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PROFESSIONAL EXPERIENCE

- Max Planck Research Group Leader — since January 2020
  Max Planck Institute for the Science of Light
  Erlangen, Germany
- W3 substitute professorship (Vertretungsprofessur) — 2021-2022
  Friedrich-Alexander-University Erlangen-Nuremberg
  Erlangen, Germany
- Senior and Principal Research Scientist, Strategic Research Fellow — May 2015 – December 2019
  National Physical Laboratory
  Teddington, United Kingdom
- Postdoctoral researcher, Feodor Lynen fellow of the Humboldt Foundation — August 2012 – August 2014
  National Institute of Standards and Technology
  Boulder CO, USA
- Postdoctoral researcher, Time and Frequency Division — October 2011 – April 2015
  National Institute of Standards and Technology
  Boulder CO, USA
- Research associate — June 2010 – July 2010
  Ecole Polytechnique Federale de Lausanne, Switzerland
- Research associate — May 2007 – February 2011
  Max Planck Institute of Quantum Optics, Garching, Germany
- Student assistant in the Laserspectroscopy Division — May 2006 – April 2007
  Max Planck Institute of Quantum Optics, Garching, Germany
- Teaching assistant for higher mathematics — Oct. 2004 – April 2006
  RWTH Aachen, Lehrstuhl 1 für Mathematik, Prof. Wiegner, Aachen, Germany

EDUCATION

Habilitation in physics — May 2023
Thesis: *"Nonlinear Microphotonics"*
Friedrich Alexander University Erlangen-Nuremberg, Germany
(Mentors: Prof Vahid Sandoghdar, Prof Peter Hommelhoff, Prof Stephan Götzinger)

Doctoral degree in physics — Apr. 2011
Thesis: *"Optical frequency comb generation in monolithic microresonators"*
(*summa cum laude*)
Ludwig-Maximilians-University Munich, Max Planck Institute of Quantum Optics, Germany
(PhD Advisors Prof Theodor Hänsch & Prof Tobias Kippenberg)

Diploma degree in physics — Apr. 2007
Thesis: *"Cascaded parametric frequency conversion in monolithic microresonators"*
Ludwig-Maximilians-University Munich, Max Planck Institute of Quantum Optics, Germany

Undergraduate studies — Sept. 2004
Rheinisch-Westfälische Technical University Aachen (RWTH), Germany

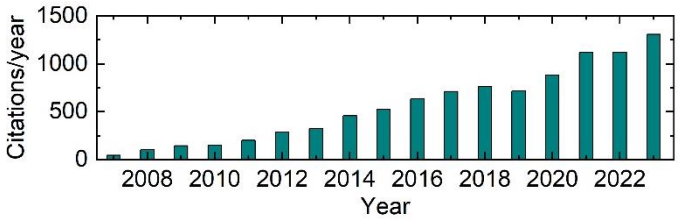
SELECTED PUBLICATIONS*

1. L. Del Bino, S. Silver, S. Stebbings and P. Del'Haye
   "Symmetry Breaking of Counter-Propagating Light in a Nonlinear Resonator",
   Scientific Reports 7, Article number: 43142 (Feb 2017) **[176 citations]**
2. P. Del'Haye, A. Schliesser, O. Arcizet, T. Wilken, R. Holzwarth and T.J. Kippenberg
   "Optical frequency comb generation from a monolithic microresonator",
   Nature 450, 1214-1217 (Dec. 2007) **[2478 citations]**

3. A. Schliesser, P. Del'Haye, N. Nooshi, K.J. Vahala and T.J. Kippenberg
"Radiation pressure cooling of a micromechanical oscillator using dynamical backaction",
Physical Review Letters 97, 243905 (Dec. 2006) **[766 citations]**
4. P. Del'Haye, K. Beha, S.B. Papp, S.A. Diddams
"Self-injection locking and phase-locked states in microresonator-based optical frequency combs",
Physical Review Letters 112, 043905 (Jan. 2014) **[185 citations]**
5. L. Del Bino, J.M. Silver, M.T.M. Woodley, S.L. Stebbings, X. Zhao, P. Del'Haye
"Microresonator isolators and circulators based on the intrinsic nonreciprocity of the Kerr effect",
Optica 5, 279-282 (Mar. 2018) **[203 citations]**
6. P. Del'Haye, O. Arcizet, M.L. Gorodetsky, R. Holzwarth and T.J. Kippenberg
"Frequency comb assisted diode laser spectroscopy for measurement of microcavity dispersion",
Nature Photonics 3, 529-533 (Aug. 2009) **[344 citations]**

*citation data based on Google Scholar (https://scholar.google.com/citations?user=PClYvzoAAAAJ, Dec 2024)
Total of **22 publications with more than 100 citations** (i100 index). H-index **36**.

	All	Since 2019
Citations	10859	6376
h-index	36	35
i10-index	57	53



CONFERENCES AND SEMINARS

More than **60 talks** at international conferences and workshops, including more than **30 invited talks**

TEACHING

- Experimental Physics 4, Atomic and Molecular Physics, FAU Erlangen-Nuremberg 2022
- Experimental Physics 4, Atomic and Molecular Physics, FAU Erlangen-Nuremberg 2021
- Modern Optics 1, FAU Erlangen-Nuremberg 2020/2021
- Guest Lecturer for Quantum Systems Engineering, Imperial College, London, UK 2017 – 2019
- Teaching at Winter School on Optics, International Center for Theoretical Physics, Trieste, Italy 2016
- Teaching assistant for higher mathematics I-IV 2004 – 2006
RWTH Aachen, Institute 1 for Mathematics, Prof. Wiegner

COLLABORATIONS

- Prof Frank Vollmer (University of Exeter) since 2023
Sensing with microresonators
- Patrick Berwian (Fraunhofer IISB) since 2023
Integrated photonics for quantum applications
- Prof Kiyoul Yang (Harvard University) since 2022
Inverse design of microresonators
- Prof Derryck Reid (Heriot Watt University) since 2020
Nonlinear waveguides for supercontinuum generation
- Prof Gian-Luca Oppo (University Strathclyde) since 2017
Spontaneous symmetry breaking in microresonators
- Prof Michael Vanner (Imperial College London) since 2016
Quantum dynamics in microresonators
- Prof Alessia Pasquazi (Univ Sussex) 2016
External cavity microcombs
- Prof Her, University of Charlotte 2013
Development of dispersion compensated optical microresonators
- European Southern Observatory 2008 – 2009
Microcomb-based spectrometer calibration tests

STIPENDS AND AWARDS

- **NPL Rayleigh Award** *for work on Symmetry Breaking of Counterpropagating Light* March 2019
- **EFTF Young Scientist Award** *Microresonator-based frequency combs* July 2017
- **Marie Curie Reintegration Grant** since March 2017
  CoLiDR "Collision of Light in dielectric Resonators"
- **European Physical Society QEOD Thesis Prize for Fundamental Aspects** May 2013
  "Discovery and Development of Microresonator-Based Frequency Combs"
- **Feodor Lynen Fellowship of the Humboldt Foundation** for research on 2012-2014
  "Microcombs for Optical Clocks" (Humbold Host: Prof Jun Ye, JILA, Boulder, USA)
- Finalist of the **Theodore Maiman** Student Award, CLEO/IQEC, San Jose, USA May 2010
  Student prize granted by HRL Laboratories, LLC, IEEE Photonics Society, APS and OSA
  for the paper *"Octave-spanning tunable frequency combs on a chip"*
- **Helmholtz Prize for Metrology** June 2009
  For the *"Development of microresonator based frequency combs"*
- Finalist of the **Theodore Maiman** Student Award, CLEO/IQEC, Baltimore, USA June 2009
  Student prize granted by HRL Laboratories, LLC, IEEE Photonics Society, APS and OSA
  For the paper *"Precision spectroscopy with a scanning diode laser and measurement of microcavity dispersion"*
- **Best of Topicals Award**, Frontiers in Optics, San Jose USA Sept. 2007
  Awarded by the Optical Society of America for the conference submission
  "Optical frequency comb generation from a monolithic micro-resonator via the Kerr nonlinearity"

BOOKS/BOOK CHAPTER

- **"Soliton Frequency Combs in Microresonators"** 2024
  in *"Optical Frequency Combs"*, Editors Andrew Ellis and Auro Perego
  Publisher: Taylor & Francis
- **"Optical frequency comb generation in monolithic microresonators"** 2011
  Dissertation, Publisher: Dr. Hut Verlag, ISBN 978-3868539318
- **"Optical frequency comb generation"** 2009
  in "*Practical Applications of Microresonators in Optics and Photonics*", Editor Andrey Matsko
  Taylor & Francis Group, ISBN 978-1420065787

PATENTS/PATENT APPLICATIONS

- "*Method and Device for Characterizing a Resonator Element*" 2023
  PCT/EP2023/068416
- "*Polarization Alteration Device and Method*" 2021
  PCT/EP2021/051953
- "*Nonreciprocal Light Propagation Systems and Methods*" 2017
  WO/2017/221028, PCT/GB2017/051848
- "*Laser Machining and Mechanical Control of Optical Resonators*" 2012
  US Pat. No. US20140090425 A1
- "*Method and apparatus for frequency comb assisted laser spectroscopy*" 2010
  US Pat. App. No. 61/217,220, provisional patent application
- "*Method and apparatus for optical frequency comb generation using a monolithic micro-resonator*" 2007
  EU Pat. EP1988425 A1, US Patent 7982944, Japan Patent 2009-020492

RESEARCH FUNDING

- DFG Research Grant Jan 2024
  "Low Temperature Sputtered Silicon Nitride for Integrated Photonic Applications"
- Munich Quantum Valley Project Jan 2024
  "Höchst skalierbare Technologiemodule für Quantencomputer, Quantenkommunikation und Quantensensorik mit SiC (TeQSiC)"
- Max Planck - Fraunhofer Collaboration Project Mar 2022
  Femtosecond Laser Machining, LAR3S
- Max Planck Research Group funded by the Max Planck Society Jan 2020
- ERC Starting Grant 756966 Apr 2018 – Feb 2024
  CounterLIGHT "Symmetry Breaking and Interaction of Counterpropagating Light"
- Marie Curie Innovative Training Network "Microcombs" 812818 Jan 2019 – Jan 2023
- Marie Curie Reintegration Grant 748519 Mar 2017 – Mar 2018
  CoLiDR "Collision of Light in dielectric Resonators"
- Work Package Leader ESA AO 1-8334/15/NL/RA June 2016 – May 2018
  "Development of Clock Control Unit (CCU)"
- Support from EPSRC for 2 PhD students in CDT of Applied Photonics Feb 2016 – Mar 2022
- National Physical Laboratory Strategic Research Programme May 2015 – Apr 2018
  "*Microresonator-Based Optical Frequency Combs*"
- Feodor Lynen Fellowship of the Humboldt Foundation Aug 2012 – Aug 2014
  "*Microcombs for Optical Clocks*"

SUPERVISION AND MENTORING

- MPL, Germany: supervision of ~3 postdocs, 10 PhD students, 2 Master Students since 2020
- NPL, UK: supervision of 3 postdoc-level researchers, 5 PhD students, 2015-2020
  2 guest researchers and several summer students
- NIST, USA: mentoring and training for several postdoc and PhD students 2011-2015
- MPQ, Germany: mentoring and training for PhD and diploma students 2007-2010

INVOLVEMENT IN THE SCIENTIFIC COMMUNITY

- Main protagonist in documentary movie "Tracing Light" about link between art and science 2025
- Associate Editor for Nature Partner Journal "Nanophotonics" since 2024
- CLEO Europe committee "Precision Metrology and Frequency Combs" 2015, 2019, 2021, 2023
- IEEE Photonics Conference committee member 2020 – 2021
  "Optical Micro/Nano Resonators and Devices"
- CLEO conference sub-committee member "Optical Metrology" 2019 – 2021
- CLEO Pacific Rim 2020 conference sub-committee member "Silicon Photonics" 2020
- Organizer for Special Symposium on "Nonreciprocal Photonics" @ CLEO 2019 2019
- Committee Member Integrated Photonics Research Conference (OSA) 2015, 2016
  "Integrated High-precision Photonics"
- Reviewer for Science, Nature, Physical Review Letters, Optica and other Journals
- Reviewer for various research funding organizations, including European Research Council, Horizon Europe, Humboldt Foundation, Hong Kong Research Council

LANGUAGE SKILLS

- German (mother tongue)
- English (fluent in speech, reading and writing)
- Chinese (basic skills in speech and reading)
- French (basic skills in speech, reading, and writing)