

CURRICULUM VITAE

Dr. Birgitta Catarina Schultze-Bernhardt, née Bernhardt

born 1981 in Bavaria, Germany

married, three children, b. 2014, 2017 & 2021

INSTITUTIONAL ADDRESS

**Institute of Experimental Physics & Institute of Material Physics
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EDUCATION AND RESEARCH EXPERIENCE

- 04/2021 – present Associate professor
at Graz University of Technology, Austria
- 03/2021 Habilitation, *Venia Docendi* in Experimental Physics
Thesis title: *Laser spectroscopy with extreme resolution*
- 11/2020 – 03/2021 Assistant professor
at Graz University of Technology, Austria
- 2019 – 10/2020 Senior scientist (permanent)
at Graz University of Technology, Austria
- 2017–2019 Junior Professor (W1, fixed-term)
at the Friedrich-Schiller-Universität Jena, Germany
- 2015 – 2017 Alexander-von-Humboldt research fellow and postdoctoral scholar
Chair for laser and X-ray physics
Prof. Reinhard Kienberger, Technische Universität München, Germany
- 2012 – 2014 Alexander-von-Humboldt research fellow and postdoctoral scholar
Joint attosecond project of Profs. S.R. Leone and D. M. Neumark
Lawrence Berkeley National Laboratory, Berkeley, California, USA
- 2011 – 2012 Postdoctoral researcher with Prof. Theodor W. Hänsch
Max-Planck-Institut für Quantenoptik, Garching, Germany
- 07/2011 Dr. rer. nat. (Ph.D.) in physics
Thesis title: *Dual Comb Spectroscopy*
Supervisor: Prof. Theodor W. Hänsch (Nobel Prize in Physics 2005)
Max-Planck-Institut für Quantenoptik, Garching, and
Ludwig-Maximilians-Universität, München, Germany
- 07/2006 Diploma in physics
Thesis title: *Implementation and characterization of a stable optical
frequency distribution system*
Supervisor: Prof. Theodor W. Hänsch
Max-Planck-Institut für Quantenoptik, Garching, and
Ludwig-Maximilians-Universität, München, Germany

FELLOWSHIPS, AWARDS & MEMBERSHIPS

Since May 2021	Member, Junge Akademie, <i>Österreichische Akademie der Wissenschaften</i>
08/2020	ERC Starting Grant 2020
07/2020	FWF START Prize 2020
03/2018 – 02/2021	<i>Daimler und Benz</i> postdoctoral fellowship
06/2017 – 05/2019	<i>Carl Zeiss Foundation</i> endowed professorship
06/2016	Fellowship of the <i>Fellows of the Wilhelm und Else Heraeus Foundation</i> , <i>66th Lindau Nobel Laureate Meeting</i> in Lindau, Germany
01/2015 – 12/2015	Feodor Lynen return fellowship, <i>Alexander-von-Humboldt Foundation</i>
05/2013 – 09/2014	Feodor Lynen fellowship for postdoctoral researchers, <i>Alexander-von-Humboldt Foundation</i>

MAIN RESEARCH INTERESTS

- Frequency Combs
- Dual Comb Spectroscopy
- High Harmonic Generation
- Time-resolved pump probe Spectroscopy
- Cavity enhanced Spectroscopy
- Isolated Attosecond pulses
- Time-resolved Ion Spectroscopy

SELECTED PUBLICATIONS

1. V. Schuster, Ch. Liu, R. Klas, J. Rothhardt, J. Limpert and B. Bernhardt, *Ultraviolet Dual Comb Spectroscopy: A Roadmap*, *Optics Express* 29 (14), 21859-21875 (2021)
2. V. Schuster, V. Hilbert, R. Klas, Ch. Liu, M. Tschernajew, B. Bernhardt, J. Rothhardt and J. Limpert, *Agile spectral tuning of high order harmonics by interference of two driving pulses*, *Optics Express* 29 (14), 22117-22126 (2021)
3. K. Hütten, M. Mittermair, S. Stock, R. Beerwerth, V. Shirvanyan, J. Riemensberger, A. Duensing, R. Heider, M. Wagner, A. Guggenmos, S. Fritzsche, N. M. Kabachnik, R. Kienberger and B. Bernhardt, *Ultrafast Quantum Control of Ionization Dynamics in Krypton*, *Nature Communications* 9, 719 (2018)
Among the TOP 50 of the most read physics articles in 2018
4. X. Li, B. Bernhardt, A. R. Beck, E. R. Warrick, Adrian N. Pfeiffer, M. J. Bell, D. J. Haxton, C. W. McCurdy, D. M. Neumark and S. R. Leone, *Investigation of coupling mechanisms in attosecond transient absorption of auto-ionizing states: comparison of theory and experiment in xenon*, *J. Phys. B: At. Mol. Opt. Phys.* 48, 125601 (2015)
5. B. Bernhardt, A. R. Beck, X. Li, E. R. Warrick, M. J. Bell, D. J. Haxton, C. W. McCurdy, D. M. Neumark and S. R. Leone, *High-spectral-resolution attosecond absorption spectroscopy of autoionization in xenon*, *Physical Review A* 89, 023408 (2014)
6. A. R. Beck, B. Bernhardt, E. R. Warrick, M. Wu, S. Chen, M. B. Gaarde, K. Schafer, D. M. Neumark and S. R. Leone, *Attosecond transient absorption probing of electronic superpositions of bound states in neon: detection of quantum beats*, *New J. Phys.* 16, 113016 (2014),
7. T. Ideguchi, S. Holzner, B. Bernhardt, G. Guelachvili, N. Picqué and T. W. Hänsch, *Coherent Raman spectro-imaging with laser frequency combs*, *Nature* 502, 355 (2013)
8. T. Ideguchi, B. Bernhardt, G. Guelachvili, T.W. Hänsch and N. Picqué, *Raman-induced Kerr-effect dual-comb spectroscopy*, *Optics Letters*, Vol. 37, 4498 (2012)
9. B. Bernhardt, A. Ozawa, A. Vernaleken, I. Pupeza, J. Kaster, Y. Kobayashi, R. Holzwarth E. Fill, F. Krausz, T. W. Hänsch, and Th. Udem, *Vacuum ultraviolet frequency combs generated by a femtosecond enhancement cavity in the visible*, *Optics Letters* 4, 503 (2012)
10. B. Bernhardt, A. Ozawa, P. Jacquet, M. Jacquay, Y., T. Udem, R. Holzwarth, G. Guelachvili, T. W. Hänsch and N. Picqué, *Cavity-enhanced dual comb spectroscopy*, *Nature Photonics* 4, 55-57 (2010)