

## Curriculum Vitae of Prof. Francesca Ferlaino

**Date of Birth** 23.12.1977 (Age: 40)

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### Professional Experience

- since 2014 Research Director, Institute for Quantum Optics and Quantum Information (IQOQI) of the Austrian Academy of Science
- 2009-present Since 2014, Full Professor of Physics (P98), University of Innsbruck (Austria); Director of the Innsbruck Physics Research Center (2013-2017); Tenure Track Professorship (P99) for Atomic Physics, University of Innsbruck (2012-2014); Research and Teaching Associate (2009-2011)
- 03-04/2016 Bershadsky Distinguished Visiting Fellowship at Harvard University, Cambridge (US)
- 04-05/2016 JILA Visiting Fellowship, University of Colorado, Boulder (US)
- 05-07/2016 DIPC Visiting Fellowship, San Sebastian (Spain)
- 2014 *Declined -- Alexander von Humboldt Professorship and Full Professor (W3) offer from Ulm University, Germany*
- 2009 - present Head of the "Dipolar Quantum Gases" Principal Investigator (PI) of the research group ERBIUM and RARE
- 2013 Italian National Habilitation to full and associated professor
- 03-06/2014 Guest Lecturer at the University of Wien, Austria
- 2007 - 2009 Lise-Meitner Postdoctoral Fellow (senior post-doctoral fellowship) of the Austrian Science Fund (FWF)
- 2006 - 2007 Visiting Scientist, University of Innsbruck (Austria)
- 2004 - 2006 Senior Scientist (Assegnista di ricerca), European Laboratory for Non-Linear Spectroscopy (LENS), Florence (Italy)

### Educations

- 2001 - 2004 PhD in physics, University of Florence and LENS, Italy (Prof. M. Inguscio)
- 10/2000 Diploma thesis with distinction, University Federico II of Naples, Italy (Prof. A. Barone and Prof. A. Smerzi)
- 1999 - 2000 Undergraduate Research Fellowship at International School for Advanced Studies (ISAS), Trieste, Italy
- 1995 - 2000 Studies in Physics, University Federico II of Naples, Italy

### Honours, Distinctions and Awards

- 2017 Antonio Feltrinelli Giovani for Physics of the Accademia dei Lincei, Italy
- 2017 Erwin Schrödinger Prize of the Austrian Science Foundation (ÖAW)
- 2015 Ignaz L. Lieben Prize of the Austrian Science Foundation (ÖAW)
- 2014 Sebetia-Ter International Prize "Premio Georges Charpak – Antonio Barone"

- 2013 Alexander-von-Humboldt Professorship (nominating University: Ulm (DE), *declined*)
- 2011 AIDDA Prize for Women in Science, Italy
- 2011 Preis der Landeshauptstadt Innsbruck (together with S. Knoop & M. Berninger)
- 2010 Kohlrausch Prize of the Austrian Physical Society (ÖPG)
- 2010; 2015 ERC Starting Grant (2010) and ERC Consolidator Grant (2015) of the European Union (EU)
- 2009 START-Prize 2009 of the Austrian Science Fund (FWF)

### Scientific Interests

#### Research topics

Ultracold Quantum Gases and Mixtures • Dipolar Quantum Physics • Strongly Correlated Many-Body Quantum Phase • Ultracold Scattering and Few-Body Physics • Atomic Physics in Multi-Electron Atoms • Laser Cooling • Atom-Light Interaction • Rydberg Atoms

#### Recent main accomplishments

- First experimental realization of a Bose-Einstein condensate of Erbium atoms (2012), of a Erbium degenerate Fermi gas (2014), and of a dipolar quantum mixture of Erbium and Dysprosium atoms (2018)
- First observation of Roton quasiparticles in dipolar gases (2018). At the same time as the group of T. Pfau (Stuttgart), observation of quantum-stabilized macro droplets in gas phase (2018)
- First observation of chaotic scattering in multi-electron atoms (2014) and dipolar molecules of Er (2015) and RbCs (2014)
- First experimental realization of strongly-correlated dipolar matter and realizations extended Bose-Hubbard models with dipolar particles (2016)

### Invited and Plenary Talks at glance

Invited Speaker/Hot Topic/Keynote: More than 100 contributions, including the last five editions of ICAP (2018-Barcellona; 2016-Seoul; 2014-Washington; 2012-Paris; 2010-Cairns); four BEC conference-Sant Feliu de Guixols (2017; 2015; 2013; 2007); WE-Heraeus-Seminar, Bad Honnef (2017; 2016, 2014); Plenary talk (2017) and Invited talk at Jahrestagung der DPG (2013); KITP Conference, Santa Barbara (2013); ITAMP (2012, 2009); SIF Congresso Nazionale, Naples (2012); DAMOP (2011-2016); APS March Meeting (2017); EGAS (2015, 2011).

### Teaching and Mentoring Activities

#### Teaching

Since 2007: various basic and advanced courses in bachelor, master, and PhD programs and in summer school, including *atomic and molecular physics* (mandatory course), *laser cooling and trapping*, *quantum gases*, and laboratories courses.

#### Support of Young Researchers

Since the establishment of my research group in 2009, I have directed **11** PhD students, several master students, and supervised **4** post-doctoral fellows. Among them, 8 PhD students and 2 post-docs are currently working in the team. Among the 3 PhD students who graduated, one obtained the prestigious Schrödinger post-doctoral Fellowship and another occupies a high-profile research position at IBM. One post-doctoral fellow is now Associate Professor at the University of Tokyo (Japan).

### Membership, Commission of Trust, and referee activities (5 most relevant activities)

from 2018

Strategic Research Agenda Working Group (SRA-WG) for the Quantum Flagship

since 2016

Co-Speaker of the FWF Doctoral Program Atoms, Light, and Molecules (DK-ALM)

Scientific Advisory Boards

Member of SAB of the Extreme Matter Institute (since 2016); Member of the Strategic Advisory Board for QUANTERA-NET in Quantum Technologies (2015-2017)

Membership

Elected member of the JUNGE AKADEMIE of the Austrian Academy of Science (since

	2011); Member of the Italian Physical Society; Member of the American Physical Society
Referee activities	Member of the ERC Advanced Grant Panel 2016 (PE2); Referee for national and international grants, including ERC, DFG-SFB, and ANR grants; Referee for Science; Nature; Nature Physics; Phys. Rev. Lett. and others
<b>Other Activities (most relevant)</b>	
Conference organization	Organizers and co-Organizer of several international conference and workshops, including the workshop series “Long Range interaction” (Hannover 2018; Bad Honnef 2017; Naples 2016; Palassieu 2015 ); ITN Workshop on <i>Universality in few-body systems</i> , Institute for Nuclear Physics (ITN), Washington, US; ESF-LFUI Research Conference on <i>Cold and Ultracold Molecules</i> , Obergurgl, Austria
Search Committee	Member of several search committees for a new professor positions, research directors, Habilitation committees