

Curriculum Vitae

Name Wolf Dietrich Carl von Klitzing
Date and place of birth 24.03.1969, Köln
Nationality German
Family Married, two children

Education

18/03/1997 Doctor of Philosophy (Cambridge University)
'Ultra-High Resolution CO₂ Laser Spectroscopy and Transient Line Narrowing'
26/01/1993 Master of Philosophy (Cambridge University)
'10 μ m CO₂ Laser Spectroscopy using Acousto-Optic Modulation'
01/09/1991 – 30/11/1996 Cavendish Laboratory, University of Cambridge (UK)
15/03/1989 – 31/08/1991 Ludwig Maximilians Universität München

Languages

Mother tongue: German
Fluent: English, French, Greek, Dutch
Passive: Italian, Latin

Positions

01/01/2014 – to date Member of the Core Science Team of [STE-QUEST](#) an ESA M4 mission to test Einstein's equivalence principle in space.
01/01/2007 – to date Researcher
IESL-FORTH, Crete, Greece
01/05/2006 – 27/04/2010 Marie-Curie Excellence Team Leader
IESL-FORTH, Crete, Greece
01/02/2005 – to date Principal Investigator of the BEC group
IESL-FORTH, Crete, Greece
01/09/2000 – 30/09/2004 FOM-Post-doctoral Fellow in the group of Prof. Walraven, FOM Institute for Atomic and Molecular Physics (AMOLF), Amsterdam, The Netherlands (from 01/05/2004 at the Van der Waals Zeemann Institute, University of Amsterdam)
01/12/1999 – 31/08/2000 EU post-doctoral Fellow in the group of Prof. De Martini, Università degli studi di Roma I 'La Sapienza', Italy

01/12/1996 – 30/11/1999 EU post-doctoral Fellow in the group of Prof. Haroche
École Normale Supérieure, Paris, France

Academic Distinctions

08/10/2005 'Certificate of Excellence'
'Visions for Discovery in Honor of Charles H. Townes'
Young Scholars Competition,
University of Berkeley

07/07/1999 Best poster at Laser Spectroscopy XIV international
conference for 'Green lasing in microspheres at very
low pump powers'

01/03/1994 – 31/06/1994 Royal Society (UK), and Wolfson College Bursary

Competitive Research Grants

Active Grants

01/09/2017 – 31/09/2021 Coordinator *Cost Action Quantum Technologies using
Cold Atoms (AtomQTech)*

01/06/2017 – 31/05/2019 Scientific Coordinator of the Marie Curie Individual
Fellowship of Georgos Vasilakis
*Quantum Enhanced Sensing with Cold Atoms
(QUESCA)*

01/01/2014 – 31/12/2017 *Optical Beam Steering Technology for Complex Space
Missions (OBST)*
European Space Agency (ESA)

01/02/2013 – 31/07/2017 Coordinator of ICT-STREP "Joint Collaborative Task"
*An Guided Matter-Wave Interferometer on an Atom-
Chip (MatterWave)*

Previous Grants

01/10/2012 – 30/09/2016 ITN Initial Networking Programme
Quantum sensor technologies and applications (QTea)
(36 months Ph.D., 18 months PostDoc)

01/05/2011 – 30/08/2015 ESF Research Networking Programme
Common perspectives for cold atoms, semiconductor
polaritons and nanoscience (POLATOM)

01/01/2005 – 31/12/2008 Transfer of Knowledge Grant of the EU
(COWATIN)

01/05/2006 – 30/03/2010 Marie-Curie Excellence Grant
A Guided Matter-Wave Interferometer on a Atom-Chip
(MatterWaves)

01/10/2006 – 30/09/2010	Marie Curie Research Training Network Engineering, Manipulation and Characterization of Quantum States of Matter and Light (EMALI)
01/04/2008 – 30/03/2011	ESF Collaborative Research Project Quantum-Degenerate Gases for Precision Measurements EuroQUASAR (QuDeGPM)
01/10/2009 – 30/09/2011	'Mexico-Europe consortium for the development of applications in Quantum Information and Communication Technologies' FONCICYT-CONACYT fund allocation code: 94142
22/07/2012 – 27/07/2012	ESF Travel Grant.

Committees, Refereeing and Editorship

- Guest Editor and Referee for the *New Journal of Physics*
- Reviewer for the European Metrology Research Programme *in 2012 and 2015*, and *'high-level strategic reviewer' in 2017*.
- Member of the Steering Committee of FOMO (Frontiers of Matter Wave Optics, 2010-2018)
- Referee for the *EU Marie-Curie Individual Fellowships and EU Future and emerging technologies (H2020-FET-OPEN)*
- Referee for the *National Science Foundation (NSF)*
- Refereed for
 - Physical Review Letters
 - New Journal of Physics
 - Applied Physics Letters
 - The European Physical Journal D
 - Journal of Physics B: Atomic, Molecular & Optical Physics.
 - Applied Optics: Laser, Photonics & Environmental Optics
 - Romanian Reports in Physics
 - Journal of Applied Physics
 - World Scientific Publishing, Singapore

Ph.D. Examinations

Vienna (2017)

External Examiner for the Thesis of Lukas Mairhofer
(University of Vienna)

Canberra (2017)

External Examiner for the Thesis of Paul B. Wigley
(Australian National University)

Crete (2015)

Member of the seven member Ph.D. committee for the two Ph.D.s.

- Crete (2014)
Member of the three member Ph.D. committee of Panagiotis Tsotsi
- Hannover (2014)
External examiner for the Ph.D. of Peter Berg (U.o.Hannover)
- Crete (2013)
Member of the three member Ph.D. committee of Lykourgos Bougas
- Crete (2012)
Supervisor and member of the three member Ph.D. committee of Grigory Konstantinidis
- Oxford (2011)
External Examiner of the doctorate (D.Phil.) of Ben Sherlock
- University for Applied Sciences Emden-Leer in Germany (2011)
External Examiner of the Diploma of Waldemar Deibel
- Crete (2011)
Supervisor and member of the three member Ph.D. committee of Melina Pappa
- Crete (2010)
Member of the seven member Ph.D. committee for the three Ph.D.s: Dimitris Sofikitis, Giorgos Katsoprinakis, and Lukas Buchmann
- Paris Nord (2007)
Rapporteur for the Ph.D. thesis of Olivier Morisot (U.o.Paris 13)

Membership in Professional Organisations

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| 2002 – | European and German Physical Societies |
| 2013 – 2016 | Mediterranean Institute of Fundamental Physics |
| 1997–2000 | French Physical society |

Thesis Supervision and Teaching Experience

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| From 2005 | Supervision of
6 Ph.D. students (U.o.Crete)
6 M.Sc. (granted at U.o.Crete)
1 Diploma (Umeå Universitet, Sweden)
1 Diploma (Univ. of A. Sciences Emden-Leer, Germany)
5 B.Sc. students (U.o.Crete) |
| 2016/2017 | Advanced Atomic and Molecular Physics (5 ECTS)
Graduate and Undergraduate Lectures on |
| 01/11/2004 | Pieter Zeeman Prize to my diploma student Tobias Tiecke for the best science diploma thesis of the University at Amsterdam in the two years 2002 and 2003 |
| 01/09/2000 – 30/09/2004 | FOM-AMOLF / University of Amsterdam
(Group of Prof. Walraven) |

	Supervision of a number of trainees, diploma, and Ph.D. students
01/09/2001 – 01/09/2002	FOM-AMOLF / University of Amsterdam Official co-supervisor of a diploma student 'Bose Einstein condensation in a double magnetic well'
01/10/1997 – 31/12/1999	École Normale Supérieure, Laboratoire Kastler Brossel, Supervision of diploma and Ph.D. students
1994 – 1995	University of Cambridge, Physics Faculty, Supervision of Experimental classes II (waves)

Organisation of Conferences and Summer Schools

10/09/2016 – 17/09/2016	Scientific Committee of the International Conference and Summer School on the Frontiers of Matter-Wave Optics, FOMO-2016, in Arcachon, Bordeaux, France.
06/06/2015 – 11/06/2015	Summer School on Matter-Wave Interferometry, in Crete.
06/04/2010 – 11/04/2010	International Conference and Summer School on the Frontiers of Matter-Wave Optics, FOMO-2010, in Crete.
23/07/2007 – 27/07/2007	Onassis Lectures on Physics on Bose Einstein Condensation Speakers: W. Ketterle, A. Aspect, M. Inguscio, T. Köhler, T. Pfau, C. Salomon, S. Stringari, and W. von Klitzing.
06/05/2007 – 11/05/2007	ECAMP9: European Conference on Atomic and Molecular Physics European Physical Society (member of the local organisation committee)
03/07/2006 – 12/07/2006	Physics Summer School of the University of Crete (co-organiser)

Invited Conference Talks and Seminars

(37) Florence, Jan. 2018	<i>Coherence and Interferometry</i>
(36) Vienna, Dec. 2017	Physics Colloquium of the Faculty of Physics University of Vienna. <i>Matterwave Optics: Atomtronics, Clocks and Interferometers</i>
(35) Mykonos, Sept. 2017	Hybrid Photonics and Materials (HPM2017) <i>Matter-Wave Interferometers</i>
(34) Southampton, May 2017	Physics Colloquium of the University of Southampton <i>The Power of the Ultra-Cold</i>

- (33) Benasque, May 2017 Atomtronic Workshop, Benasque (Spain)
Coherent Waveguides, Neutral Atom Accelerators and Clocks
- (32) Mainz, March 2017 German Physical Society (DPG) Spring Meeting
Towards atomtronic matterwave interferometry
(Invited 'Main Talk')
- (31) Malta, March 2017 Quantum Space Technologies Conference
Atom Space Technologies
- (30) Spetses, June 2016 International Workshop on Quantum Metamaterials & Quantum Engineering
Atomtronic: Quantum Technologies based on MatterWaves
- (29) Les Houches, Jan 2016 "Advanced atomic sources and extreme cooling of atoms and molecules: techniques and applications"
École De Physique, Les Houches
Ultra-Smooth MatterWave Guides and Atom Lasers
- (28) Benasque, May 2015 Atomtronic Workshop
Ultra-Smooth magnetic matter-wave-guides
- (27) Mexico, Nov. 2014 OSA Latin America Optics & Photonics Conference (LAOP) in Cancun, Mexico
Atom Lasers
- (26) Hannover, Feb. 2014 Institute of Quantum Optics, University of Hannover
An ultra-high Brightness Matter Wave Laser
- (25) Prague, May. 2013 22nd International Laser Physics Workshop
An ultra-bright atom-laser
- (24) Greece, May. 2013 14th Conference on Physics of Light-Matter Coupling in Nanostructures (PLMCN14)
Ultra-bright matter-wave lasers and extremely cold thermal Atom-beams
- (23) Greece, May. 2013 Nonlinear Schrödinger Equation: Theory and Applications; an international workshop at the Archimedes Center for Modeling, Analysis and Computation (ACMAC)
Matter-Wave Lasers and Thermal Atom-Beams
- (22) Grenoble, Jan. 2013 University of Grenoble (France)
Breaking the Flux Limit: A novel Atom Laser using Time-Dependent Adiabatic Potentials
- (21) Cambridge, Sept. 2012 Conference on Cold Atoms, Semiconductor Polaritons and Nanoscience POLATOM2012
A novel Atom Laser
- (20) Cambridge, Nov. 2011 AMOP Seminar of the Cavendish Laboratories University of Cambridge
Just a few atoms: Imaging Matter-Waves
- (19) Oxford, Nov. 2011 Atomic and Laser Physics seminar
Oxford University

Atom Imaging of Free Matter-Waves What are the limits?

- (18) Sarajevo, Jul. 2011 21th International Laser Physics Workshop:
Seminar on Physics of Cold Trapped Atoms
Imaging Ultra-Low Atom Numbers for Matter-Wave Optics
- (17) Crete, May. 2011 Conference on Cold Atoms, Semiconductor Polaritons
and Nanoscience POLATOM2011
Imaging atoms for matter-wave interferometry
- (16) Austria, March. 2011 International Conference on the Frontiers of Matter-
Wave Optics FOMO2011
Atom imaging at the limits
- (15) Athens, May. 2009 Physics Seminar of the University of Athens:
*Bose-Einstein Condensation:
Quantum Physics close to absolute Zero*
- (14) Crete, Oct. 2007 Engineering, Manipulation and Characterization
of Quantum States of Matter and Light: EMALI
Time-Averaged Adiabatic Potentials
- (13) Heraklion, Jul. 2006 18th Summer School on Physics:
Bose Einstein Condensation
- (12) Berkeley, Oct. 2005 Finalist at the Young Scholars' Competition in the
honour of Charles Townes, Berkeley University:
Guided Matterwave Interferometry
- (11) Kyoto, July 2005 Laser Spectroscopy Workshop LPHYS'05
*Novel Coherent Matter-Wave Guides for BEC
interferometers*
- (10) Dresden, October 2004 International workshop on Mesoscopic Phenomena in
Ultracold Matter: From Single Atoms to Coherent
Ensembles: *TAP's TOP's and quantum interference:
Physics with novel magnetic traps*
- (9) Amsterdam, April 2004 Prof. Klein Colloquium, University of Amsterdam
Cold Collisions: Hitting Condensates Hard
- (8) Crete, December 2003 ITE-FORTH research seminar
Hydrodynamic BEC and novel Traps
- (7) Hamburg, August 2003 12th annual international Laser Physics Workshop:
Quench-cooled quantum gasses
- (6) Heidelberg, April 2003 Quantum Optics, Atomic and Neutron Physics Seminar
*Bose-Einstein condensation in a hydrodynamic thermal
cloud*
- (5) Hamburg, May 2003 Colloquium of the Institute for Laser-Physics, Hamburg
*Bose-Einstein condensation in a hydrodynamic thermal
cloud*
- (4) Lunteren, Sept. 2002 7th International Workshop on Atom Optics and
Interferometry: *Formation of nonequilibrium Bose-
Einstein condensates in elongated magnetic traps*

- (3) Lunteren, Nov. 2000 Plenary talk at the meeting of the atom and molecular physics division of the Dutch physical society:
Tuning whispering gallery modes: towards optical CQED with microspheres
- (2) Heidelberg, March 1999 Plenary talk at the conference of the Deutsche Physikalische Gesellschaft (DPG):
A very low threshold Er³⁺ microsphere laser
- (1) Garching, February 1999: Max-Planck Institut für Quantenoptik:
Microspheres and Microlasers: Towards the strong coupling regime

Patents

- (1) V. Bolpasi and W. von Klitzing
A double-passed injection locked tapered laser amplifier (Greek patent 2011)

Peer-reviewed publications

- (26) V. Bolpasi, W. von Klitzing
Adiabatic Potentials and Atom Lasers
Rom. Rep. Phys. **67** 295 (2015). ([link](#)) ([pdf](#))
- (25) V. Bolpasi, N.K. Efremidis, M. J. Morrissey, P. Condylyis, D. Sahagun, M. Baker, W. von Klitzing
An ultra-bright atom laser
New Journal of Physics **16**: 033036 (2014) ([link](#))
Selected by the Editors for the “Highlights of 2014” collection of the New Journal of Physics
- (24) D. Saharan, V. Bolpasi, and W. von Klitzing
A Simple and Highly Reliable Laser System for Cold Atom Experiments
Optics Communications **290** 110-114 (2013) ([link](#))
- (23) Markus Arndt, Aigars Ekers, Wolf von Klitzing, and Hendrik Ulbricht
Focus on Matterwave Interferometry,
New Journal of Physics **14** 125006 (2012) ([link](#))
- (22) V. Bolpasi, J. Grucker, M. J. Morrissey, and W. von Klitzing
Gradient-Cancelling Ioffe-Pritchard trap for Bose-Einstein Condensation experiments
Journal of Physics B **45:23** 235301 (2012) ([link](#))
Selected by Editorial Board of Journal of Physics B as Highlight of the Year 2012 ([link](#))
- (21) G.O. Konstantinidis, M. Pappa, G. Wikström, P.C. Condylyis, M. Baker, O. Morizot, and W. von Klitzing
Absolute Atom Number Calibration in Absorption Imaging at Ultra-Low Atom Numbers
Cent. Europ. J. Phys. **1-5** (2012) ([link](#))
- (20) L. Bougas, G.E. Katsoprinakis, W. von Klitzing, J. Sapirstein, and T. P. Rakitzis
Cavity-Enhanced Parity-Nonconserving Optical Rotation in Metastable



Xe and Hg

Physical Review Letters **108** 210801 (2012) ([link](#))

(selected for [Editors' Suggestions](#))

- (19) M. Pappa, P.C. Condylis, G.O. Konstantinidis, V. Bolpasi, A. Lazoudis, O. Morizot, D. Sahagun, M. Baker, W. von Klitzing
Ultra-Sensitive Atom Imaging for Matter-Wave Optics
An invited article for the Focus Issue on Matter-Wave Optics
New Journal of Physics **13:11** 115012 (2011) ([link](#))
- (18) V. Bolpasi and W. von Klitzing
Double-pass tapered amplifier diode laser with an output power of 1 W for an injection power of only 200 μ W
Review of Modern Instruments **81** 113108 (2010) ([link](#))
- (17) I. Lesanovsky and W. von Klitzing
Time-Averaged Adiabatic Potentials: Versatile traps and waveguides for ultracold quantum gases
Physical Review Letters **99** 083001 (2007) ([link](#))
- (16) I. Lesanovsky and W. von Klitzing
Spontaneous Emergence of Angular Momentum Josephson Oscillations in Coupled Annular Bose-Einstein Condensates
Physical Review Letters **98** 050401 (2007) ([link](#))
- (15) Ch. Buggle, J. Leonard, W. von Klitzing and J.T.M. Walraven
Bose-Einstein condensates studied with a linear accelerator.
Laser Spectroscopy, E.A. Hinds, A. Ferguson and E. Riis (Eds.), **199-206**, World Scientific, Singapore (2005)
- (14) Ch. Buggle, P. Pedri, W. von Klitzing, and J.T.M. Walraven
Shape oscillations in nondegenerate Bose gases: Transition from the collisionless to the hydrodynamic regime.
Physical Review A **72**, 043610 (2005) ([link](#))
- (13) Ch. Buggle, J. Leonard, W. von Klitzing, and J.T.M. Walraven
Interferometric Determination of the s and d-Wave Scattering Amplitudes in Rb-87 Physical Review Letters **93**, 173202 (2004) ([link](#))
Reviewed in: Kennislink (5. Nov. 2005), FOM news and Physics News Update (#707)
- (12) Ch. Buggle, I. Shvarchuck, W. von Klitzing, and J.T.M. Walraven
Hydrodynamic clouds and Bose-Einstein condensation
Journal De Physique IV **116**, 211-217 (2004) ([link](#))
- (11) S. Stry, L. Hildebrandt, J.R. Sacher, Ch. Buggle, M. Kemmann, and W. von Klitzing
Compact tuneable diode laser with diffraction-limited 1 Watt for atom cooling and trapping
SPIE: High-Power Diode Laser Technology and Applications II -- Volume **5336** (2004) ([link](#))
- (10) T.G. Tiecke, M. Kemmann, Ch. Buggle, I. Shvarchuck, W. von Klitzing, and J.T.M. Walraven
Bose-Einstein Condensation in a magnetic double-well potential



- Journal of Optics B (special issue on Cold Atoms), **5** S119-S123 (2003) ([link](#))
 (“One of the most downloaded articles of the Journal of Optics in 2003”)
- (9) I. Shvarchuck, Ch. Buggle, D.S. Petrov, M. Kemmann, T.G. Tiecke, W. von Klitzing, G.V. Shlyapnikov, and J.T.M. Walraven
Focusing of Bose-Einstein condensates in free flight
 in Interactions in Ultracold Gases: From Atoms to Molecules, Matthias Weidemuller & Claus Zimmermann (Editors), J. Wiley, New York (2003) ([link](#))
- (8) I. Shvarchuck, C. Buggle, D. S. Petrov, M. Kemmann, W. von Klitzing, G. V. Shlyapnikov and J. T. M. Walraven
Hydrodynamic behavior in expanding thermal clouds of Rb-87
 Physical Review A **68** 063603 (2003) ([link](#))
- (7) I. Shvarchuck, Ch. Buggle, D.S. Petrov, K. Dieckmann, M. Zielonkovski, M. Kemmann, T.G. Tiecke, W. von Klitzing, G.V. Shlyapnikov, and J.T.M. Walraven 
Bose-Einstein condensation into non-equilibrium states studied by condensate focusing
 Physical Review Letters 89-27, 270404 (2002) ([link](#))
 Public Reviews: Physics News Update (#620)
- (6) Wolf von Klitzing, Romain Long, Vladimir S. Ilchenko, Jean Hare, and Valérie Lefèvre-Seguin
Tunable whispering gallery modes for spectroscopy and CQED experiments
 New Journal of Physics **3**, 14.1-14.14 (2001) ([link](#))
- (5) Wolf von Klitzing, Romain Long, Vladimir S. Ilchenko, Jean Hare, and Valérie Lefèvre-Seguin
Frequency tuning of the whispering-gallery modes of silica microspheres for cavity quantum electrodynamics and spectroscopy
 Optics Letters **26:3** 166-168 (2001) ([link](#))
- (4) Wolf von Klitzing, E. Jahier, R. Long, F. Lissillour, V. Lefèvre-Seguin, J. Hare, J.-M. Raimond, S. Laroche
Very low threshold green lasing in microspheres by up-conversion of IR photons
 Journal of Optics B **2** 204–206 (2000) ([link](#))
- (3) W. von Klitzing, E. Jahier, R. Long, F. Lissillour, V. Lefèvre-Seguin, J. Hare, J.-M. Raimond, S. Haroche
Green lasing in microspheres at very low pump powers
 ICSSUR, 243-246 (1999) ([link](#))
- (2) W. von Klitzing, E. Jahier, R. Long, F. Lissillour, V. Lefèvre-Seguin, J. Hare, J.-M. Raimond, S. Laroche
Very low threshold lasing in Er³⁺ doped ZBLAN microspheres
 Electronics Letters **35:20** 1745-1746 (1999) ([link](#))
- (1) W. von Klitzing, B. Butcher
Practical issues in the development of saturation spectroscopy at ultra-high resolution
 Measurement Science and Technology **9** 417-421 (1998) ([link](#))

Lectures at Summer Schools

- (4) Maratea, Sept. 2013 Sixth International School of Nanophotonics and Photovoltaics (ISNP-13) & PLATOM Summer School:
Experimental aspects of Bose-Einstein Condensation in atoms

- (3) Maratea, Sept. 2013 Sixth International School of Nanophotonics and Photovoltaics (ISNP-13) & PLATOM Summer School:
Experimental aspects of Bose-Einstein Condensation in atoms

- (2) Heraklion, Jul. 2007 Onassis Lectures on Physics on Bose Einstein Condensation in honour of Prof Ketterle:
Trapping and Manipulating Neutral Atoms

- (1) Heraklion, Jul. 2006 18th Summer School on Physics:
Bose Einstein Condensation