

Prof. Dr. Uwe R. Fischer

Curriculum vitae

- July 1992: Diploma in Physics at Stuttgart, Germany, graduated ‘*with distinction.*’
- October 1992-September 1994: Employment at *Institut für Theoretische Astrophysik*, Tübingen, Germany.
 - October 1992-December 1993: Work on a textbook of General Relativity.
 - January 1994-September 1994: Work on superfluid gyroscope project.
- September 1994: Car accident; ensuing five month stay in hospital.
- September 1995-1998: Dissertation (Thesis submitted November 1998).
 - September 1995-October 1996: Supported by the DFG.
 - November 1996-September 1997 and April 1998-April 1999: Scholarship LGFG.
 - October 1997-March 1998: Helsinki, Finland, working with G. E. Volovik.
- July 1999: *Rigorosum* (oral examination), graduated with ‘*summa cum laude.*’
- 1999 & 2002: Research stays at the Low Temperature Laboratory, Helsinki. Work with G. E. Volovik.
- Year 2000: Research Scholarship of the DFG.
- 2001-May 2002: University of Illinois at Urbana-Champaign. Working with A. J. Leggett and G. Baym. Research Scholarship of the DFG.
- August 2002-October 2003: University of Innsbruck, Austria, group of P. Zoller.
- November 2003-March 2004: Postdoc Position in Tübingen.
- April 2004-August 2009: C1 position (\approx Assistant Professor) in Tübingen.
- April 2004: Habilitation thesis “Inhomogeneous Bose-Einstein condensates” submitted. Referees: W. G. Unruh, G. E. Volovik, and N. Schopohl.
- November 2004: Habilitation in Theoretical Physics.
- Since September 2009: Associate Professor at Seoul National University, Korea.

Lectures

- 2002-2006: Lectures *per procurationem* Prof. P. Zoller (Innsbruck), Profs. N. Schopohl and M. Liu (Tübingen) in Quantum Mechanics, Electrodynamics, Statistical Mechanics, and Relativity.
- SS 2004, WS 2005-2006, and WS 2006-2007: Lectures on “Theory of Bose-Einstein condensates” and “Introduction to Bose-Einstein condensates.”
- SS 2006: “Thermodynamics and Thermostatistics” (Undergraduate).
- SS 2007: “Quantum Mechanics” (Undergraduate).
- WS 2007-2008: “Continuum Mechanics.”
- SS 2008: “Coherent Quantum Phenomena in Ultracold Atomic Gases.”
- WS 2008-2009: “Hydrodynamics and Theory of Elasticity.”
- SS 2009: “Introduction to Relativity.”
- Spring 2010: “Quantum Many-Body Phenomena: Bose-Einstein Condensates and Beyond.”
- Spring 2011 & Fall 2011: “Condensed Matter Physics 1 & 2” (Graduate).
- Spring 2012: “Classical Mechanics” (Graduate); Fall 2012: Sabbatical.
- Spring 2013: “Classical Mechanics” (Graduate); Fall 2013: “Statistical Mechanics” (Graduate).
- Spring 2014: “Classical Mechanics” (Graduate); Fall 2014: “Electrodynamics 2” (Graduate).
- Spring 2015: “Quantum Mechanics” (Graduate); Fall 2015: “Quantum Mechanics 2” (Graduate).
- Spring 2016: “Classical Mechanics” (Graduate); Fall 2016: “Quantum Mechanics 2” (Graduate).
- Spring 2017: “Classical Mechanics” (Graduate); Fall 2017: “Quantum Mechanics 2” (Graduate).
- Spring 2018: “Electrodynamics 1” (Graduate); Fall 2018: “Electrodynamics 2” (Graduate).
- Spring 2019: “Advanced Quantum and Many-Body Theory” (Graduate).
- Fall 2019: “Physics 2” (Undergraduate Freshmen).

- Spring 2020: “Physics 1” (Undergraduate Freshmen).
- Fall 2020: “Physics 2” (Undergraduate Freshmen).
- Spring 2021: Sabbatical.
- Fall 2021: “Physics 2” (Undergraduate Freshmen).
- Spring 2022: “Classical Mechanics” (Graduate).
- Fall 2022: “Physics 2” (Undergraduate Freshmen).
- Spring 2023: “Classical Mechanics” (Graduate).
- Fall 2023: “Physics 2” (Undergraduate Freshmen).
- Spring 2024: “Theory of Ultracold Quantum Gases” (Graduate).
- Fall 2024: “Physics 2” (Undergraduate Freshmen).
- Spring 2025: “Theory of Ultracold Quantum Gases” (Graduate).
- Fall 2025: “Statistical Mechanics” (Graduate).

Talks

- July 2005: Max Planck Institute for Physics of Complex Systems, Dresden, International Workshop on “Quantum Simulations via Analogues.”
- November 2005: University of Duisburg-Essen, Germany, Colloquium.
- June 2007: University of Cologne, Germany, Theoretisch-Physikalisches Kolloquium.
- December 2007: University of Bonn, Germany, Kolloquium Optik und Kondensierte Materie.
- January 2008: University of Kaiserslautern, Germany, Theoretisch-Physikalisches Kolloquium.
- March 2008: University of Utrecht, The Netherlands, Bose-Einstein Condensates Seminar.
- May 2008: RWTH Aachen, Germany, Theoretical Physics Colloquium.
- July 2008: Seoul National University, South Korea, Theoretical Physics Colloquium.
- December 2008: University of Leipzig, Germany, Colloquium.
- February 2009: University of Erlangen-Nürnberg, Germany, Colloquium.
- February 2009: Université de Liège, Belgium, Colloquium.
- September 2009: Technical University of Dresden, Germany, Solid State Physics Colloquium.
- January 2010: University of Hannover, Germany, Quantum Computation Colloquium.
- July 2010: University of Rostock, Germany, Theoretical Physics Colloquium.
- August 2010: Max Planck Institute for Physics of Complex Systems, Dresden, Germany, “Quo Vadis BEC” Workshop,
- October 2010: Tsinghua University, Beijing, China, Institute for Advanced Study.
- February 2011: University of Mainz, Germany, Theoretical Physics Colloquium.
- May 2011: Asia Pacific Center for Theoretical Physics, Pohang, South Korea, Theoretical Physics Seminar.
- June 2011: Belém, Brazil, II. Amazonian Symposium on Physics – Analogue Models of Gravity 30 Years Celebration.

- August 2012: Conference “Quo Vadis BEC IV,” Center of the German Physical Society, Bad Honnef.
- September 2012: Warsaw, Poland, Conference “Quantum Technologies III.”
- December 2012: University of Bonn, Germany, Kolloquium Optik und Kondensierte Materie.
- February 2013: NORDITA, Stockholm, Sweden, Workshop on “Pushing the Boundaries with Cold Atoms.”
- July 2013: ICTP Trieste, Italy, Workshop on “Geometrical Aspects of Quantum States in Condensed Matter.”
- April 2014: OIST, Okinawa, Japan, Workshop “C3QS, Coherent Control of Complex Quantum Systems.”
- May 2014: Seoul, Korea, ISCE 2014, The International Symposium on Carbon Electronics.
- June 2015: ECT*, Trento, Italy, Workshop on “Cold Atoms Meet High Energy Physics.”
- July 2015: University of Tübingen, Germany, Theoretical Physics Seminar.
- August 2015: International Institute of Physics, Natal, Brazil, Workshop on “Strongly Coupled Field Theories for Condensed Matter and Quantum Information Theory.”
- November 2015: Karlsruhe Institute for Technology (KIT), Karlsruhe, Germany, Theoretical Physics Colloquium.
- June 2016: Technical University of Dresden, Germany, Quantum Many-Body Physics Colloquium.
- July 2016: University of Hamburg, Germany, Theory of Ultracold Quantum Gases Colloquium.
- August 2016: Centro de Ciencias de Benasque, Spain, Workshop “Gravity in the Lab.”
- August 2016: ICTP Trieste, Italy, Workshop on “Theory and Practice of Adiabatic Quantum Computers and Quantum Simulation.”
- November 2016: Shanghai, China, ICQFT 2016, International Conference on “Quantum Foundation and Technology.”
- February 2017: Atominstitut Technical University of Vienna, Austria, Colloquium on “Experimental Quantum Cosmology.”

- April 2017: KPS (Korean Physical Society) Spring Meeting, Daejeon, Korea, Pioneer Symposium.
- July 2017: ICTP Trieste, Italy, Conference on “Many-Body-Localization.”
- July 2017: SISSA, Trieste, Italy, Conference on “Probing the spacetime fabric: from concepts to phenomenology.”
- August 2017: ICTP Trieste, Italy, Conference on “Quantum Transport.”
- November 2017: Theoretical Physics Colloquium, Technical University Braunschweig, Germany.
- February 2018: University of the Basque Country, Bilbao, Spain. Conference on “Quantum Simulation and Computation.”
- April 2018: Technical University of Munich, Germany, Theoretical Physics Colloquium.
- May 2018: University of Potsdam, Germany, Theoretical Physics Colloquium.
- August 2018: Centro de Ciencias de Benasque, Spain, Workshop “Gravity in the Quantum Lab.”
- October 2018: Theoretical Physics Colloquium, RWTH Aachen, Germany.
- November 2018: Theoretical Physics Colloquium, Technical University Berlin, Germany.
- December 2018: Conference “Research Frontiers in Ultracold Quantum Gases,” Center of the German Physical Society, Bad Honnef, Germany.
- February 2019: EQOS2019 “Engineering Quantum Open Systems” Workshop, Bilbao, Spain.
- June 2019: DYNQOS19 “Engineering Nonequilibrium Dynamics of Open Quantum Systems” Workshop, MPIPKS Dresden, Germany.
- July 2019: “Simulating gravitation and cosmology in condensed matter and optical systems” Workshop, ECT*, Trento, Italy.
- November 2019: Theoretical Physics Colloquium, Technical University Berlin, Germany.
- January 2020: Workshop on “Modern Aspects of Quantum Field Theory,” University of Jena, Germany.
- June 2020: Theoretical Physics Colloquium, University of Hamburg, Germany.

- October 2020: Theoretical Physics Colloquium, University of Bonn, Germany.
- December 2020: Theoretical Physics Colloquium, University of Heidelberg, Germany.
- January 2021: Theoretical Physics Colloquium, University of Heidelberg, Germany.
- February 2021: Conference “Experimental Tests and Signatures of Modified and Quantum Gravity,” Center of the German Physical Society, Bad Honnef, Germany.
- February 2021: Theoretical Physics Colloquium, University of Würzburg, Germany.
- March 2021: Theoretical Physics Colloquium, Karlsruhe Institute of Technology, Germany.
- February 2022: Colloquium, University of Massachusetts, Boston.
- April 2022: Theoretical Physics Colloquium, University of Jena, Germany.
- October 2022: Colloquium, Purdue University, West Lafayette, Indiana.
- June 2023: Workshop “Quantum simulation of gravitational problems on condensed matter analog models,” ECT*, Trento, Italy.
- June 2023: Theoretical Physics Colloquium, University of Heidelberg, Germany.
- July 2023: “13th Annual Conference Relativistic Quantum Information (North),” Chania, Crete, Greece.
- August 2023: “The Second International Workshop on Quantum Nonstationary Systems,” Brasilia, Brazil.
- October 2023: Center for Quantum Nanoscience, Ewha Womans University, Seoul, Korea.
- January 2024: Theoretical Physics Seminar, University of Tübingen, Germany.
- February 2024: Theoretical Physics Seminar, Helmholtz-Zentrum Dresden-Rossendorf, Dresden, Germany.
- February 2024: Workshop “Quantum Simulators of the Future,” ICTP Trieste, Italy.
- June 2024: Institut Pprime, Poitiers, France (lecture and talk).
- August 2024: “14th Annual Conference Relativistic Quantum Information (North),” Charles University Prague, Czech Republic.
- January 2025: Center for Quantum Science, University of Tübingen, Germany.

- February 2025: Conference “Multiparameter Quantum Sensing and Metrology,” Center of the German Physical Society, Bad Honnef, Germany.
- June 2025: “15th Annual Conference Relativistic Quantum Information (North),” University of Naples, Italy.

Research Grants

- 2000: Research Scholarship of the Deutsche Forschungsgemeinschaft (DFG) for Tübingen, Grant No. FI 690/1-1.
- 2001-2002: Research Scholarship of the DFG for Urbana-Champaign, Illinois, Grant No. FI 690/2-1.
- 2008-2009: Two Years DFG Research Project, Grant No. FI 690/3-1.
- 2009-2010: Two years Postdoc position from the BK21 (Brain Korea) program.
- 2010-2013: Basic Program of National Research Foundation of Korea (NRF), Grant No. 2010-0013103, and one year research grant from Seoul National University.
- 2011-2014: Co-PI in Core Program of the NRF, Grant No. 2011-0029541.
- 2014-2017: PI of the Core Program of the NRF, Grant No. 2014R1A2A2A01006535.
- 2017-2018: Postdoc position from the BK21plus program.
- 2017-2020: PI of the Core Program of the NRF, Grant No. 2017R1A2A2A05001422.
- 2021-2023: Postdoc position from the BK21plus program.
- 2020-2025: PI of the Core Program of the NRF, Grant No. 2020R1A2C2008103.

Current Group

- Graduate Students: Seungjoon Yang, Jihoon Kim, Hyeongjun Choi, and Jongin Jeon.
- Postdocs: Arun Rana (2024-) and Sree Mahesh Chandran (2024-).

Alumni

- PhD Graduates: Jae-Gyun Baak (2024), Sang-Shin Baak (2022), Seong-Ho Shinn (2022), Seok-Yeong Chä (2018), and Myung-Kyun Kang (2016).
- Master (Diplom) Graduates: Yeong-Jin Gwak (2020), Philipp Bader (2009), and Markus Flaig (2006).
- Bachelor Graduates: Seung-Mok Lee (2019), Jae-Mo Lihm (2017), and Kyung-Joo Noh (2014).
- Postdocs: Kunal Pal (2023-2025), Satadal Datta (2020-2024), Caio C. Holanda Ribeiro (2020-2022), Julien M. E. Fraïsse (2017-2019), Zehua Tian (2017-2018), Oleksandr V. Marchukov (2016-2017), Tyler J. Volkoff (2015-2016), Sun-Kyung Lee (2015-2016), Budhadya Chatterjee (2014-2015), Kelly R. Patton (2011-2013), and Bo Xiong (2010-2013).

Group Homepage: <https://physics.snu.ac.kr/fischer/>

ISI Citations (Researcher ID): [D-4759-2009](#)

Internet Citations: [Google Scholar](#)