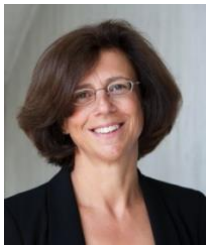
Prof. Dr. Dr. h. c. Ursula Keller

ETH Zurich, Physics Department
keller@phys.ethz.ch
Keller homepage: www.ulp.ethz.ch



Education

- 1989: Ph.D. in Applied Physics, Stanford University, USA
- 1987: M.S. degree in Applied Physics, Stanford University, USA
- 1984: Diplom degree in Physics, ETH Zurich, Switzerland (top-ranked exams, grade 6.0)

Employment History

- **Since 1993**: Tenured professor (associate 1993-1997, full professor since 1997), ETH Zurich, Physics Department, Ultrafast Laser Physics (ULP), Switzerland, www.ulp.ethz.ch
- 2006: Visiting Miller Professor at University of California at Berkeley, USA
- 2001: Visiting Professor at Lund Institute of Technology, Lund University, Sweden
- 1989-1993: Member of Technical Staff (MTS), AT&T Bell Labs, Holmdel, NJ, USA
- 1985-1989: Ph.D. student in Department of Applied Physics, Stanford University, CA, USA
- 1984-1985: Visiting Researcher, Physics Dep., Heriot-Watt University, Edinburgh, Scotland

Institutional responsibilities

- 2010-2022: Director of NCCR MUST: Swiss National Centre of Competence for Research (NCCR) in Molecular Ultrafast Science and Technology (MUST), www.nccr-must.ch
- 2014-2018: Member of the research council of the Swiss National Science Foundation, Mathematics, Natural and Engineering Sciences division SNSF Research Council
- 2012-2016: Founding and elected president, ETH Women Professors Forum (WPF), wpf
- 2007-2009: Deputy Head, Department of Physics, ETH Zurich
- 2003-2005: Head Institute of Quantum Electronics, ETH Zurich

Company creation and board member

- 1995-2014: co-founder Time-Bandwidth Products, acquired by JDSU (now Lumentum) 2014
- 2000-2003: co-founder GigaTera, venture-capital funded, acquired by TBP in 2003
- Since 2022: member of supervisory board of JENOPTIK
- 2023: co-founder K2 Photonics

Supervision of junior researchers at graduate and postgraduate level

Supervised 94 PhD students. List of PhD students: ULP-PhD, 6 Habilitations: ULP Habilitations
More details online: Alumni of Keller group

Membership in external international scientific advisory board (SAB), award jury member

Jury member of the European Innovation Award (2018-2024), ESET Science Award (2019), IEEE Photonics Award (2018-2020), IET Harvey Engineering Research Prize (2019), IEEE Edison Medal Award (2014-2016), OSA Max Born Award (2014-2015)

2021-2024	Fraunhofer Kuratorium Lasertechnik ILT Aachen
2021-2022	Max-Planck-School of Photonics (MPSP)
2017	External Dodd-Walls Centre Science Advisory Board - New Zealand
2012-2016	EURAMET Research Council, elected member
2011-2013	Helmholtz-Zentrum Dresden-Rossendorf, SAB member
2009-2016	Max-Born-Institute Berlin, 2009-2013 SAB member; 2013-2016 chair of SAB
2008-2016	Jury member of Berthold Leibinger Innovationpreis/Zukunftspreis
2008-2014	Munich-Centre for Advanced Photonics (MAP), LMU &MPQ Garching, SAB
2007-2009	SAOT, Friedrich-Alexander-Universität Erlangen-Nürnberg, SAB member
2003-2007	Hochschulrat der Universität Hannover with medal of honor for exceptional service

2002-2004 Laser-Laboratorium Göttingen, SAB member

Teaching activities:
***Physics, quantum electronics, ultrafast laser physics*:** Weblink Lectures
Graduate textbook on "Ultrafast Lasers", 2022: A Comprehensive Introduction to Fundamental Principles with Practical Applications, Springer Verlag, 800 pages, published March 2022, Link

Active memberships in scientific societies, fellowships in renowned academics

- *Board member of larger professional organizations:* OSA, Director at Large 2010-2012; EPS in quantum electronics 1996-1998 (co-opted) 1998-2004 (elected), 2005-2007 (co-opted); IEEE LEOS, elected member of the Board of Governors 2000-2002; APS International Councilor (elected) 2020-2023
- Elected Foreign Member of the US National Academy of Sciences (2021), Royal Swedish Academy of Sciences (2003) and the Deutsche Akademie der Naturforscher Leopoldina (2008), Elected member of Swiss Academy of Engineering Sciences, SATW (2008)
- Fellow: OSA (2003), EPS (2012), SPIE (2014), IEEE (2014), IAPLE (2017)

Prizes, awards, fellowship: Weblink Awards

- Swiss Science Prize Marcel Benoist, the "Swiss Nobel Prize", Switzerland (2022)
- International member of the National Academy of Sciences, USA (2021)
- OSA Frederic Ives Medal/Jarus W. Quinn Prize (2020) – OSA's highest award for overall distinction in optics
- SPIE Gold Medal (2020) – SPIE's highest honor
- Honorary Doctor of Science from Heriot-Watt University (2019)
- IEEE Edison Medal (2019)
- European Inventor Award, winner in lifetime achievement (2018), European Patent Office
- ERC Advanced Grant, Nr. 787097, ONE-MIX (2018)
- IEEE Photonics Award (2018)
- Weizmann Women & Science Award (2017)
- Charles H. Townes Award, OSA (2015)
- Geoffrey Frew Fellow of the Australian Academy of Science (2015)
- Arthur L. Schawlow Award (2013), LIA's highest achievement award
- ERC Advanced Grant, Nr. 320401, Attoclock (2012)
- EPS Senior Prize for Applied Aspects of Quantum Electronics and Optics (2011)
- Joseph Fraunhofer/Robert M. Burley Prize of OSA (2008)
- Philip Morris Forschungspreis (2005)
- Berthold Leibinger Innovationspreis (2004)
- Carl Zeiss Research Award (1998)
- IBM Pre-Doctoral Fellowship (1987-1988)
- Fulbright Fellowship (1985-1986)

Research interest: exploring and pushing the frontiers in ultrafast science and technology: ultrafast solid-state and semiconductor lasers, ultrashort pulse generation in the one to two optical cycle regime, frequency comb generation and stabilization, attosecond experiments to test fundamental processes in quantum mechanics using the attoclock and attosecond pulses from high harmonic generation, and attosecond science. *More info on homepage:* Weblink Research

516 peer-reviewed journal papers, 15 book chapters, graduate textbook "Ultrafast Lasers", Springer Verlag 2021, and inventor on 21 patents and patent applications: Weblink Publications

Researcher ID N-2437-2016
ORCID 0000-0002-1689-8041
Web of Science Core Collection Cit. Report: h-index 92, >32'000 citations (Feb. 2024)
Google Scholar: h-index 122, >55'000 citations (Feb. 2024)