

NAME	POSITION TITLE		
Prevedel, Robert	Group Leader		
INSTITUTION AND LOCATION	DEGREE	YEAR(s)	FIELD OF STUDY
Diploma Thesis, University of Vienna, Austria	Magister	1	Quantum Physics
PhD Thesis, University of Vienna, Austria	PhD	3	Quantum Optics
Institute for Quantum Computing, University of Waterloo, Canada	Post doc	2	Quantum Imaging
Institute of Molecular Pathology & Max F. Perutz Laboratories, Vienna, Austria	Post doc	5	Biological Imaging

POSITIONS

2026 – present	Head of the EMBL Imaging Centre, EMBL Heidelberg, Germany
2025 – present	Senior Scientist, Cell Biology & Biophysics Unit, EMBL Heidelberg, Germany
2021 – present	Investigator, Interdisciplinary Center for Neurosciences, Heidelberg, Germany
2021 – present	Investigator, German Center for Lung Research (DZL), Germany
2019 – present	Group Leader, Molecular Medicine Partnership Unit, Heidelberg, Germany
2016 – present	Group Leader, EMBL Heidelberg, Germany (open-ended contract since 2022)
2011 – 2016	Senior Post-Doctoral Fellow (Marie Curie), Research Institute of Molecular Pathology (IMP) and Max F. Perutz Laboratories GmbH (MFPL), Vienna, Austria. Mentor: Dr. Alipasha Vaziri
2013 – 2016	External Lecturer, FH IMC Krems, Krems, Austria.
2009 – 2011	Post-Doctoral Fellow (Schrödinger), Institute for Quantum Computing, University of Waterloo, Canada. Mentor: Prof. Kevin Resch
2006 – 2009	Research and Teaching Assistant, Faculty of Physics, University of Vienna, Austria. Mentor: Prof. Dr. Anton Zeilinger (Nobel Laureate Physics 2022)
2005	Joint Study Fellow, Department of Physics, University of Queensland, Brisbane, Australia. Mentor: Prof. Andrew White
2004 – 2005	Scientific Assistant, Institute for Experimental Physics, University of Vienna, Austria. Mentor: Prof. Dr. Anton Zeilinger (Nobel Laureate Physics 2022)

GRANTS (Total ~8.0M€)

2026	ERC Proof-of-Concept grant – Brillouin Microscopy, EU Commission, 150k€.
2026	WIDERA Twinings grant – Deep tissue imaging, EU Commission, 330k€.
2026	Alliance Industry grant – OCM module development, LifeScience Alliance, 250k€.
2026	Horizon Mission Cancer - Brillouin Microscopy, EU Commission, 770k€.
2026	BioDigiMat – Biohybrid hydrogel testing with Brillouin Microscopy, BMBF, 230k€.
2026	Explore!Tech grant – MechanOmics, LifeScience Alliance, 50k€.
2026	EMBRACE – Label-free organoid imaging, Dietrich Schwartz Foundation, 250k€.
2025	EZN Cancer Neuroscience Seed Funding - Advanced intravital deep imaging, 60k€.
2024	CZI Deep Tissue Imaging grant (Phase 2) - Smart combination of light & sound, 700k\$.
2024	GSK-Collaboration grant – Biomechanics of ECM in respiratory diseases, ~350k€.
2024	DZL4.0 – German Center for Lung Research, Brillouin microscopy, BMBF, ~350k€.
2023	Stimulator grant – Correlative brain imaging across scales, LifeScience Alliance, 100k€.
2022	Horizon Infra-Tech grant – IMAGINE (Co-PI, WP-lead), EU Commission, 750k€.
2021	DFG grant – Revealing the neural population code of auditory space, 200k€.
2021	CZI Deep Tissue Imaging grant (Phase 1) - Smart combination of light & sound, 330k\$.
2021, 2024	MOLIT Collaboration grant - 4D imaging methods for tumor organoids, ~250k€.
2020	DZL3.0 – German Center for Lung Research, Brillouin microscopy, BMBF, ~350k€.
2020	FET Proactive - Multi-photon infrared brain imaging, EU Commission, 470k€.
2019	ERC Consolidator grant - Brillouin microscopy, EU Commission, 2.000k€.

2019 DFG SPP grant - Development of new voltage imaging tools, 250k€.
2019 Attract Seed Grant - Ultra-fast volumetric microscopy (Co-PI), EU Commission, 100k€.

FELLOWSHIPS (Total ~570kEUR)

2012 Marie Curie IIF Post-Doctoral Fellowship, European Union, 180kEUR.
2011 VIPS Post-Doctoral Fellowship, Max F. Perutz Laboratories, 280kEUR.
2009 Erwin-Schrödinger Post-Doctoral Fellowship, Austrian Science Fund, 60kEUR.
2009 MRI Post-Doctoral Fellowship, Ontario Ministry for Research & Innovation, 50kCAD.
2005 Joint Study Fellowship, University of Vienna.

TEACHING EXPERIENCE

From 2016 Light microscopy lectures & course practicals at EMBL, Heidelberg.
From 2019 Neurobiology lectures & course practicals at EMBL, Heidelberg.
2013 – 2016 Lecturer for laboratory course Analytical Chemistry, FH IMC Krems.
2013 Co-Lecturer Physical Chemistry 2, University of Vienna.
2013 Tutor for laboratory course Biophysik Praktikum, University of Vienna
2009 – 2011 Tutor for laboratory course Experimental Quantum Information, University of Waterloo.
2006 – 2009 Substitute Lecturer & Tutor for undergraduate physics courses, University of Vienna.

AWARDS

2026 Instrumentation Breakthroughs in Optical Imaging Speaker at SPIE Photonics West
2019 ERC Consolidator grant
2014 FENS-IBRO Travel Award, from the FENS.
2010 PhD thesis selected as one of 4 best in 2008/09 by AMO section of DPG.
2006, 2007 Merit Scholarship, from the University of Vienna.
2006 KWA Scholarship, from the University of Vienna (Conference Grant).
2006 International Communication Scholarship, from the ÖFG (Travel Grant).
2004 Top-Stipendium Exchange Scholarship, from the State of Lower Austria.
2003 Top-Stipendium Scholarship, from the State of Lower Austria.

CONFERENCE AND SEMINAR ORGANIZATION

2025 Co-organizer annual BioBrillouin Meeting, Berlin, Germany; 90 participants
2026 Program Committee Member, Optica Biophotonics Congress, Fort Lauderdale, USA
2018/2026 Organizer EMBL Practical Course: Brillouin Microscopy; Heidelberg, 30 participants;
2024 Nomination Committee Biophotonics – 2024 International Congress of Basic Science
Since 2024 Program Committee Member SPIE Photonics Europe – Neurophotonics track
2024/2026 Organizer EMBO Workshop: Imaging Mouse Development, Heidelberg & Janelia, USA
2022 Organizer FENS 2022 workshop on “Multiscale deep and large-volume brain imaging”
Since 2020 Co-Lead Organizer of the monthly EMBL-Janelia Bioimaging seminars (virtual)
2020 Organizer COST Action BioBrillouin workshop on Instrumentation, Vienna, Austria
2019/22-24 Organizer EMBL Undergraduate School: Visualizing Life, EMBL, Heidelberg, Germany
2013 Co-organizer of the Quantum Effects in Biological Systems Conference 2013
Institute of Molecular Pathology, Vienna, Austria; 54 participants;

PUBLICATIONS

Number of publications: **82**. Number of citations: **~8637**. H-index: **37**; ORCID ID: 0000-0003-3366-4703.

- **35 senior-author** (7 Nat. Methods, 1 Nat. Photonics, 1 Nat. Rev., 2 Nat. Comm., 6 Optica group)
- **12 first-author** (1 Nature, 4 Nat. Methods, 1 Nat. Physics, 1 Nat. Rev. Neuro, 3 Phys. Rev. Lett.)

Original research publications († denotes corresponding author; *equal contribution)

1. C. Bevilacqua*, S. Hambura*, P. Bouvet*, M. Körbel, S. La Cavera III, K. Elsayad*[†] and R. Prevedel*[†].

Towards a standardized file format and open-source analysis framework for Brillouin microscopy data.

Nature Methods **23**, 1478–1480 (2026). DOI:10.1038/s41592-026-03164-0. **ArXiv**:2509.07566 (2025).

2. G.B. Kamm^{*†}, J. C. Boffi^{*}, M. Abd El Hay^{*}, D. Rajot, A. Cukic, M. Havenith, M. Scholvinck, N. Renier, H. Asari and R. Prevedel[†].
Central infusion of prostaglandin E2 reveals a unified representation of sickness in the mouse insular cortex.
Current Biology *accepted*; **bioRxiv**: 2025.04.28.651028 (2025).
3. P. Aymard^{*}, J.C. Boffi^{*}, H. Asari, R. Prevedel[†] and D. Holcman[†].
Graph-based analysis of volumetric image data reveals predominant layer Va-to-II/III feedback in mouse motor cortex.
Cell Reports **45**, 117618 (2026). **bioRxiv**: 2025.06.17.660119 (2025). <https://doi.org/10.1016/j.celrep.2026.117618>
4. M. Nadour, R. I. Valette Reveno Leatis, M. Biard, N. Frébault, L. Rivollet, P. St-Louis, C. R. Blanchette, A. Thackeray, P. Perrat, C. Bevilacqua, R. Prevedel, L. Cappadocia, G. Rapti, M. Doitsidou and C. Y. Bénard[†]
MIG-6/papilin remodels extracellular matrix collagen IV to protect neuronal architecture.
Nature Communications *accepted* (2026); **bioRxiv**: 2025.02.10.637428 (2025);
5. N. Kaydanov^{*}, M. Olesińska-Mönch^{*}, M. Leite, R. Prevedel[†] and Claire Deot[†].
Bridging Light and Sound: a Spironaphthopyran-Rhodamine Dyad with High-Contrast Photoswitching Between Fluorescence and Photoacoustic Signal.
Photoacoustics **48**, 100809 (2026); **bioRxiv**: 2025.10.17.683093 (2025).
<https://doi.org/10.1016/j.pacs.2026.100809>
6. J. Czuchnowski[†] and R. Prevedel[†].
Interrogation trajectory optimisation for Fabry-Perot based photoacoustic tomography
Journal of Physics: Photonics **8**, 015075 (2026). **ArXiv**: 2511.23435 (2025).
7. M. Xu, Z. Du, Y. Qi, J. Zhang, S. Yao, R. Prevedel, and F. Yang[†],
Impact of refractive index heterogeneity on stimulated Brillouin scattering microscopy: a quantitative analysis.
Optics Letters **51**, 1856-1859 (2026).
8. R. Prevedel[†], J. Ferrer Ortas, J. Kerr, J. Waters, M. Breckwoldt, B. Deneen, M. Monje, S. Soyska and V. Venkataramani[†]
Three-photon microscopy: an emerging optical technique for deep intravital brain imaging
Nature Reviews Neuroscience **26**, 521–537 (2025), <https://doi.org/10.1038/s41583-025-00937-y>; Selected for Cover Image
9. J.M. Gomez[†], C. Bevilacqua, A. Thayambath, M. Leptin, J. Belmonte and R. Prevedel[†].
Highly dynamic mechanical transitions in embryonic cell populations during Drosophila gastrulation.
Nature Communications **16**, 6473 (2025); **bioRxiv**: 2024.08.29.610383 (2024).
<https://www.nature.com/articles/s41467-025-61702-4>
10. K.A. Ibrahim[†], C. Cathala, C. Bevilacqua, L. Feletti, R. Prevedel, H.A. Lashuel[†] and A. Radenovic[†].
Self-Driving Microscopy Detects the Onset of Protein Aggregation and Enables Intelligent Brillouin Imaging
Nature Communications **16**, 6699 (2025). <https://www.nature.com/articles/s41467-025-60912-0>
11. G. Lemahieu, P. Moreno-Layseca, T. Hub, C. Bevilacqua, M.G. González, F. Pennarola, F. Colombo, L. Barzaghi, A. Palamidessi, L.-L. Homagk, S.F.H. Barnett, C. Selhuber-Unkel, R. Prevedel, X. Trepát, J.P. Spatz, J. Ivaska, G. Scita and E.A. Cavalcanti-Adam[†].
RAB5A Promotes Active Fluid Wetting by Reprogramming Breast Cancer Spheroid Mechanics
Advanced Science, e03569 (2025). <https://doi.org/10.1002/adv.202503569>
12. C. Bevilacqua and R. Prevedel[†].
Full-field Brillouin microscopy based on an imaging Fourier transform spectrometer.
Nature Photonics **19**, 494–501 (2025); **arXiv**: 2409.02092 (2024).
<https://doi.org/10.1038/s41566-025-01619-y>
13. P. Bouvet, C. Bevilacqua, Y. Ambekar, G. Antonacci, J. Au, S. Caponi, S. Chagnon-Lessard, J. Czarske, T. Dehoux, D. Fioretto, Y. Fu, J. Guck, T. Hamann, D. Heinemann, T. Jähnke, H. Jean-Ruel, I. Kabakova, K. Koski, N. Koukourakis, D. Krause, S. La Cavera III, T. Landes, J. Li, J. Margueritat, M. Mattarelli, M. Monaghan, D.R. Overby, F. Perez-Cota, E. Pontecorvo, R. Prevedel, G. Ruocco, J. Sandercock, G. Scarcelli, F. Scarponi, C. Testi, P. Török, L. Vovard, W.

- Weninger, V. Yakovlev, S.-H. Yun, J. Zhang, F. Palombo, A. Bilenca, K. Elsayad[†]. *Consensus Statement on Brillouin Light Scattering Microscopy of Biological Materials*. **Nature Photonics** **19**, 681–691 (2025), [arXiv:2411.11712](#) (2024);
14. S. Davis, J.-R. Sommernes, S. Hambura, L. Riedel, A. Gil, A. Ikmi, F. Ströhl and [R. Prevedel](#)[†]. *A mesoscopic axially swept oblique plane microscope for imaging of freely moving organisms with near-isotropic resolution*. **Biomedical Optics Express** **15**, 6715–6724 (2024); **Optica Open**:116719 (2024).
 15. M. Schubert*, S. Soyka*, A. Tamimi*, E. Maus, R. Denninger, N. Wissmann, E. Reyhan, S. Tetzlaff, C. Beretta, M. Drumm, J. Schroers, A. Steffens, J. Walshon, K. McCortney, S. Heiland, A. Golebiewska, F. Kurz, W. Wick, F. Winkler, A. Kreshuk, T. Kuner, C. Horbinski, [R. Prevedel](#)^{†,*} and V. Venkataramani^{†,*}. *Deep intravital brain tumor imaging enabled by tailored three-photon microscopy and analysis*. **Nature Communications** **15**, 7383 (2024); [bioRxiv:2023.06.17.545350](#) (2023)
 16. A. Tamimi, M. Caltarola[†], S. Hambura, J.C. Boffi, N. Noordzij, J.W.N. Los, A. Guardiani, H. Kooiman, L. Wang, C. Kieser, F. Braun, A. Fognini and [R. Prevedel](#)[†]. *Deep mouse brain two-photon near-infrared fluorescence imaging using a superconducting nanowire single-photon detector array*. **ACS Photonics** **11**, 3960–3971 (2024); [ArXiv: 2312.14042](#).
 17. A. Cook, N. Kaydanov, B. Ugarte-Urbe, J.C. Boffi, G.B. Kamm, [R. Prevedel](#)[†], C. Deo[†]. *Chemigenetic far-red labels and Ca²⁺ indicators optimized for photoacoustic imaging*. **J. Am. Chem. Soc.** **146**, 23963–23971(2024); DOI: 10.1021/jacs.4c07080 [bioRxiv: 2024.05.23.595278](#).
 18. F. Xia*, I. Leite*, [R. Prevedel](#) and T. Chaigne. *Optical wavefront shaping in deep tissue using photoacoustic feedback*. **Journal of Physics: Photonics** **6**, 043005 (2024); [arXiv:2407.04628](#);
 19. J.C. Boffi[†], B. Bathellier, H. Asari, and [R. Prevedel](#)[†]. *Effective sound localization coding by noisy populations of mouse inferior colliculus neurons revealed by fast volumetric imaging*. **eLife** **13**:RP97598 (2024); doi: 10.7554/eLife.97598.1; [bioRxiv: 2022.08.19.504510](#).
 20. A. Bilenca[†], [R. Prevedel](#)[†] and G. Scarcelli[†]. *Current state of stimulated Brillouin scattering microscopy for the life sciences*. **Journal of Physics: Photonics** **6**, 032001 (2024); doi: 10.1088/2515-7647/ad5506
 21. F. Ruperti, I. Becher*, A. Stokkermans*, L. Wang*[†], N. Marschlich*, C. Potel, E. Maus, F. Stein, B. Drotleff, K. Schippers, M. Nickel, [R. Prevedel](#), J.M. Musser[†], M. M. Savitski[†], and D. Arendt[†]. *Molecular profiling of sponge deflation reveals an ancient relaxant-inflammatory response*. **Current Biology** **34**, 1–15 (2024); [bioRxiv: 2023.08.02.551666](#)
 22. F. Coraggio; M. Bhushan; S. Roumeliotis; C. Bevilacqua, [R. Prevedel](#) and G. Rapti[†]. *Lifelong interplay of HSP-proteostasis, ECM-cell junctions, and biomechanics ensures C. elegans astroglial architecture*. **Nature Communications** **15**, 2861 (2024); [bioRxiv: 2023.10.28.564505](#) (2023).
 23. F. Yang[†], C. Bevilacqua, S. Hambura, A. Neves, A. Gopalan, K. Watanabe, M. Govendir, M. Bernabeu, J. Ellenberg, A. Diz-Muñoz, S. Köhler, G. Rapti, M. Jechlinger, and [R. Prevedel](#)[†]. *Pulsed stimulated Brillouin microscopy enables high-sensitivity mechanical imaging of live and fragile biological specimens*. **Nature Methods** **20**, 1971–1979 (2023); [bioRxiv: 2022.11.10.515835](#) (2022).
 24. C. Bevilacqua, J.M. Gomez, U.-M. Fiuza, C.J. Chan, L. Wang, S. Hambura, M. Eguren, J. Ellenberg, A. Diz-Muñoz, M. Leptin and [R. Prevedel](#)[†]. *High-resolution line-scan Brillouin microscopy for live-imaging of mechanical properties during embryo development*. **Nature Methods** **20**, 755–760 (2023). [bioRxiv: 2022.04.25.489364](#) (2022). [doi:10.1038/s41592-023-01822-1](#); News & Views: <https://doi.org/10.1038/s41592-023-01843-w>
Selected as one of the 10 biggest science stories of 2022 by The Guardian.
<https://tinyurl.com/375dspvwa>

25. R. Singh, K. Subramanian, R.M. Power, A. Paix, A. Gil, A. Ikmi, and R. Prevedel[†].
Oblique plane microscope for mesoscopic imaging of freely moving organisms with cellular resolution.
Optics Express **31**, 2292-2301 (2023). **bioRxiv**: 2022.07.15.500249 (2022).
26. C. Couteau[†], S. Barz, T. Durt, T. Gerrits, J. Huwer, R. Prevedel, J. Rarity, A. Shields, and G. Weihs. *Applications of single photons in quantum metrology, biology and the foundations of quantum physics.*
Nature Reviews Physics **5**, 354–363 (2023); doi.org/10.1038/s42254-023-00589-w.
27. C. Couteau[†], S. Barz, T. Durt, T. Gerrits, J. Huwer, R. Prevedel, J. Rarity, A. Shields, and G. Weihs. *Applications of single photons to quantum communication and computing.*
Nature Reviews Physics **5**, 326–338 (2023); doi.org/10.1038/s42254-023-00583-2.
28. J. Czuchnowski[†] and R. Prevedel[†].
Transfer function asymmetry in Fabry-Pérot pressure sensors.
Optics Letters **47**, 6089-6092 (2022). **ArXiv**: 2109.02443 (2021).
29. A. Paix, S. Basu, P. Steenbergen, R. Singh, R. Prevedel and A. Ikmi[†].
*Endogenous tagging of multiple cellular components in the sea anemone *Nematostella vectensis*.*
PNAS **120**, e2215958120 (2022).
30. J. Czuchnowski[†] and R. Prevedel[†].
Zernike mode rescaling extends capabilities of adaptive optics for microscopy.
Optics Continuum **12**, 2600-2606 (2022). **ArXiv**: 2110.14233 (2021).
31. Stokkermans, A. Chakrabarti, K. Subramanian, L. Wang, S. Yin, P. Moghe, P. Steenbergen, G. Mönke, T. Hiiiragi, R. Prevedel, L. Mahadevan[†] and A. Ikmi[†].
Muscular hydraulics drive larva-polyp morphogenesis
Current Biology **32**, 1-12 (2022). **bioRxiv**: 2021.08.19.456976 (2021).
32. J. Czuchnowski and R. Prevedel[†].
Comparing free-space and fibre-coupled detectors for Fabry-Pérot based all-optical photoacoustic tomography.
Journal of Biomedical Optics **27**, 046001 (2022). **ArXiv**: 2112.03081 (2021).
33. L. Streich, J. Boffi, L. Wang, K. Alhalaseh, M. Barbieri, R. Rehm, S. Deivasigamani, C. Gross, A. Agarwal, and R. Prevedel[†].
High-resolution structural and functional deep brain imaging using adaptive optics three-photon microscopy
Nature Methods **18**, 1253-1258 (2021). **bioRxiv**:2021.01.12.426323 Selected for Technology Feature by Nature: <https://www.nature.com/articles/d41586-023-00336-2>
34. C.C. Chan[†], C. Bevilacqua, and R. Prevedel[†].
Mechanical mapping of mammalian follicle development using Brillouin microscopy.
Communications Biology **4**, 1133 (2021). **bioRxiv**:2021.02.21.432113
35. J. Czuchnowski[†] and R. Prevedel[†].
Cross-compensation of Zernike aberrations in Gaussian beam optics.
Optics Letters **46**, 3480-3483 (2021). **ArXiv**:2102.05383
36. G. Paci, E. Haas, L. Kornau, D. Marchetti, L. Wang, R. Prevedel, and A. Szmolenszky[†].
Microscope in Action: an interdisciplinary fluorescence microscopy hands-on resource for schools.
The Biophysicist **2** (3) (2021); DOI: 10.35459/tbp.2020.000171
37. N. Wagner*, F. Beuttenmueller*, N. Norlin, J. Gierten, J. Wittbrodt, M. Weigert, L. Hufnagel, R. Prevedel^{*,†} and A. Kreshuk^{*,†}.
Deep learning-enhanced light-field imaging with continuous validation.
Nature Methods **18**, 557–563 (2021). **bioRxiv**:228924; *Equal contribution
News & Views: <https://www.nature.com/articles/s41592-021-01151-1>
38. J. Czuchnowski and R. Prevedel[†].
Adaptive optics enhanced sensitivity in Fabry-Pérot based photoacoustic tomography
Photoacoustics **23**, 100276 (2021); **bioRxiv**:2021.01.13.426260v1.

39. M.S. Ozturk, M.G. Montero, L. Wang, L. Chaible, M. Jechlinger[†] and R. Prevedel[†].
In-vivo monitoring and quantification of breast cancer growth dynamics with non-invasive intravital mesoscopic fluorescence molecular tomography
Communications Biology **4**, 556 (2021). bioRxiv:234898;
40. C. Morelli*, L. Castaldi*, S.J. Brown, L.L. Streich, A. Websdale, F.J. Taberner, B. Cerreti, A. Barengi, K.M. Blum, J. Sawitzke, T. Frank, L. Steffens, B. Doleschall, J. Serrao, S.G. Lechner, R. Prevedel, and P.A. Heppenstall[†].
Identification of a population of peripheral sensory neuron that regulates blood pressure
Cell Reports **35**, 109191 (2021); bioRxiv:909960;
41. D. Li, H. Zhang, L. L. Streich, P. Lu, L. Wang, D. Zhu, R. Prevedel[†] and J. Qian[†], *AIE-nanoparticle assisted ultra-deep microscopy in the in vivo mouse brain under 1300-nm excitation*,
Materials Chemistry Frontiers **5**, 3201-3208 (2021). bioRxiv:2020.12.25.424420
42. J. Czuchnowski and R. Prevedel[†].
Improving the sensitivity of planar Fabry-Pérot cavities via adaptive optics and mode filtering
Advanced Optical Materials 2001337 (2020); ArXiv:2007.09769
43. S. Gross-Thebing*, L. Truszkowski*, D. Tenbrinck, H. Sánchez-Iranzo, C., Camelo, K.J. Westerich, A. Singh, P. Maier, J. Prengel, P. Lange, J. Hüwel, F. Gaede, R. Sasse, B. Vos, T. Betz, M. Matis, R. Prevedel, S. Luschnig, A. Diz-Muñoz, M. Burger[†], E. Raz[†]
Using migrating cells as probes to illuminate features in live embryonic tissues.
Science Advances **6**, eabc5546 (2020);
44. G. Antonacci, T. Beck, A. Bilenca, J. Czarske, K. Elsayad[†], J. Guck, K. Kim, B. Krug, F. Palombo, R. Prevedel[†], and G. Scarcelli.
Recent progress and current opinions in Brillouin Microscopy for life science application
Biophys. Rev. **12**, 615–624 (2020). Note: Authors were arranged alphabetically.
45. H. Sánchez-Iranzo*, C. Bevilacqua*, A. Diz-Muñoz[†] and R. Prevedel[†].
A 3D Brillouin microscopy dataset of the in-vivo zebrafish eye
Data in Brief **30**, 105427 (2020). *Joint first authors
46. F. Geisler, R. Coch, C. Richardson, M. Goldberg, C. Bevilacqua, R. Prevedel and R. Leube[†].
Intestinal intermediate filament polypeptides in C. elegans: Common and isotype-specific contributions to intestinal ultrastructure and function
Scientific Reports **10**, 3142 (2020).
47. R. Prevedel[†], A. Diz-Muñoz[†], G. Ruocco and G. Antonacci.
Brillouin microscopy - an emerging tool for mechanobiology
Nature Methods **16**, 969–977 (2019). ArXiv:1901.02006
48. N. Wagner*, N. Norlin*, J. Gerten, G. de Medeiros, B. Balázs, J. Wittbrodt, L. Hufnagel[†] and R. Prevedel[†].
Instantaneous isotropic volumetric imaging of fast biological processes
Nature Methods **16**, 497–500 (2019). bioRxiv:459370.
49. C. Bevilacqua*, H. Sánchez-Iranzo*, D. Richter, A. Diz-Muñoz[†] and R. Prevedel[†].
Imaging mechanical properties of sub-micron ECM in live zebrafish using Brillouin microscopy
Biomed. Opt. Exp. **10**, 1420-1431 (2019). bioRxiv:491803. *Joint first authors
50. J. Qi, C. Sun, D. Li, H. Zhang, W. Yu, A. Zebibula, J. W. Y. Lam, W. Xi, L. Zhu, F. Cai, P. Wei, C. Zhu, R. T. K. Kwok, L. L. Streich, R. Prevedel, J. Qian, and B. Z. Tang.
Aggregation-Induced Emission Luminogen with Near-Infrared-II Excitation and Near-Infrared-I Emission for Ultradeep Intravital Two-Photon Microscopy.
ACS Nano **8**, 7936–7945 (2018).
51. R. Prevedel, A.J. Verhoef, A.J. Pernia-Andrade, S. Weisenburger, B.S. Huang, T. Nöbauer, A. Fernandez, J.E. Delcour, P. Golshani, A. Baltuska and A. Vaziri.
Fast volumetric calcium imaging across multiple cortical layers using sculpted light.
Nature Methods **13**, 1021–1028 (2016).
52. J. N. Tinsley*, M. I. Molodtsov*, R. Prevedel, D. Wartmann, J. Espigulé- Pons, M. Lauwers, and A. Vaziri.
Direct Detection of a Single Photon by Humans.
Nature Communications **7**, 12172 (2016).

53. P. Rupprecht, R. Prevedel, F. Grössl, W.E. Haubensak, and A. Vaziri.
Optimizing and extending light-sculpting microscopy for fast functional imaging in neuroscience.
Biomedical Optics Express **6**, 353-368 (2015); ArXiv:1501.03082
54. R. Prevedel*, Y.-G. Yoon*, M. Hoffmann, N. Pak, G. Wetzstein, S. Kato, T. Schrödel, R. Raskar, M. Zimmer, E.S. Boyden, and A. Vaziri.
Simultaneous whole-animal 3D-imaging of neuronal activity using light field microscopy.
Nature Methods **11**, 727–730 (2014); ArXiv:1401.5333; selected for Cover
55. T. Scheidl, F. Tiefenbacher, R. Prevedel, F. Steinlechner, R. Ursin and A. Zeilinger.
Crossed crystal scheme for femto-second pulsed entangled photon generation in periodically poled potassium titanyl phosphate.
Phys. Rev. A **89** 042324 (2014) ArXiv:1404.6914
56. C. Erven, E. Meyer-Scott, K. Fisher, J. Lavoie, B. L. Higgins, Z. Yan, C. J. Pugh, J.-P. Bourgoin, R. Prevedel, L. K. Shalm, L. Richards, N. Gigov, R. Laflamme, G. Weihs, T. Jennewein, and K.J. Resch.
Experimental Three-Particle Quantum Nonlocality under Strict Locality Conditions.
Nature Photonics **8**, 292 (2014) ArXiv:1309.1379
57. K. Fisher, A. Broadband, L. K. Shalm, Z. Yan, J. Lavoie, R. Prevedel, T. Jennewein, and K.J. Resch.
Quantum computing on encrypted data.
Nature Communications **5**, 3074 (2014) ArXiv:1309.2586
58. T. Schrödel*, R. Prevedel*, K. Aumayr, M. Zimmer and A. Vaziri.
*Brain- wide 3D imaging of neuronal activity in *Caenorhabditis elegans* with sculpted light.*
Nature Methods **10**, 1013 (2013) ArXiv:1406.1603 *Equal contribution
59. M. Mazurek*, K. Schreiter*, R. Prevedel, R. Kaltenbaek and K.J. Resch.
Dispersion-cancelled biological imaging with quantum-inspired interferometry.
Scientific Rep. **3**, 1582 (2013)
60. K. Fisher, R. Prevedel, R. Kaltenbaek and K.J. Resch.
Optimal linear optical implementation of a single-qubit damping channel.
New J. of Physics **14**, 033016 (2012) ArXiv:1109.2070
61. R. Prevedel, K.M. Schreiter, J. Lavoie and K. J. Resch.
A classical analogue for dispersion cancellation of entangled photons with local detection.
Phys. Rev. A **84**, 051803(R) (2011) ArXiv:1105.3956
62. N.K. Langford, S. Ramelow, R. Prevedel, W.J. Munro, G.J. Milburn and A. Zeilinger.
Efficient quantum computing using coherent photon conversion.
Nature **478**, 360-363 (2011) ArXiv:1106.1992
63. R. Prevedel, D. R. Hamel, R. Colbeck, K. Fisher and K. J. Resch.
Experimental investigation of the uncertainty principle in the presence of quantum memory.
Nature Physics **7**, 757-761 (2011) ArXiv:1012.0332
64. R. Prevedel, Y. Lu, W. Matthews, R. Kaltenbaek and K. J. Resch.
Entanglement-Enhanced Classical Communication over a Noisy Classical Channel.
Phys. Rev. Lett. **106**, 110505 (2011) ArXiv:1010.2566
65. T. Paterek, J. Kofler, R. Prevedel, P. Klimek, M. Aspelmeyer, A. Zeilinger and C. Brukner.
Mathematical undecidability and quantum randomness.
New J. Phys. **12**, 013019 (2010) ArXiv:0811.4542
66. T. Scheidl, R. Ursin, A. Fedrizzi, S. Ramelow, X.-S. Ma, T. Herbst, R. Prevedel, L. Ratschbacher, J. Kofler, T. Jennewein and A. Zeilinger.
Feasibility of 300 km quantum key distribution with entangled states.
New J. Phys. **11**, 085002 (2009) ArXiv:1007.4645
67. R. Prevedel, G. Cronenberg, M.S Tame, M. Paternostro, P. Walther, M.S. Kim and A. Zeilinger.
Experimental realization of Dicke states of up to six qubits for multiparty quantum networking.
Phys. Rev. Lett. **103**, 020503 (2009) ArXiv:0903.2212

68. R. Kaltenbeak, R. Prevedel, M. Aspelmeyer and A. Zeilinger.
High-fidelity entanglement swapping with independent sources.
Phys. Rev. A **79**, 040302(R) (2009) ArXiv:0809.3991
69. A. Fedrizzi, R. Ursin, T. Herbst, M. Nespoli, R. Prevedel, T. Scheidl, F. Tiefenbacher, T. Jennewein and A. Zeilinger.
High-fidelity transmission of entanglement over a high-loss free-space channel.
Nature Physics **5**, 389-392 (2009) ArXiv:0902.2015
70. R. Prevedel, M.S Tame, A. Stefanov, M. Paternostro, M.S. Kim and A. Zeilinger.
Experimental demonstration of decoherence-free one-way information transfer.
Phys. Rev. Lett. **99**, 250503 (2007) ArXiv:0708.0960
71. P. Boehi, R. Prevedel, T. Jennewein, A. Stefanov, F. Tiefenbacher and A. Zeilinger.
Implementation and characterization of active feed-forward for deterministic linear optics quantum computing.
Appl. Phys. B **89**, 499-505 (2007)
72. R. Prevedel, A. Stefanov, P. Walther and A. Zeilinger.
Experimental realization of a quantum game on a one-way quantum computer.
New J. Phys. **9**, 205 (2007) ArXiv:0708.1129
73. K.J. Resch, K.L. Pregnell, R. Prevedel, A. Gilchrist, G.J. Pryde, J.L. O'Brien and A.G. White.
Time-Reversal and Super-Resolving Phase Measurements.
Phys. Rev. Lett. **98**, 223601 (2007) ArXiv:quant-ph/0511214
74. M.S. Tame, R. Prevedel, M. Paternostro, P. Boehi, M.S. Kim and A. Zeilinger.
Experimental Realization of Deutsch's Algorithm in a One-way Quantum Computer.
Phys. Rev. Lett. **98**, 140501 (2007) ArXiv:quant-ph/0611186
75. R. Prevedel, C. Brukner, M. Aspelmeyer, T.D. Jennewein and A. Zeilinger.
Photonic entanglement as a resource in quantum computing and quantum communication
J. Opt. Soc. Am. B **24**, 241-248 (2007) ArXiv:0803.4402
76. R. Prevedel, P. Walther, F. Tiefenbacher, P. Boehi, R. Kaltenbaek, T. Jennewein and A. Zeilinger.
High-speed linear optics quantum computing using active feed-forward.
Nature **445**, 65-69 (2007) ArXiv:quant-ph/0701017
77. N.K. Langford, T.J. Weinhold, R. Prevedel, K.J. Resch, A. Gilchrist, J.L. O'Brien, G.J. Pryde and A.G. White.
Demonstration of a Simple Entangling Optical Gate and Its Use in Bell-State Analysis.
Phys. Rev. Lett. **95**, 210504 (2005). ArXiv:quant-ph/0506262

Book Chapters (peer-reviewed)

78. C. Bevilaqua, K. Elsayad[†] and R. Prevedel[†].
Brillouin microscopy: measuring cell and tissue biomechanics in 3D with high spatial resolution
Chapter 3 in Optical Elastography: Optical Techniques for Assessing Cell and Tissue Biomechanics, K. V. Larin and G. Scarcelli, Eds., pp. 125–162, SPIE Press, Bellingham, Washington (2026); doi: 10.1117/3.100335.ch3.
79. R. Prevedel[†].
Large-scale fluorescence imaging in neuroscience
Imaging from cells to animals *in vivo* (Book chapter) New York: Barroso, M. (Ed.) and Intes, X. (Ed.), Chapman and Hall/CRC, (2020);
80. M. Ozturk and R. Prevedel[†].
Fluorescence microscopy techniques
Imaging from cells to animals *in vivo* (Book chapter) New York: Barroso, M. (Ed.) and Intes, X. (Ed.), Chapman and Hall/CRC, (2020);

Electronic Preprints

81. L. Wang, S. Davis, T. Quilitz, T. Beavis, M. Bonadonna, M. Lamprousi, R. Montanari, F. Ruperti, A. Stokkermans, T. Wiegand, V. A. Witte, A. Gil Ortiz, M. Dorrity, J. Siemens, J. Musser, D. Arendt, N. Leisch, F. Vincent, A. Ikmi, R. Prevedel[†]
A mobile optical coherence microscope for studying aquatic organisms in- and outside the

laboratory

bioRxiv:2026.07.27.740915 (2026).

82. F. Xia*, I. Leite*, S. Xiao, N. Kaydanov, F. Goerlitz, S. Gigan[†], and R. Prevedel[†].
Light and Sound Driven Wavefront Shaping and Imaging through Scattering Media.
arXiv:2602.01172 (2026).
83. J. Garcia-Baucells[†], C. Bevilacqua*, M. Rufin*, C. Rumpf-Kienzl*, A. Zampetaki*, O.G. Andriotis, P.J. Thurner, R. Prevedel, S. Fürthauer and A. Dammermann[†].
Centrosome Softening Ensures Mitotic Fidelity Under Microtubule Forces.
bioRxiv: 2025.09.09.675178 (2025).
84. K.W. Leong*, Y. Lou*, A. Biswas, J.Y. Kelly Tan, B. Heng Ng, X. Lu, X.P. Joan Teo, T.B. Lu, C. Bevilacqua, I. Bonne, R. Prevedel, T. Hiraiwa and C.J. Chan[†]
Critical phenomenon underlies de novo luminogenesis during mammalian follicle development.
bioRxiv: 2025.09.09.674793 (2025).
85. R.X. Zang[†], N. Malaiwong*, L. Wang*, J.D. Maziarz*, K. Jia, B. Drotleff, F. Stein, M. Noor, C.J. Roberts, M. Rettel, J.J. Schwarz, A. Ikmi, S. Watanabe, R. Prevedel, M.P. O'Donnell, and J.M. Musser[†],
An ancient monoaminergic signaling system coordinates contractility in a nerveless sponge.
bioRxiv: 2026.02.14.704838 (2026). Submitted to Science Advances.
86. T. Zerlin, P. Ruiz-Duarte, A.-K. Schürholz, T. Schlamp, Y. Ma, C. Bevilacqua, N. El Arbi, C. Wenzl, A. Miotk, R. Prevedel, T. Greb, J. Lohmann, S. Wolf[†].
The Cell Wall Controls Stem Cell Fate in the Arabidopsis Shoot Apical Meristem.
bioRxiv: 2025.05.19.654883 (2025).
87. Y. Ermakova, R. Waadt, M.S. Ozturk, M. Roshchin, A.A. Lanin, A. Chebotarev, M. Pochechuev, V. Pak, I. Kelmanson, D. Smolyarova, K. Keutler, A.M. Matyushenko, C. Tischer, P.M. Balaban, E.S. Nikitin, K. Schumacher, A.M. Zheltikov, R. Prevedel, C. Schultz[†] and V.V. Belousov[†].
Thermogenetic control of Ca²⁺ levels in cells and tissues.
bioRxiv: 2023.03.22.533774 (2023).
88. J.C. Boffi, T. Wiessalla, and R. Prevedel[†].
Primary motor cortex traces distinct trajectories of population dynamics during spontaneous facial motor sequences.
bioRxiv: 2021.02.15.431209 (2021).
89. S. Weisenburger*, R. Prevedel* and A. Vaziri.
Quantitative evaluation of two-photon calcium imaging modalities for high-speed volumetric calcium imaging in scattering brain tissue.
bioRxiv/2017/115659; **doi**: 10.1101/115659 *Equal contribution

Miscellaneous publications (non peer-reviewed)

90. M. Körbel and R. Prevedel[†].
Brillouin Microscopy for Life Science Applications.
Microscopy and Analysis - Wiley Analytical Science (2026) in press
91. C. Bevilacqua, A. Diz-Muñoz[†] and R. Prevedel[†].
Brillouin microscopy - measuring mechanics in biology using light.
Infocus Magazine - Royal Microscopical Society **53**, March issue (2019)
92. J. Czuchnowski and R. Prevedel[†].
Photoacoustics: seeing with sound.
Science in School Magazine **47**, 14 (2019)

PATENTS

- C. Bevilacqua and R. Prevedel,
Spectroscopic imaging method and device.
European Patent EP26165919.7, filed March 18, 2026.
- C. Bevilacqua, L. Wang and R. Prevedel,
Spectroscopic imaging method and device. WO2025191101A1
European Patent EP24163369 and PCT/EP2025/056953, filed March 13, 2024.

A. Vaziri, P. Rupprecht and R. Prevedel,
Recording dynamics of cellular processes.
U.S. Patent 10,317,390, filed September 8, 2014. Granted 2019.

A. Vaziri, E.S. Boyden, R. Prevedel, Y.-G. Yoon, N. Pak,
Three-dimensional video imaging using light field microscopy.
U.S. Patent Application 62/105,595, filed January 20, 2015. Patent Pending.

INVITED PRESENTATIONS (SINCE 2017)

QBio/PEB Seminar, Yale University, USA, Sept. 2026
Janelia Conference Imaging Mouse Development, Janelia, USA, Sept. 2026
BioDigiMat Kick-off event, Karlsruhe Institute of Technology, Germany, July 2026
MMPU Perspective Day, Heidelberg, June 2026
Scandem 2026, Keynote lecture, Oulu, Finland, June 2026
EMBL-PSI minisymposium, EMBL Heidelberg, March 2026
Biomedical Optics Oberseminar, University Lübeck, Lübeck, Germany, December 2025
INSEAM colloquium, Max Planck Institute for Medical Research, Heidelberg, December 2025
MIC Symposium, Univ. Bern, Switzerland, November 2025
Keynote, 9th International PhD students conference, Warsaw, Poland, October 2025
DANEMO visitor workshop, EMBL Heidelberg, August 2025
EMBL summer school keynote lecture, EMBL Heidelberg, July 2025
EMBL summer council meeting, EMBL Heidelberg, June 2025
ELMI conference, EMBL Heidelberg, June 2025
JST-EMBO meeting, EMBL Heidelberg, February 2025
TLRC Retreat, Heidelberg, February 2025
IBBC - EMBL - NANOTEC workshop (virtual), February 2025
Wellcome Trust Visit, EMBL Heidelberg, December 2024
EMBL Insight Lecture, EMBL Heidelberg, December 2024
Procopé: Genetics in marine organisms workshop, EMBL Heidelberg, November 2024
CZI Imaging Meeting Deep Dive Session, Austin, USA, November 2024
EPFL Latsis Symposium on smart microscopy, Lausanne, October 2024
Quantitative Microscopy Symposium, Institut Pasteur, Paris, France, October 2024
EMBO Imaging Mouse Development workshop, EMBL Heidelberg, September 2024
EMBO course Current Methods in Cell Biology, EMBL Heidelberg, September 2024
EMBL faculty seminar, Hamburg, July 2024
EMBL summer school keynote lecture, Heidelberg, July 2024
Monash Advanced Microscopy Seminar (virtual), Melbourne, Australia, June 2024
Cancer Neuroscience Course series (virtual), Harvard, USA, June 2024
Michael Sars Symposium, Sars Center Bergen, Norway, May 2024
Pharmacology Seminar, University of Zurich, Switzerland, May 2024
Force Talk Seminar Series (virtual), King's College, UK, May 2024
EMBO Course Imaging Marine Organisms, Naples, Italy, April 2024
4D Cellular Physiology Conference, Janelia, USA, March 2024
EMBL Rome SAC Review, Rome, February 2024
SPIE Photonics West, San Francisco, January 2024
Industriegespräche Gießen, Lecture, Gießen, Germany, January 2024
Biolmaging Seminar, EPFL, Lausanne, Switzerland, December 2023
CellSense Technology Opening Ceremony, Keynote, Berlin, November 2023
Karlsruhe Days of Optics & Photonics 2023, Karlsruhe, November 2023
MiFoBio lecture and workshop, Presqu'île de Giens, November 2023
CZI Imaging Frontier Workshop, San Francisco, October 2023
MMPU Research Day, EMBL Heidelberg, September 2023
EMBO Practical Course: Plasticity in developing systems, EMBL Heidelberg, August 2023
Heidelberg Cancer Neuroscience Conference, University of Heidelberg, Germany, July 2023
Mechanobiology Institute Seminar (virtual), University of Singapore, Singapore, July 2023
Physics in Biology seminar, University of Geneva, Switzerland, June 2023
Computational Imaging Workshop, Wetzlar, Germany, May 2023
Online Lecture Series on Optics, Aalen University (virtual), April 2023
Neural Circuit Seminar, IIT Genoa, Italy, March 2023
ENS-CdG-EMBL Neurobiology Workshop, Rome, Italy, Feb. 2023
EMBL Corporate Partnership Program, Heidelberg, Feb. 2023
External seminar, IST Austria, Vienna, Nov. 2022
Modern Concepts in Structural Biology seminar, Vienna BioCenter, Nov. 2022
EMBL-Leica Scientific advisory board meeting, Nov. 2022
Biotechniques Spotlight Panel discussion (virtual), Oct. 2022
EMBL-IIT Imaging Meeting, Rome, Italy, Oct. 2022

SPP1926 Annual Meeting, Göttingen, Oct. 2022
 MPMU Advisory Meeting, Heidelberg, Oct. 2022
 EMBL Faculty Retreat, Paris, France, Sept. 2022
 International School of Sound and Light, Oleron, France, Sept. 2022
 Janelia Conference Imaging Mouse Development, Janelia, USA, Sept. 2022
 Inflammation & Imaging Symposium Münster, Germany, Sept. 2022
 MPI Science of Light seminar, Erlangen, Germany, Aug. 2022
 FENS workshop organizer and speaker, Paris, France, July 2022
 EMBL summer school keynote lecture, Heidelberg, July 2022
 EMBL faculty seminar, Grenoble, France, May 2022
 Translational Lung Research Center Retreat, Asselheim, Germany, May 2022
 IZN Concept talk, Heidelberg University, April 2022
 IIT-EMBL Rome workshop, Rome, Italy, April 2022
 Euro-BioImaging Seminar Series, Heidelberg (virtual), Mar. 2022
 Anatomy and Cell Biology seminar, Medical University Vienna (virtual), Mar. 2022
 Cancer Neuroscience Seminar Series, Heidelberg (virtual), Mar. 2022
 SPIE Photonics West – invited presentation, San Francisco, USA, Feb. 2022
 EMBL-Abbvie Science Day presentation, Heidelberg, Jan. 2022
 Erlangen W3 Medical Faculty interview, Erlangen, Nov. 2021
 UK-China International Workshop, Plenary talk (virtual), Glasgow, UK, Nov. 2021
 BioBrillouin training school (virtual), Vienna, Oct. 2021
 EMBL-EMBO Symposium Seeing is Believing (virtual), Germany, Oct. 2021
 Böhringer Annual Alumni meeting, Glashütten, Germany, Sept. 2021
 OSA Imaging and Applied Optics Congress (virtual), Vancouver, July 2021
 Chair EMBL-GSK Science Day (virtual), Heidelberg, July 2021
 Mini-symposium Neurodegeneration Excellence Cluster proposal (virtual), Heidelberg, June 2021
 University of Zurich Brain Research Institute Seminar (virtual), Switzerland, June 2021
 Janelia workshop Biological tools for 4D Cellular Physiology (virtual), May 2021
 CBB SAC Review (virtual), Heidelberg, May 2021
 MPMU Research Day (virtual), Heidelberg, Apr. 2021
 CZI Deep Tissue grant kickoff meeting (virtual), San Francisco, USA, Feb. 2021
 EMBL Corporate Partnership Program (virtual), Heidelberg, Feb. 2021
 Spanish & Portuguese Advanced Optical Microscopy Meeting (virtual), Valencia, Spain, Nov. 2020
 Texas A&M Biophotonics seminar (virtual), USA, Oct. 2020
 Imaging ONE WORLD lecture series (virtual), Cambridge, UK, Sept. 2020
 DB GL retreat, Heidelberg, July 2020
 MPMU Perspective Day, (virtual), Heidelberg, June 2020
 Janelia Optical Imaging seminar (virtual), USA, May 2020
 ELLS Teacher workshop, Heidelberg, March 2020
 Chan Zuckerberg Biohub, San Francisco, USA, Feb. 2020
 UC Davis, USA Feb. 2020
 SPIE Photonics West – Neurotechnologies Plenary talk, San Francisco, USA, Feb. 2020
 SPIE Photonics West – invited presentation, San Francisco, USA, Feb. 2020
 BioBrillouin Instrumentation workshop, Vienna, Austria, Dec. 2019
 Bern Microscopy Seminar, Switzerland, Nov. 2019
 MPMU application interview, Heidelberg, Nov. 2019
 EMBL PhD course: Neuroscience, Heidelberg, Nov. 2019
 BIMS Microscopy seminar, Berlin, Nov. 2019
 Swiss Microscopy Symposium, Engelberg, Switzerland, Oct. 2019
 BioBrillouin conference 2019, Porto, Portugal, Sept. 2019
 ERC Interview 2019, Brussels, Belgium, Sept. 2019
 EMBO CBB course, Heidelberg, Sept. 2019
 Microscopy workshop, Tromsø, Norway, Sept. 2019
 Lindau Laureate students visit, Heidelberg, July 2019
 CBB GL retreat, Germany, July 2019
 ECBO 2019, Munich, June 2019
 BioBrillouin training school, Lyon, France, Jan. 2019
 Imaging Seminar, Institut Fresnel, Paris, France, Jan. 2019
 Optics within life sciences meeting, Perth, Australia, Nov. 2018
 Guest Lecture, FH Mannheim, Germany, Nov. 2018
 Rome GL retreat, Italy, Oct. 2018
 ERC interview 2018, Brussels, Belgium, Sept. 2018
 EMBL Australia symposium, Heidelberg, Sept. 2018
 BioBrillouin conference, Perugia, Italy, Sept. 2018
 EMBL Conference Imaging Mouse Development, Heidelberg, July 2018
 ESOF Toulouse, France, July 2018
 Poland joins EMBO symposium, Warsaw, Poland, June 2018

DB GL retreat, June 2018
Microscopy seminar, German Lung Cancer Center, Heidelberg, May 2018
Lunch seminar, BioMedX, Heidelberg, April 2018
Open Day lecture, IGH high school, Heidelberg, March 2018
Bruker visit to EMBL, Heidelberg, Jan. 2018
Medical Engineering Seminar, Morgridge Insitute, Madison, USA, Nov. 2017
EMBL conference Mammalian Genetics and Genomics, Heidelberg, Oct. 2017
Open Day lecture, OICE Erlangen, Germany, Oct. 2017
Olympus Microscopy Summit, Klostereberbach, Germany, Oct. 2017
EMBL conference 'Seeing is Believing', Heidelberg, Oct. 2017
CBB GL retreat, Heidelberg, July 2017
ECBO, Munich, June 2017

REVIEWER FOR JOURNALS

Nature
Cell
Nature Methods
Nature Biotechnology
Nature Nanotechnology
Nature Neuroscience
Nature Communication
Nature Reviews Methods Primer
Science Advances
Nature Light: Science and Applications
Nature Protocols
Reviews of Modern Physics
Physical Review Letters
Physical Review X
Physical Review X Life
Optica
eLife
Review Commons
eLight
Small
Advanced Optical Materials
Developmental Cell
Development
Biomaterial Advances
Communications Biology
Photoacoustics
Photonics Research
Applied Physics Letters Photonics
ACS Photonics
ACS Applied Nano Materials
Laser & Photonics Reviews
Optics Express
Optics Communication
Biomedical Optics Express
Transactions on Medical Imaging
Current Opinion in Biomedical Engineering
Journal of Neuroscience Methods
Journal of the European Optical Society
Physical Review A
Physical Review Applied
Scientific Reports
New Journal of Physics
Quantum
European Journal of Physics
IEEE Photonics
IEEE Transactions Biomedical Engineering
ISciNote

REVIEWER FOR GRANTS

ERC Advanced Grant (EU)
ERC Consolidator Grant (EU)
ERC Starting Grant (EU)
NIH-RFA-NS (Brain Initiative)
NSF Major Research Instrumentation
DFG (Germany)
Heidelberg-Mannheim Life Science Alliance (Germany)
Novo Nordisk Foundation (Denmark)
FWF (Austria)
OeAD (Austria)
OeAW DOC Awards (Austria)
Cancer Research UK (UK)
ANR (France)
Inserm (France)
SNSF (Switzerland)
EPFL (Switzerland)
Wellcome Trust (UK)
Israel Science Foundation (ISF)
URochester Pilot grants (USA)
VIP-2 postdoctoral fellowships (Austria)
Fondecyt (Chile)

SCIENTIFIC NETWORKS

2017 - 2022	Management Committee Member of the COST Action Network “BioBrillouin” (CA16124) and Work Group Leader (WG3: Instrumentation) - collaborative network in the field of Brillouin spectroscopy applied to life sciences and health related problems.
2018 - 2023	Management Committee Member of the COST Action Network “COMULIS” (CA17121) – Correlated Multimodal Imaging in Life Sciences
Since 2022	Treasurer, International BioBrillouin Society
2023	Guest Editor for Focus Issue in J. Phys. Photonics on Brillouin Scattering in Biology
2025	Health+Life Science Alliance Heidelberg Internal Advisory Board Member (interim)
2026	Guest Editor Special Issue in J. Microscopy on Brillouin microscopy (BioBrillouin25)
2026	Senior Guest Editor Special Issue in Nat. Light Science & Applications

INSTITUTIONAL RESPONSIBILITIES

Since 2016	Member of 8 internal committees at EMBL.
Since 2021	Chair of 2 internal committees at EMBL (Microscopy facilities, Workshops)
Since 2016	Member of 15 Thesis Advisory Committees and 8 PhD defense committees.
Since 2018	Member of 4 Faculty and 9 Service position recruitment panels at EMBL.
Since 2018	Career mentor for 3 EMBL postdocs (within EIPOD 4 program)
Since 2024	Career mentor within the DZL Academy Mentoring Program
Since 2024	Member of the EMBL Joint Advisory Appeals Board
Since 2026	Member of the EMBL Rehabilitation Board
Since 2025	Representative EMBL Member of ESA's upcoming Saturn Flagship mission
Since 2025	Steering Committee Member of The Interdisciplinary Core Facility for Cancer Neuroscience (ICFCN), European Center for Neurooncology, Heidelberg
Since 2026	Member of the Lennart Philipson Award shortlist committee
Since 2026	Member of the TLRC steering board (EMBL representative)

PROFESSIONAL MEMBERSHIPS

Optical Society of America
SPIE (Society of Photo-Optical Instrumentation Engineers)
International BioBrillouin Society