

Dr. Oliver Thorn-Seshold

*5 June 1985 in Sydney; married; one child (*2021.09); Australian, Swedish and British citizenships
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Research Program

My group applies organic chemistry to interdisciplinary challenges in cell biology, imaging, and translational therapy in cancer and inflammation. **Our major research topics are:**

- (1) **photoswitchable** inhibitors and materials: high-precision tools for biology and soft matter;
- (2) new chemical methods to drive optical **imaging**: super-resolution, probes, photoacoustics;
- (3) chemical diagnostics/prodrugs to harness **redox and metabolism** in inflammation/cancer.

Chemical synthesis of functional reagents is the core of our work. Our other key areas are: (a) photochemistry, for photoresponsive materials and imaging; (b) chemical biology and cell biology, for pharmaceutical / medicinal chemistry and drug development.

Scientific Career

Since 2018 DFG Emmy Noether group leader, LMU Munich, Dept. Pharmacy

2016 – 2018 Independent Researcher. LMU Munich, Dept. Pharmacy

2013 – 2016 Postdoc with Prof. Dirk Trauner. LMU Munich, Dept. Chemistry

Academic Education

2009 – 2013 PhD (chemistry), Ecole Normale Supérieure de Lyon, France

PhD Thesis: *Auto-Immolative Spacers for Fluorogenic Probes of Enzyme Activity*

Advisor: Prof. Jens Hasserodt

2007 – 2009 MSc (bioorganic chemistry) in 2008/09 at ENS Lyon, France.

MSc Thesis: *Enzyme-responsive MRI probes* (Prof. Jens Hasserodt).

Honours (physical/theoretical chemistry), 2007, Uni. of Sydney, Australia.

Honours Thesis: *Randomly Hyperbranched Polymers* (Prof.s Bob Gilbert and Angus Gray-Weale; First Class Honours & Goulston Prize in Organic Chemistry)

2004 – 2006 BSc Advanced (chemistry double major) at University of Sydney, Australia.

(2006: exchange to Gothenburg University, Sweden).

Top grade (Dean's Honours List) & Hush Prize & Burfitt Scholarship in Chemistry

1998 – 2003 Sydney Grammar School, Australia. High School Certificate: 99.85th percentile

35th International Chemistry Olympiad: Silver medal (Athens, 2003)

34th International Chemistry Olympiad: Bronze medal (Groningen, 2002)

2002 & 2003: national Australian Student's Prizes for outstanding achievement

2001-2003: after-school inorganic chemistry research, leading to first papers

Research Group and Supervision Ethos

Current group: 6 PhD students, 2 postdocs, 1 MSc, undergraduate interns (2023.09)

I am deeply committed to the education and support of my group members. I teach them a week-long **Research Retreat** each year (e.g. paper writing, data modelling, project planning, grant writing skills, gender equality in academia) at a village outside Munich. I support my PhD students to develop **independent projects** with co-corresponding authorships (3 papers so far); and I provide full financial support for my PhD students to take a 3-6 month "**PhD externship**" out of their PhD time at a renowned group (so far: Harvard, Scripps, UC Berkeley, NYU, Tokyo) with no strings attached, to gain new skillsets and build a network. I give extensive career support to my group and alumni, who over the last 3 years have won **30 prizes & scholarships**, incl. seven PhD scholarships and four independent research grants.

Completed Supervisions (2016 – 2023)

Direct supervisions completed: 5 PhD theses (three *summa cum laude*); 1 Dr. med. thesis; 8 MSc theses (two *Römer Prizes* for best MSc Thesis in Chemistry at LMU); 6 exchange scholars at MSc level; 14 interns personally supervised (BSc / 4th year); 4 postdocs in basic research; 13 postdocs in two preclinical / translational medicine spinoffs, *CytoSwitch* and *NanoCapture*.

Supervisions by our group members: 34 further internships completed. We are active in the organic synthesis "OC Lit" lab mentoring program, international lab exchanges (AMGEN), and in hosting high school students for German National Chemistry Olympiad practical work (FChO).

Current Teaching

Since 2020 Chemical Biology of Vitamins (16 lecture hours; 3rd year; in German)

Since 2018 Optical Spectroscopic Analysis (2x 15 lecture hours per year; 2nd year; in German)

Grants (selected)

Current Grants

2022 – 2024 Boehringer Ingelheim Exploration Grant: Photoacoustic imaging agents

2019 – 2024 DFG SPP1926 (XVIII): Photo/photoredox-switchable ligands

Since 2018 DFG Emmy Noether: Chemical tools for controlling endogenous microtubules

2017 – 2024 DFG SFB1032 (B09): Nanoagents for spatiotemporal control

Completed Grants

2018 – 2022 DFG SFB TRR152 (P24): Photochemical reagents for TRP channel modulation

*2016 – 2022 BMBF GO-Bio translational grant series: Tumour-targeted therapeutics

*2017 – 2020 BMWi EXIST translational grant series: Photopharmaceuticals for tumour therapy

2021 & 2017 Munich Centre for Nanoscience grants: Redox Membranes; and Drug Targeting

2012 – 2013 ARC Research, ENSL, & CLARA grants: *Microtubule Photocontrol*: taken to LMU

Main Research Collaborations Ongoing (selected)

Redox/Metabolism probes & tools: Elias Arnér (Karolinska Institutet, SWE), Matt Hall (NIH, USA)

Tubulin photoswitches: Anna Akhmanova (Utrecht, NL), Michel Steinmetz (PSI Villigen, CH)

TRP switches: Michael Schaefer (Leipzig), Trese Leinders-Zufall (Saarland), Robin Bon (Leeds)

Fluorogenic chemical probes: Thomas Misgeld (TUM), Martin Kerschensteiner (LMU)

High-stability imaging: V. Glembockyte & Philip Tinnefeld (LMU), Johannes Broichhagen (FMP)

Photoacoustic imaging: Vasilis Ntziachristos (Helmholtz Munich), Achim Hartschuh (LMU)

Photoswitch theory: Theo Lohmüller (LMU), Bert Nickel (LMU), Benjamin Dietzek-Ivansic (Jena)

Awards and Fellowships (selected)

2022 GDCh/DPhG Med Chem *Innovation Prize* (German Chemical/Pharmaceutical Societies)

2022 SCS *Bürgenstock Junior Scientist (JSP) Fellowship* (Swiss Chemical Society)

2020, 2022 Munich Centre for Nanoscience *Publication Awards* for outstanding papers

2015 Merck Serono medicinal chemistry *Innovation Cup* winner (oncology)

2015 Talk Prizes, RSC Chem Bio (ETH, CH) & French Microtubule (Grenoble, FR) conferences

2009 – 2012 French Research Ministry PhD Scholarship with Teaching Fellowship

2008 – 2009 Ampere Masters Scholarship

2007 Edna Maude Goulston prize for Organic Chemistry Honours

2006 Walter Burfitt Scholarship N° 1 (BSc Chemistry) & Hush Prize (Theoretical Chemistry)

2006 Royal Australian Chemical Institute's Student Chemistry Prize

2004 Physics Scholarship N° 1

2004 – 2007 University of Sydney Scholarship with Merit (highest scholarship at USyd)

2003 *Headmaster's Exhibition* - high school academic travel prize

2002 & 2003 Bronze & Silver medals, International Chemistry Olympiad (Athens/Groningen)

Other Information

Teaching in: German (proficient), English (native), French (fluent)

IT: OS proficiency (Mac/Win/Unix); programming basics (Fortran, XML, bash, Arduino)

Other activities: cellist in classical chamber music (~20 years); hiking and camping

Publication List (updated list maintained [online](#))

ORCID: orcid.org/0000-0003-3981-651X; Google Scholar: tinyurl.com/ThornSeshold-GS

Summary

- **As independent group leader**: 38 papers of which **24 * as senior author**, 2 book chapters, & 4 patents. (5 papers & 1 patent from studies).

Journal Publications from independent career (*as senior author)

Papers In Review or Preprinted (all are primary research)

- 38*** B Baumgartner, V Glembockyte, RJ Mayer, AJ Gonzalez-Hernandez, RO Kindler, A Valavalkar, AJ Wiegand, A Müller-Deku, L Grubert, F Steiner, C Gross, M Reynders, V Grenier, J Broichhagen, S Hecht, P Tinnefeld, AR Ofial, B Dietzek-Ivanšić, J Levitz, **O Thorn-Seshold***; Azobenzenes can achieve near-infrared photocontrol in biological systems, with quantitative Z→E photoisomerization, via singlet manifold photoredox.
[ChemRxiv 2023: doi.org/](#)
- 37*** M Müller, N Liu, V Gujrati, A Valavalkar, S Hartmann, A Telek, B Dietzek-Ivanšić, A Hartschuh, V Ntziachristos, **O Thorn-Seshold***; Merged molecular switches excel as optoacoustic dyes: azobenzene-cyanines are loud and photostable NIR imaging agents.
[ChemRxiv 2023: doi.org/khfx](#)
- 36*** P Mauker, D Beckmann, A Kitowski, C Heise, C Wientjens, AJ Davidson, W Wood, C Wilhelm, J Thorn-Seshold, T Misgeld, M Kerschensteiner, **O Thorn-Seshold***; Imaging membrane damage in ferroptosis and necrosis by wash-free fluorogenic chemical probes.
[BioRxiv 2023: doi.org/kc76](#)
- 35*** M Reynders*, S Willems, J Marschner, T Wein, D Merk*, **O Thorn-Seshold***; Light-controlled inhibition of the circadian regulator ROR γ .
[ChemRxiv 2023: doi.org/kmpn](#)
- 34** M Wranik*, MW Kupa*, EV Beale, et al., K Krauskopf, L Gao, **O Thorn-Seshold**, C Bostedt, C Bacellar, MO Steinmetz, C Milne, J Standfuss; A multi-reservoir extruder for time-resolved serial protein crystallography and compound screening at X-ray free electron lasers.
[ResearchSquare 2023: doi.org/kn4d](#)
- 33*** L Zeisel, J Felber, K Scholzen, C Schmitt, A Wiegand, L Komissarov, E Arnér, **O Thorn-Seshold***; Bifunctional, piperazine-fused cyclic disulfides for oxidoreductase-activated cellular proagents.
[ChemRxiv 2023: doi.org/jr6d](#)

Publications (all are primary research, except the two marked →)

- 32** F Coelho, S Saidjalolov, D Moreau, **O Thorn-Seshold**, S Matile*; Inhibition of Cell Motility by Cell-Penetrating Dynamic Covalent Cascade Exchangers: Integrins Participate in Thiol-Mediated Uptake.
[JACS Au 2023, 1010-1016](#)
- 31*** J Felber, A Kitowski, L Zeisel, M Maier, C Heise, J Thorn-Seshold, **O Thorn-Seshold***; Cyclic dichalcogenides extend the reach of bioreductive prodrugs to harness the thioredoxin system.
[ACS Central Science 2023, 763-776](#)
- 30** C Velasco, R Mellwig, M Schorb, L Gao, **O Thorn-Seshold**, A Llobet*; Microtubule depolymerization contributes to spontaneous neurotransmitter release.
[Communications Biology 2023, 488](#)

- 29* L Zeisel*, M Maier, **O Thorn-Seshold***; Efficient and scalable syntheses of 1,2-thiaselenane-4-amine and 1,2-thiaselenane-5-amine.
[Synthesis 2023, 1385-1393](#)
- 28* J Felber*, **O Thorn-Seshold***; Synthetic duocarmycins: structural evolution from SAR to prodrugs and ADCs - a searchable structure/function database.
[JACS Au 2022, 2636-2644 \(*ACS Editors' Choice\)](#) → *critical review article*
- 27* L Zeisel, J Felber, L Poczka, K Scholzen, D Cheff, M Maier, Q Cheng, M Shen, M Hall, E Arnér, J Thorn-Seshold, and **O Thorn-Seshold***; Selective cellular probes for mammalian thioredoxin reductase TrxR1: rational design of RX1, a 1,2-thiaselenane redox probe.
[Chem 2022, 1493-1517 \(Redox Highlight, Chem Highlight\)](#)
- 26* L Gao, J Meiring, A Varady, I Ruider, C Heise, M Wranik, C Velasco, J Taylor, B Terni, J Standfuss, C Cabernard, A Llobet, M Steinmetz, A Bausch, M Distel, J Thorn-Seshold, A Akhmanova, and **O Thorn-Seshold***; *In vivo* photocontrol of microtubule dynamics and integrity, migration and mitosis, by the potent GFP-imaging-compatible photoswitchable reagents SBTubA4P and SBTub2M.
[Journal of the American Chemical Society 2022, 5614-5628](#)
- 25* J Felber, L Poczka, K Scholzen, L Zeisel, M Maier, S Busker, U Theisen, C Brandstädter, K Becker, E Arnér, J Thorn-Seshold, **O Thorn-Seshold***; Cyclic 5-membered disulfides are not selective substrates of thioredoxin reductase, but are opened nonspecifically.
[Nature Communications 2022, 13, 1754](#)
- 24* L Gao, Y Kraus, A Stegner, T Wein, C Heise, L von Brunn, E Fajardo-Ruiz, J Thorn-Seshold, **O Thorn-Seshold***; Self-reporting styrylthiazolium photopharmaceuticals: mitochondrial localisation as well as SAR drive biological activity.
[Organic and Biomolecular Chemistry 2022, 20, 7787-7794](#)
- 23* A Müller-Deku, **O Thorn-Seshold***; Exhaustive catalytic ortho-alkoxylation of azobenzenes: flexible access to functional diverse yellow-light-responsive photoswitches.
[Journal of Organic Chemistry 2022, 16526-16531](#)
- 22* M Müller, K Niemeyer, N Urban, N Ojha, F Zufall, T Leinders-Zufall, M Schaefer, **O Thorn-Seshold***; BTDAzo - a photoswitchable TRPC5 channel activator.
[Angewandte Chemie 2022, 61, e202201565](#)
- 21 J Rushworth, *et al.*, **O Thorn-Seshold**, M Fuchter;
[5]-Helistatins: Tubulin binding helicenenes with antimitotic activity.
[JACS Au 2022, 2561-2570](#)
- 20 M Scheck, *et al.*, G Barba-Spaeth, **O Thorn-Seshold**, A Krug, S Endres, S Rothenfusser*, J Thorn-Seshold*; FluoRNT: A robust, efficient assay for the detection of neutralising antibodies against yellow fever virus 17D.
[PLoS One 2022, 17, e0262149](#)
- 19 F Küllmer, N Vepřek, *et al.*, **O Thorn-Seshold**, H-D Arndt, D Trauner;
Next Generation Opto-Jasplakinolides Enable Local Remodeling of Actin Networks.
[Angewandte Chemie 2022, 61, e202210220](#)
- 18 M Ober, A Müller-Deku, *et al.*, **O Thorn-Seshold**, B Nickel; SAXS measurements of azobenzene vesicles reveal buffer-dependent photoswitching and quantitative Z→E isomerisation by X-rays.
[Nanophotonics 2022, 11, 2361-2368](#)
- 17* L Gao, J Meiring, C Heise, A Rai, A Müller-Deku, A Akhmanova, J Thorn-Seshold, and **O Thorn-Seshold***; Photoswitchable epothilone-based microtubule stabilisers allow GFP-imaging-compatible, optical control over the microtubule cytoskeleton.
[Angewandte Chemie 2021, 61, e202114614 \(*VIP paper\)](#)
- 16* A Sailer, J Meiring, C Heise, L Pettersson, A Akhmanova, J Thorn-Seshold, and **O Thorn-Seshold***; Pyrrole hemithioindigo antimitotics with near-quantitative bidirectional photoswitching photocontrol cellular microtubule dynamics with single-cell precision.
[Angewandte Chemie 2021, 60, 23695-23704](#)

- 15* J Felber, L Zeisel, L Poczka, K Scholzen, S Busker, M Maier, U Theisen, C Brandstädter, K Becker, E Arnér, J Thorn-Seshold, and **O Thorn-Seshold***; Selective, modular probes for thioredoxins enabled by rational tuning of a unique disulfide structure motif.
[Journal of the American Chemical Society 2021, 143, 8791-8803](#)
- 14* L Gao, J Meiring, Y Kraus, M Wranik, T Weinert, S Pritzl, R Bingham, E Ntoulou, K Jansen, N Olieric, J Standfüß, L Kapitein, T Lohmüller, J Ahlfeld, A Akhmanova, M Steinmetz, and **O Thorn-Seshold***; A robust, GFP-orthogonal photoswitchable inhibitor scaffold extends optical control over the microtubule cytoskeleton.
[Cell Chemical Biology 2021, 28, 228-241](#)
- 13* A Müller-Deku, J Meiring, K Loy, Y Kraus, C Heise, R Bingham, K Jansen, X Qu, F Bartolini, L Kapitein, A Akhmanova, J Ahlfeld, D Trauner, **O Thorn-Seshold***; Photoswitchable paclitaxel-based microtubule stabilisers allow optical control over the microtubule cytoskeleton.
[Nature Communications 2020, 11, 4640](#)
- 12* Y Kraus, C Glas, B Melzer, L Gao, C Heise, M Preuße, J Ahlfeld, F Bracher, **O Thorn-Seshold***; Isoquinoline-based biaryls as a robust scaffold for microtubule inhibitors.
[European Journal of Medicinal Chemistry 2020, 186, 111865](#)
- 11* A Sailer, F Ermer, Y Kraus, R Bingham, F Lutter, J Ahlfeld and **O Thorn-Seshold***; Potent hemithioindigo-based antimicrotubule photocontrol the microtubule cytoskeleton *in cellulo*.
[Beilstein Journal of Organic Chemistry 2020, 16, 125-134](#)
- 10* **O Thorn-Seshold***; Comment on “Photo-Controlled Reversible Microtubule Assembly”.
[Angewandte Chemie 2020, 59, 7652-7654](#) → *critical challenge of published results*
- 9 U Theisen, A Ernst, R Heyne, T Ring, **O Thorn-Seshold**, R Köster; Microtubules and motor proteins support zebrafish neuronal migration by directing cargo.
[Journal of Cell Biology 2020, 219, e201908040](#)
- 8 M Borowiak, *et al.*, **O Thorn-Seshold**, D Trauner, H-D Arndt; Optical manipulation of F-actin with photoswitchable small molecules.
[Journal of the American Chemical Society 2020, 142, 9240-9249](#)
- 7 A Kopf, *et al.*, **O Thorn-Seshold**, D Trauner, H Häcker, K-D Fischer, E Kiermaier, M Sixt; Microtubules control cellular shape and coherence in amoeboid migrating cells.
[Journal of Cell Biology 2020, 219, e201907154](#)
- 6 M Bischof, S Olthoff, C Glas, **O Thorn-Seshold**, M Schaefer, K Hill; TRPV3 endogenously expressed in murine colonic epithelial cells is inhibited by the novel TRPV3 blocker 26E01.
[Cell Calcium 2020, 102320](#)
- 5* A Sailer, F Ermer, Y Kraus, F Lutter, C Donau, M Bremerich, J Ahlfeld, **O Thorn-Seshold***; Hemithioindigos for cellular photopharmacology: desymmetrised molecular switch scaffolds enabling design control over the isomer-dependency of potent antimicrotubule bioactivity.
[ChemBioChem 2019, 20, 1305-1314](#)
- 4 A Singh, *et al.*, **O Thorn-Seshold**, J Klingauf, M Galic, M Matis; Polarized microtubule dynamics directs cell mechanics and coordinates forces during epithelial morphogenesis.
[Nature Cell Biology 2018, 20, 1126-1133](#)
- 3 K Eguchi, Z Taoufiq, **O Thorn-Seshold**, *et al.*, T Takahashi; Wild-type monomeric α -synuclein can impair vesicle endocytosis and synaptic fidelity via tubulin polymerization at the calyx of Held.
[The Journal of Neuroscience 2017, 37, 6043-6052](#)
- 2 J Zenker, *et al.*, **O Thorn-Seshold**, S Bissiere, N Plachta; A microtubule-organizing center directing intracellular transport in the early mouse embryo.
[Science 2017, 357, 925-928](#)
- 1* M Borowiak, *et al.*, D Trauner*, **O Thorn-Seshold***; Photoswitchable Inhibitors of Microtubule Dynamics Optically Control Mitosis and Cell Death.
[Cell 2015, 162, 403-411](#)

Book Chapters (with review only by the Editors)

- 40*** **O Thorn-Seshold***; Chapter 35: Photoswitchable Cytotoxins.
Chapter in [Molecular Photoswitches \(Pianowski, ed.; Wiley, 2022\)](#)
• *The authoritative reference work on photoswitch chemistry and photopharmacology*
- 39*** **O Thorn-Seshold***, J Meiring;
Photocontrolling Microtubule Dynamics with Photoswitchable Chemical Reagents.
Chapter in [Microtubules - Methods and Protocols \(Inaba, ed.; Springer, 2022\)](#)
• *The leading experimental reference work in microtubule cytoskeleton biology*

Patents

- 44*** **O Thorn-Seshold***, L Zeisel, J Felber; Dichalcogenide Prodrugs.
Patent Application [WO 2022/059280 \(EP21167187.0\)](#), **2021** (actively maintained)
- 43*** **O Thorn-Seshold***, J Felber, J Thorn-Seshold, L Zeisel; Disulfide prodrug compounds.
Patent Application [WO 2022/200347 \(EP21163944.8\)](#), **2021** (actively maintained)
- 42*** **O Thorn-Seshold***, F. Bracher, B. Melzer; Isoquinoline biaryl compounds.
Patent Application [EP18207030](#), **2018** (lapsed in 2021)
- 41*** **O Thorn-Seshold***, M Borowiak, D Trauner, J Hasserodt; Azoaryls as Reversibly Modulatable Tubulin Inhibitors. Patent [WO2015166295](#), **2014** (maintained until 2021)
- F J Hasserodt, **O Thorn-Seshold**; Fluorogenic Peptidase Substrate.
Patent [WO2013045854](#), **2011** (actively maintained; multiple licenses)

Journal Publications prior to independent career (in peer-reviewed journals)

- E# **O Thorn-Seshold**, M Vargas-Sanchez, S McKeon, J Hasserodt; A Robust, High-Sensitivity Stealth Probe for Peptidases. [Chem. Comm. 2012, 48, 6253](#)
- D D Konkolewicz, **O Thorn-Seshold** and A Gray-Weale; Models for randomly hyperbranched polymers: Theory and simulation. [J. Chem. Phys. 2008, 129, 054901](#)
- C MM Bishop, LF Lindoy, M McPartlin, A Parkin, **O Thorn-Seshold**, P Turner; A systematic study of ligand intermolecular interactions in crystals of copper(II) complexes of bidentate guanidino derivatives. [Polyhedron 2007, 26, 415](#)
- B MM Bishop, SJ Coles, A Lee, LF Lindoy, A Parkin, **O Thorn-Seshold**, P Turner; A Structural Study of Tautomerism and Hydrogen-Bonding in Supramolecular Assemblies. [Supramol. Chem. 2005, 17, 567](#)
- A MM Bishop, LF Lindoy, **O Thorn-Seshold**, RO Piltz, P Turner; A Supramolecular Assembly Containing an Unusually Short N-H...N Hydrogen Bond. [J. Het. Chem. 2001, 38, 1377](#)

Conference Presentations

Overview

25 invited conference talks and seminars (13 international)
55 contributed talks at conferences
30 other contributions as presenter (4 workshops; 18 workshop sessions; 6 conference posters)

Invited Seminars and Presentations

2023-11: Invited Talk, Photopharmacology IV, Hong Kong, CN
2023-05: Invited Seminar, KIT Karlsruhe, DE (Frank Biedermann)
2023-05: Invited Seminar, Uni Linz, AT (Peter Pohl)
2023-04: Invited Talk, Irsee Naturstofftage, Irsee, DE
2022-07: Invited Seminar, QUT Brisbane, AU (Christopher Barner-Kowollik)

2022-06: Invited Seminar, Uni Sydney, AU (Liz New)
 2022-05: Invited Seminar, UNSW Sydney, AU (Vinh Nguyen)
 2022-02: Invited Seminar, PSI Villigen, CH (Michel Steinmetz)
 2022-02: Invited Seminar, Uni Geneva, CH (Stefan Matile)
 2022-02: Invited Seminar, FMP Berlin, DE (Johannes Broichhagen)
 2022-01: Invited Seminar, MPI Heidelberg, DE (Kai Johnsson)
 2021-11: Invited Seminar, University of Innsbruck, AT (Solveigh Koeberle)
 2021-02: Invited Presentation, JLU Würzburg "Holzgrave-NF" symposium (Lorenz Meinel)
 2018-10: Invited Seminar, RU Groningen, NL (Chemistry of Collaboration symposium)
 2018-05: Invited Seminars, FU Berlin & HU Berlin, DE (Stefan Hecht)
 2018-04: Invited Seminar, Imperial College London, UK (Nir Grossmann)
 2017-09: Invited Talk, SFB677 *Photoswitch Chemistry* meeting, Kiel, DE
 2017-08: Invited Talk, CLiC *Light Control in Chemical Biology* GRK meeting, Frankfurt, DE
 2017-08: Invited Seminar, IST Austria, AT (Michael Sixt)
 2017-08: Invited Talk, Paul Ehrlich Med Chem Network, Vienna, AT (Marko Mihovilovic)
 2017-02: Invited Seminar, RU Groningen, NL (Wiktor Szymanski / Ben Feringa)
 2017-02: Invited Talk, Max-Planck-Institute Annual Scientific Retreat, Ringberg, DE
 2017-01: Invited Talk, Medical Laser Research "LiFE" seminar series, Munich, DE
 2015-06: Invited Seminar, Harvard Medical School, USA; org. Timothy Mitchison
 2015-01: Invited Seminar, Rijksuniversitet Groningen, NL; org. Ben Feringa

Selected Contributed Conference Talks

2023-09: Talk, GDCh WiFo Science Forum, Leipzig, DE
 2023-06: Talk, FASEB Optical Probes, Palm Springs, USA
 2023-04: Talk, GDCh Frontiers in Medicinal Chemistry, Vienna, AT
 2023-01: Talk, DECHEMA Advances in Chemical Biology conference, Frankfurt, DE
 2023-01: Talk, STINT-JSPS Redox conference, Stockholm, SE
 2022-11: Talk, SPP2306 Ferroptosis conference, Dresden, DE
 2022-10: Talk, EMBO Thiol Redox conference, St Feliu, ES
 2022-10: Talk, SPP1926 *Next Gen Optogenetics* conference, Göttingen, DE
 2022-09: Talk, GDCh Photochemistry conference, Düsseldorf, DE
 2022-08: Talk, Bioorganik conference, Karlsruhe, DE
 2022-03: Talk, GDCh Chemiedozententagung, Saarbrücken, DE
 2022-03: Talk, GDCh Frontiers in Medicinal Chemistry conference
 2021-12: Talk, PacifiChem conference
 2021-12: Talk, *Photopharmacology III* International Symposium
 2021-11: Talk, SFRBM (Society for Redox Biology and Medicine) Annual Meeting
 2021-09: Talk, DPhG (German Pharmaceutical Society) Annual Meeting
 2021-08: Talk, ACS *ChemBio Connections* seminar, *Chemical Signaling and Imaging*
 2021-03: Talk, SPP1710 *Thiol-based Redox Switches* symposium
 2021-03: Talk, GDCh Chemiedozententagung
 2021-01: Talk, GDCh Advances in Chemical Biology conference
 2020-11: Talk, SFB1032 *Agents for Spatiotemporal Control* Annual Meeting
 2020-09: Talk, SPP1926 *Next Generation Optogenetics* Annual Meeting, Frankfurt, DE
 2020-09: Talk, GDCh Photochemistry conference
 2020-09: Talk, EMBL Chemical Biology conference
 2020-06: Talk, EMBL Microtubules conference
 2020-03: Talk, DGPT (German Pharm/Tox Summit) Annual Meeting, Leipzig, DE
 2019-09: Talk, SPP1710 *Thiol-based Redox Switches* conference, Sant Feliu, ES
 2019-07: Talk, iPoLS *Physics of Living Systems* conference, Munich, DE
 2018-11: Talk, *Photopharmacology II* International Symposium, Vic, ES
 2018-11: Talk, *TRiPs to Homeostasis* (SFB152) Annual Meeting, Herrsching, DE
 2018-11: Talk, GDCh-JCF (German Chemical Society Young Chemists' Forum), Munich, DE
 2018-09: Talk, "Bioorganik" Bioorganic Chemistry conference, Bochum, DE
 2018-06: Talk, Tetrahedron Conference, Riva, IT
 2018-01: Talk, GDCh Advances in Chemical Biology conference, Frankfurt, DE

2017-07: Talk, URCUP conference, Herrsching, DE
2017-06: Talk, SFB152 *TRiPs to Homeostasis* Annual Meeting, Munich, DE
2017-03: Talk, SFB1032 *Agents for Spatiotemporal Control* Annual Meeting, Herrsching, DE
2017-01: Talk, SFB863 *Forces in Biomolecular Systems* seminar series, Munich, DE
2016-09: Talk, Leibniz Institute Bioorganic Chemistry conference, Jena, DE
2016-07: Talk, Natural Products seminar (Vollmar), Munich, DE
2016-07: Talk, SFB1032 *Agents for Spatiotemporal Control* Annual Meeting, Munich, DE
2016-07: Talk, AMGEN Scholars seminar series, Munich, DE
2016-06: Talk, EMBL Microtubules conference, Heidelberg, DE
2015-09: Talk, Cancer Research Centre CRCL conference, Lyon, FR
2015-07: Talk, French National Microtubule conference, Grenoble, FR
2015-06: Talk, RSC Challenges in Chemical Biology conference, ETH Zurich, CH
2014-09: Talk slot, Beilstein Symposium on Molecular Switches, DE
2014-05: Talk slot, Austrian Institute of Science seminar, AT; org. M. Sixt
2014-02: Talk slot, SFB1032 'Nanoagents and Spatiotemporal Control', Munich, DE
2013-11: Talk slot, FOR1079 Cytoskeleton, Munich, DE

Selected Contributed Conference Posters (all as presenting author)

2023-09: GBM Redox Biology conference, Düsseldorf, DE
2023-04: EMBO Ferroptosis conference, Seon, DE
2022-09: Poster, EMBO Chemical Biology conference, Heidelberg, DE
2022-05: Poster, Bürgenstock Symposium, Brünnen, CH
2021-10: Poster, EMBL Imaging conference
2016-03: Poster, GDCh Pharmaceutical Chemistry Conference, Bonn, DE
2015-06: Poster, Tetrahedron Conference *due to illness, presented for me by my intern A. Rode*
2015-06: Poster, GRC Bioorganic Chemistry, New Hampshire, USA

Workshops / Workshop Sessions (selected; all as presenting author)

2023-03; 2022-09; 2019-10; 2019-02: Four 1-week *Research Skills* workshops at Traunkirchen Akademie, AT and at Herrsching, DE. I initiated, organise, and teach this workshop once a year, for my current & future group members and advanced students. I aim to cover the skills needed for scientific success, that are not formally taught: e.g. systematic paper writing, designing/giving presentations, graphics, data modelling, project planning, and grant writing; as well as scientific culture (e.g. gender equality).
2022-10: Workshop session at SPP1926 *Next Gen Optogenetics* conference, Göttingen, DE
2020-09; 2019-10: Workshop sessions at the SFB152 annual meetings, DE
2019-02; 2016-11: Workshop sessions at the SFB1032 annual meetings, DE
2019-01: Group Leader Entry Talk, LMU Faculty of Chemistry and Pharmacy, Munich, DE
2021-10; 2019-10: Sessions at the LMU *FöFoLe* Dr. med. Symposium, Munich, DE
2022-04; 2019-06; 2018-06: Sessions at the LMU *Junior Groups Symposium* that I organise
2022-12; 2021-12; 2020-12; 2019-12; 2018-11; 2017-12; 2016-12: Sessions at the LMU Munich Department of Pharmacy *Tag der Forschung* for undergraduate students.