

Ravil Idrisov, Dr. rer. nat.

Optical Engineer · Berlin contact@ravil.uk ravil.uk [LinkedIn](#) [Google Scholar](#)

Digest	An optical engineer who builds instruments that measure with light — from fiber sensors to methane-sensing spectrometers for aircraft and satellites. More than a decade across research and industry: fiber Bragg grating technology at ITMO University, multicore fiber shape sensing as a Marie Skłodowska-Curie fellow at Leibniz-IPHT (patent and PhD), high-power laser processing at Fusion Bionic, and now spaceborne and airborne remote sensing at Airmo. Covers the whole chain of an optical instrument: simulation, design, hands-on alignment, hardware control and data processing.			
At a glance	2013 In optics since	PhD Physics, FSU Jena, 2022	1 Granted patent, DE102019132569B3	220+ Citations, h-index 8
Experience	Optical Engineer Airmo GmbH, Berlin	Satellite optical payload systems engineering; spaceborne spectrometer design, alignment and CalVal; LIDAR integration; TDLAS methane sensing		2025 – now
	R&D Engineer Fusion Bionic GmbH, Dresden	Upscaling concepts for laser surface structuring; high-power ps/ns lasers; control of precision stages and measurement systems		2022 – 2025
	Postdoc Leibniz-IPHT, Jena	All-fiber coupler for mid-IR fiber lasers; long-period gratings in fluoride fibers		2021 – 2022
	MSCA Fellow (ITN FINESSE) Leibniz-IPHT, Jena	Patented multicore fiber; FBG inscription in multicore fibers; fiber shape sensors		2017 – 2021
	Research Engineer ITMO University, Saint Petersburg	Built an FBG inscription setup (excimer laser, Talbot interferometer); slanted, chirped and superimposed gratings		2013 – 2017
Highlights	– Roughly halved the curvature error of multicore fiber shape sensors (2.48% → 1.36%) through per-core calibration – Invented a composed multicore fiber that doubles sensing length without losing spatial resolution (patent DE102019132569B3) – Developed automatic measurement of fiber orientation and twist from side-scattered light, with VUB Brussels – Most-cited paper: laboratory setup for FBG inscription based on a Talbot interferometer (2016)			
Skills	Simulation Zemax, COMSOL Wave Optics, Lumerical FDTD/MODE Code Python, MATLAB, LabVIEW CAD AutoCAD, Inventor, Fusion 360		Lasers High-power, CW and ultrafast; laser safety; Scanlab/Raylase scanners, Aerotech stages Team Cross-functional integration, prototype delivery, technical writing	
Education	PhD in Physics (Dr. rer. nat.) — Friedrich Schiller University Jena · multicore fibers with FBGs for bend and shape sensing MSc in Optical Systems · BSc in Telecommunications — ITMO University, Saint Petersburg			