Medina, M. Schellhorn, G. Spindler, and A. Hildenbrand-Dhollande, "Effects of pump pulse energy and repetition rate on beam quality in a high-power mid-infrared ZnGeP₂," *Opt Express* **29**, 2577–2586 (2021).