

Carl Krebs Vej 36, J117, AUH, CFIN
8200 Aarhus N, Denmark

DMITRY D. POSTNOV.
Associate Professor, PhD.

dpostnov@cfin.au.dk

Research focus: microvascular physiology, cardiovascular and cardiometabolic diseases, dementia, biomedical imaging and biophotonics, medical device development

Qualifications

2016	PhD in Medical Sciences, Faculty of Health, The University of Copenhagen, Denmark
2015	PhD in Physics (in absentia), Department of Physics, Saratov State University, Russia
2013	BSc in Computer Science. Saratov State Technical University, Russia.
2012	BSc + MSc in Medical Physics. Saratov State University, Russia.
2014	FELASA C, Laboratory Animal Science, The University of Copenhagen

Research experience and positions held

2024-pres	Associate professor, head of the Blood Flow Imaging group, Center of Functionally Integrative Neuroscience, Dept. of Clinical Medicine, Aarhus University, Denmark
2021-2024	Assistant professor, head of the Blood Flow Imaging group, Center of Functionally Integrative Neuroscience, Dept. of Clinical Medicine, Aarhus University, Denmark
2020-2021	Senior postdoctoral fellow, The University of Copenhagen, Denmark
2017-2020	Postdoctoral fellow, Department of Biomedical Engineering, Boston University and Martinos Imaging Centre, Massachusetts General Hospital/Harvard Medical School, USA. Mentor: Prof. David Boas.
2016-2017	Postdoc, Dept. of Biomedical Sciences, The University of Copenhagen, Denmark
2015 2mos	Visiting researcher, Dept. of Mathematics, Duke University, USA.
2013-2016	PhD fellow, The University of Copenhagen, Denmark. Mentor: Prof. Niels-Henrik Holstein-Rathlou.
2012-2015	PhD student (in absentia), Saratov State University, Russia. Mentor: Prof. Valery Tuchin.

Competitive research funding and project management

I have 5 years of experience leading research teams of 2-5 members as PI and the main applicant on 5 grants, totalling >22M DKK in funding. Co-PI of 2 multi-PI grants with total funding of 6.8M DKK.

2025-2026	Pioneer Innovator Grant (0103689), Novo Nordisk Foundation (DKK 1,200,000). As PI, I lead a team of 2 on the "InSpecT" project. The project advances a non-invasive multimodal imaging platform for systemic microvascular function and initiates the CE marking process for the device.
2024-2027	DFF Sapere Aude (3122-00012B), Independent Research Fund Denmark (DKK 6,191,000). As PI, I lead a team of 3 on the "DIABENTIA" project, investigating how microvascular stiffening in diabetes contributes to cognitive decline and dementia.
2023-2027	Sygeforsikringen "Denmark", multi-PI collaboration grant (DKK 6,321,000 total, 3 PIs). As a co-PI and leader of work package 2, I lead my group's share (1 PhD student) on the project "Early detection, characterisation and treatment of microvascular disease", assessing the diagnostic potential of multimodal skin perfusion imaging in coronary and systemic microvascular disease.
2023-2024	BETA.HEALTH, PerEval project (DKK 500,000). In collaboration with Prof. Morten Bøttcher (Gødstrup Hospital), I co-lead the "PerEval" clinical project, where multimodal perfusion imaging was implemented in routine clinical assessment and is now applied in several major ongoing studies (PERMI, REACT).
2021-2026	LF Fellowship (R345-2020-1782), Lundbeck Foundation (DKK 10,000,000). As PI at Aarhus University, I lead a team of 4 on the project "From hypertension to dementia", advancing High-Speed LSCI to extract sensitive microvascular biomarkers and uncover the shared haemodynamic mechanisms linking hypertension to Alzheimer's disease.

2017-2021	Grant for postdoctoral research abroad (NNF17OC0025224), Novo Nordisk Foundation (DKK 3,832,141). As the sole investigator across Boston University, Harvard Medical School and the University of Copenhagen, I led the “Optical biopsy” project, developing non-invasive optical methods to assess vessel mechanics and correcting longstanding theoretical inaccuracies in light-scattering imaging.
2013-2016	PhD scholarship, Faculty of Health and Medical Sciences, the University of Copenhagen (DKK 1,300,000)
2012-2013	R&D grant “UMNIK”. Granted by FASIE, Russia (\$13,500)
2010	Travel grant. Granted by the Government of the Russian Federation (\$7,000)

Innovation, commercialisation and industry relations

2022, 2026	Two device patent applications as lead inventor: High-Speed Laser Speckle Contrast Imaging (EP 22173808, published WO2023222810A1, US application 18/866,228) and a second application (EP26177021.8, filed 6 May 2026), both filed by the AU Technology Transfer Office
2025-2026	CE marking of the skin imaging platform as laboratory equipment and commercialisation roadmap with the AU Technology Transfer Office and The Kitchen (NNF Pioneer Innovator grant)
2021-pres	Ongoing collaboration on LSCI applications and commercialisation, Moor Instruments Ltd, UK
2026-pres	Joint development of hyperspectral imaging applications in health technology, Qtechnology (Newtec Engineering), Denmark
2020-2021	External consultant (Medical Imaging Director), Intrinsic Imaging/IQVIA, USA
2017 8mos	Algorithm engineer (image analysis), Fingerprint Cards, Copenhagen, Denmark.

Worldwide research infrastructure

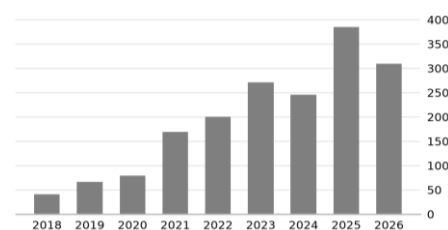
Twelve imaging and computing systems I built or specified are in service at Aarhus University, with an acquisition value of approx. DKK 6.2 million, all externally funded, three of them the only ones of their kind in Denmark. Eleven animal imaging systems I built are in use in eight other research groups (Aarhus University: V. Matchkov, E. Gutiérrez; University of Copenhagen: O. Sosnovtseva, M. Lauritzen, C. Cai; Boston University: D. Boas; University of Vermont: O. Harraz). Human retinal systems are in use at the Department of Ophthalmology, Aarhus University Hospital, and the Department of Neurology, Aalborg University Hospital, and skin perfusion systems at Gødstrup Hospital and the University of Copenhagen.

Publication statistics

H-index 26; 1,884 citations (Google Scholar, 11 September 2026). ORCID: 0000-0002-9708-8453

56 published peer-reviewed research articles and 1 book chapter. Of them, 11 are as the first author and 12 as the last author. 2 device patent applications (international) and 6 software patents. In the past 5 years (Scopus/SciVal, 2021 to 2026, 31 indexed outputs):

- Field-weighted citation impact: 1.65, and 2.49 for the outputs classified under Medicine
- 22.6% of publications are among the 10% most cited worldwide
- 32% are in the top 10% journals and 60% in the top 25% journals by CiteScore
- 54.8% of publications with international collaborators
- 6.5% of publications with academic-corporate collaboration



Citation tendency (Google Scholar)

Academic citizenship

2026-pres	Associate Editor, Neurophotonics, SPIE
2026-pres	Member of the Institutional Review Board, Aarhus University (protocol review)

2024	Guest editor, Biomedical Optics Express feature issue "Dynamic Light Scattering in Biomedical Applications"
2013-pres	Reviewer for Optica, Light: Science and Applications, Biomedical Optics Express, Optics Letters and Applied Optics

Teaching and supervision

Teaching profile: cardiovascular and cardiometabolic physiology, biomedical and optical imaging, physiological modelling, programming, health informatics, project-based research training and translational biomedical engineering.

Formal training: University Pedagogical Programme at Aarhus University (AU, 150 hours, 2025); "Getting started as a teacher" (KU, 2020); Leadership training by the Lundbeck Foundation (1 year, ~60 hours, 2024-2025).

Successfully completed supervision: PhD students - 1 as primary supervisor (Mia Viuf Skøtt), 4 as co-supervisor; MSc students - 6; BSc students - 3. Research projects supervised as part of a course - 16.

Ongoing supervision: PhD students - 3 as primary supervisor, 2 as co-supervisor; postdocs - 2 as mentor.

Lecturer and course designer: Advanced In-vivo Optical Imaging Techniques (AU, PhD course with Prof. V. Matchkov, Department of Biomedicine, 2018-2024); Integrative Neuroimaging (CFIN, summer school, 2022-present); Vascular function and angiogenesis (KU, PhD course, 2022); Advanced Physiological Modelling (KU, MSc course, 2014-2016, 2019-2021). Teaching assistant: Modelling of physiological systems (KU, BSc course, 2014-2016); Respiratory mechanics (KU, MD course, 2013-2014). Co-mentor of research-year medical students at the Department of Biomedicine (Matchkov laboratory).

Research mobility and key collaborations

Research mobility. Postdoc: USA - 3 years (BU, HMS), Denmark - 5 months (UCPH); PhD fellow: Denmark - 3 years (UCPH, AU), USA - 2 months (Duke University); Undergraduate research assistant: Russia - 2 years (SSU), Denmark - 2 months (UCPH).

Key collaborations. Department of Clinical Medicine and AUH: Leif Østergaard (CFIN), Toke Bek (Ophthalmology, retinal LDH), Niels Henrik Buus, Niels Jessen, Morten Bøttcher (Gødstrup Hospital, skin imaging). Department of Biomedicine, Aarhus University: Christian Aalkjær, Vladimir Matchkov, Eugenio Gutiérrez (14 joint publications), Ebbe Bødtkjær and Helle Praetorius (laser speckle imaging and analysis pipelines). Copenhagen: Eva Prescott (Bispebjerg Hospital), Ylva Hellsten (KU). Pre-clinical research: Osama Harraz (University of Vermont, USA), Martin Lauritzen and Changsi Cai (KU). Engineering: David Boas (Boston University, USA), Hao Zhang (Northwestern University, USA), Michael Atlan (CNRS, France). Industry: Moor Instruments Ltd (UK), Qtechnology (Denmark), Opticent Health (USA), NKT Photonics (Denmark). Innovation support: AU Technology Transfer Office and The Kitchen.

Selected awards

2015	Educational Award (Europe Bronze) by Edmund Optics Company, USA (\$5,000), for the laser speckle imaging system design
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Selected public outreach

2025	SPIE news coverage of the vasomotion imaging study (spie.org/news/imaging-study-reveals-how-tiny-brain-vessels-pulse-to-regulate-blood-flow)
2019	Sciencenews.dk article on the application of dynamic light scattering in dairy products research (sciencenews.dk/en/technology-from-the-physics-laboratory-can-make-yoghurt-more-palatable)