

# Hanns-Christoph Nägerl

(Status March 2017)

Nationality: German, born in Göttingen, Germany  
Family: Married to Silvia Johanna Elfriede Nägerl, three children (Maria Izabel \*2007, Rosalie Josephine \*2013, Eleonora Celeste \*2015)



## Scientific Education

1987-89/1990-94 Study of mathematics and physics at the Univ. of Göttingen, Germany  
1989/90 Study of mathematics and physics at the Univ. of California at San Diego (UCSD), USA  
1994 – 1998 Doctoral student in physics at the Univ. of Göttingen (1994/1995) and at the Univ. of Innsbruck, Austria (1996-1998), graduation Sept. 1998 with supervisor Prof. R. Blatt on “Ion Strings for Quantum Computation”

## Career History

1990 – 1994 Research and teaching assistant at the Univ. of Göttingen  
1995 – 1998 “Vertragsassistent” at the University of Innsbruck  
1998 – 2000 Postdoctoral researcher, California Institute of Technology (Caltech), USA  
2000 – 2006 “Universitätsassistent” (Assistant Professor) at the University of Innsbruck  
June 2006 Habilitation in “Experimentalphysik” on the topic “From Atomic to Molecular Quantum Gases” at the University of Innsbruck  
1. Oct. 2006 Associate Professor (a. Univ. Prof.) at the University of Innsbruck  
1. Oct. 2011 Full Professor at the University of Innsbruck  
1. March 2017 Head of the [Innsbruck Physics Research Center](#)

## Career-related Activities

Referee for various scientific journals and funding organizations (e.g. Phys. Rev., Phys. Rev. Lett., Nature, Science, Nature Physics, DOE, NSF, DFG, ANR, ERC, ARC,...)

local co-organizer of YAO2005  
local co-organizer of “World Year of Physics” 2005  
local organizer of ICAP2006 and ICAP2006 Summer School  
co-chair of the ESF conference “Quantum Optics 2008” in Obergurgl  
local co-organizer of ÖPG/SPG/ÖGAA conference 2009 in Innsbruck  
chair of “Quantum Optics 2010” in Obergurgl (2010)  
co-chair of “Frontiers in Matter-Wave Optics”, Greece 2010  
chair of ESF-Conference “FOMO2011” in Obergurgl (2011)  
co-chair of “International Workshop on Ultracold Molecules”, South Africa 2011  
co-chair and local organizer of “Quantum Optics 2012” in Obergurgl (2012)  
co-chair of ESF-Conference “Cold and Ultracold Molecules” in Obergurgl (2012)  
co-chair of the workshop “Cold and Ultracold Molecules” in Grenada, Spain (2013)  
co-chair and local organizer of “Quantum Optics 2014” in Obergurgl (2014)  
co-chair of the “Stellenbosch Workshop on Quantum Many-Body Systems Far from Equilibrium” in Stellenbosch, South Africa (2015)  
chair of “Quantum Optics 2016” in Obergurgl (2016)  
co-chair of “Quantum Optics 2018” in Obergurgl (2018)

## Collaborations

The group is part of the Innsbruck-Vienna consortium [SFB FoQuS](#) (2009-2018) funded by the Austrian Science Fund FWF. It is also part of the FWF’s doctoral school (DK) [ALM](#) (2016-2019) and the FWF-DFG Forschergruppe “From Few to Many-Body Physics with Dipolar Quantum Gases” (2016-2019).

## Fellowships and Awards

1998	Millikan-Prize-Fellowship from the California Institute of Technology (Caltech)
2003	START-Prize from the Austrian Federal Ministry for Education, Science and Culture (BMBWK) (1.2 Mio Euro)
2010	Rudolf-Kaiser Preis 2010 der Rudolf-Kaiser Stiftung
2011	ERC-Prize by the European Research Council (1.48 Mio Euro)
2011	Forschungspreis der Südtiroler Sparkasse

## Memberships

since 1995	German Physical Society
since 2006	Austrian Physical Society
2008-2016	Founding member and delegate of the „Junge Kurie“ (JK) of the Austrian Academy of Sciences (Österreichischen Akademie der Wissenschaften, ÖAW)

## Output (see also <http://www.researcherid.com/rid/E-7329-2010>)

Number of **publications** in **refereed journals**:  
More than **60**,

**h-index**: **36**, more than **5000 citations** according to Thomson Reuters' Web of Science, WoS,

**Invited talks** at conferences and workshops:  
more than **70**,

**Invited talks** at colloquia and seminars:  
More than **70**.

## Past Student Supervision

(With thesis title and graduation date. Students co-supervised with my colleague R. Grimm are not listed (8 PhD-students, 4 diploma students). Bachelor students are also not listed.)

**Peter Unterwaditzer**, diploma student, "Aufbau eines vollständigen Diodenlasersystems zur Laserkühlung und Detektion von gespeicherten Cs-Atomen" (in German), April 2005.

**Anton Flir**, diploma student, "Implementierung und Untersuchung von Raman-Seitenbandkühlung zur Erzeugung eines ultrakalten Cäsiumgases" (in German), December 2006.

**Johann G. Danzl**, diploma student, "Towards Optical Spectroscopy of Ultracold Cesium Molecules". Feb. 2007.

**Gabriel Rojas-Kopeinig**, diploma student, "A Tunable Bose-Einstein Condensate in a Three-dimensional Optical Lattice Potential", June 2007.

**Manfred J. Mark**, diploma student, "Wechselwirkungseffekte eines Cäsium-BEC in eindimensionalen Gittern" (in German), November 2007.

**Mattias Gustavsson**, doctoral student, "A quantum gas with tunable interactions in an optical lattice", Dec. 2008.

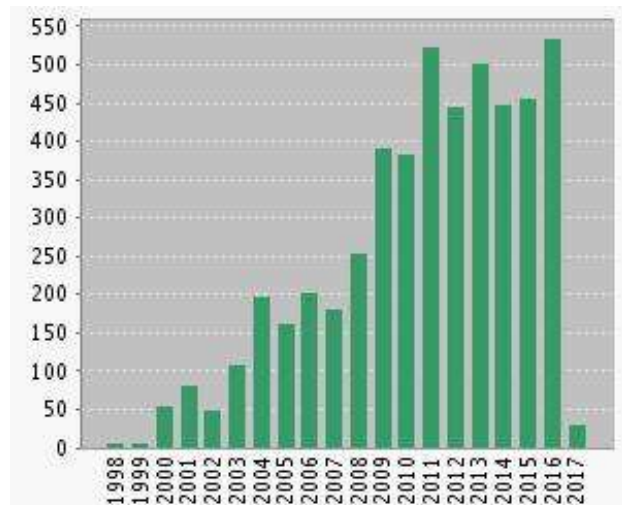
**Johann G. Danzl**, doctoral student, "Rovibronic Ground-State Molecules near Quantum Degeneracy", March 2010.

**Elmar Haller**, doctoral student, "A one-dimensional quantum gas with tunable interactions", July 2010, [recipient of the APS-DAMOP thesis prize 2011](#)

**Almar Lercher** (formerly Lange), doctoral student, "Doppel-Spezies Bose-Einstein-Kondensat von Rubidium und Cäsium Atomen in räumlich getrennten optischen Fallen" (in German), Sept. 2010.

**Lukas Reichsöllner**, diploma student, "Ein frequenzverdoppeltes Lasersystem bei 532 nm für bichromatische optische Gitter" (in German), December 2010.

**Andreas Klingner**, master student, "Optical Frequency Comb for Ultracold Ground-State Molecules", March 2011.



Citations per each year as indicated.  
Source: WoS on February 28<sup>th</sup> 2017.

**Oliver Kriegelsteiner**, diploma student (together with O. Dulieu, Orsay, France), “Hyperfine Structure of Cs<sub>2</sub> Molecules in Electronically Excited States”, Nov. 2011.

**Mohammed Rabie**, diploma student, „Messung der lokalen Drei-Körper-Korrelationsfunktion des eindimensionalen Bosegases“ (in German), Nov. 2011.

**Manfred J. Mark**, doctoral student, “Experiments with Tunable Quantum Gases in Optical Lattices”, Jan. 2012.

**Raffael Rameshan**, diploma student, “Aufbau einer High-Finesse-Cavity zur Stabilisierung eines Diodenlasers“ (in German), Feb. 2012.

**Benjamin Rutschmann**, master student, „Hochstabiler Hoch-Finesse-Resonator zur Erzeugung von Grundzustandsmolekülen“ (in German), Sept. 2012.

**Michael Gröbner**, master student, „Aufbau und Charakterisierung eines Lasersystems zum Kühlen und Fangen von Kaliumatomen“ (in German), Feb. 2013.

**Markus Debatin**, doctoral student, “Ultracold RbCs Ground-State Molecules”, June 2013.

**Carl Hippler**, diploma student (external, from TU München), “Ein selbstgebauter Ytterbium-Faserverstärker mit 25W Ausgangsleistung bei 1064nm zur Realisierung eines optischen Gitters für ultrakalte RbCs-Moleküle” (in German), August 2013.

**Verena Pramhaas**, master student, “Construction and Implementation of a Phase-stable Laser System for STIRAP in Ultracold RbCs Molecules”, July 2014.

**Maximilian Segl**, master student, “Stable and narrow-linewidth diode-laser system for STIRAP”, Nov. 2015.

**Florian Meinert**, doctoral student April 2012 to June 2016, “Quantum dynamics in strongly correlated one-dimensional Bose gases”, graduation June 2<sup>nd</sup> 2016, recipient of the [DPG-SAMOP thesis prize 2017](#) and the [IQOQI thesis prize 2017](#).

**Gregor Anich**, master student, begin May 2015, “Tunable optical lattices”, graduation Sept. 5<sup>th</sup> 2016.

## Past Postdoc Supervision

**Steven Knoop**, 2007-2009

**Russell Hart**, 2008-2010

**Elmar Haller**, Oct. 2010-Dec. 2011 (see also list of supervised students)

**Johann G. Danzl**, May 2010-Jan. 2012 (see also list of supervised students)

**Manfred J. Mark**, postdoc, April 2012-Oct. 2014 (see also list of supervised students)

**Tetsu Takekoshi**, postdoc, July 2009-Feb. 2015

**Florian Meinert**, postdoc, July 2016-Aug. 2016 (see also list of supervised students)

**Emil Kirilov**, postdoc, Aug. 2012-Sep. 2016

## Ongoing Postdoc and Student Supervision

**Lukas Reichsöllner**, doctoral student, since Feb. 2011

**Katharina Lauber**, doctoral student, since Feb. 2011

**Philipp Weinmann**, doctoral student, since May 2012

**Michael Gröbner**, doctoral student, since March 2013

**Andreas Schindewolf**, doctoral student, since July 2013

**Silva Mežinska**, doctoral student, since July 2014

**Peter Oles**, master student, since Sept. 2015

**Beatrix Mayr**, master student, since Oct. 2015

**Nina Farnner**, master student, since Oct. 2015

**Govind Unnikrishnan**, doctoral student, since July 2016

**Gregor Anich**, doctoral student, since Sept. 2016

**Hao Fan**, doctoral student, since Sept. 2016

**Elisabeth Thaler**, master student, since Oct. 2016

**Deborah Capecchi**, doctoral student, since Dec. 2016

Erich Dobler, doctoral student, since March 2017

## Pending Graduations

Benjamin Ziernhöld, master student, since Nov. 2013

Mirosław Marszałek, master student, since March 2014

## Publication list

### A) Top 10 most important publications (in reverse time order)

#### 10. *Bloch oscillations in the absence of a lattice*

F. Meinert, M. Knap, E. Kirilov, K. Lauber, M. B. Zvonarev, E. Demler, and H.-C. Nägerl, to appear soon, preprint at: [arXiv:1608.08200](https://arxiv.org/abs/1608.08200)

#### 9. *Observation of many-body dynamics in long-range tunneling after a quantum quench*

F. Meinert, M. J. Mark, E. Kirilov, K. Lauber, P. Weinmann, M. Gröbner, A. J. Daley, H.-C. Nägerl, [Science 344, 1259 \(2014\)](https://doi.org/10.1126/science.1259)

#### 8. *Quantum quench in an atomic one-dimensional Ising chain*

F. Meinert, M. J. Mark, E. Kirilov, K. Lauber, P. Weinmann, A. J. Daley, H.-C. Nägerl, [Phys. Rev. Lett. 111, 053003 \(2013\)](https://doi.org/10.1103/PhysRevLett.111.053003)

#### 7. *Pinning quantum phase transition for a Luttinger liquid of strongly interacting bosons*

E. Haller, R. Hart, M.J. Mark, J.G. Danzl, L. Reichsöllner, M. Gustavsson, M. Dalmonte, G. Pupillo, H.-C. Nägerl, [Nature 466, 597 \(2010\)](https://doi.org/10.1038/466597a)

#### 6. *An ultracold high-density sample of rovibronic ground-state molecules in an optical lattice*

J.G. Danzl, M.J. Mark, E. Haller, M. Gustavsson, R. Hart, J. Aldegunde, J.M. Hutson, H.-C. Nägerl, [Nature Physics 6, 265 \(2010\)](https://doi.org/10.1038/nature09644)

#### 5. *Realization of an Excited, Strongly Correlated Quantum Gas Phase*

E. Haller, M. Gustavsson, M.J. Mark, J.G. Danzl, R. Hart, G. Pupillo, H.-C. Nägerl, [Science 325, 1224 \(2009\)](https://doi.org/10.1126/science.1224)

#### 4. *Quantum Gas of Deeply Bound Ground State Molecules*

J.G. Danzl, E. Haller, M. Gustavsson, M.J. Mark, R. Hart, N. Bouloufa, O. Dulieu, H. Ritsch, H.-C. Nägerl, [Science 321, 1062 \(2008\)](https://doi.org/10.1126/science.11662)

#### 3. *Evidence for Efimov quantum states in an ultracold gas of caesium atoms*

T. Kraemer, M. Mark, P. Waldburger, J.G. Danzl, C. Chin, B. Engeser, A.D. Lange, K. Pilch, A. Jaakkola, H.-C. Nägerl, R. Grimm, [Nature 440, 315 \(2006\)](https://doi.org/10.1038/440315a)

#### 2. *Preparation of a Pure Molecular Quantum Gas*

J. Herbig, T. Kraemer, M. Mark, T. Weber, C. Chin, H.-C. Nägerl, R. Grimm, [Science 301, 1510 \(2003\)](https://doi.org/10.1126/science.11010)

#### 1. *Bose-Einstein Condensation of Cesium*

T. Weber, J. Herbig, M. Mark, H.-C. Nägerl, R. Grimm, [Science 299, 232 \(2003\)](https://doi.org/10.1126/science.10981)

### B) Top 10 most often cited publications (WoS-citation index, as of February 2017)

#### 1. *Evidence for Efimov quantum states in an ultracold gas of caesium atoms*

T. Kraemer, M. Mark, P. Waldburger, J. G. Danzl, C. Chin, B. Engeser, A. D. Lange, K. Pilch, A. Jaakkola, H.-C. Nägerl, R. Grimm, [Nature 440, 315 \(2006\)](https://doi.org/10.1038/440315a) (554 citations)

**2. Bose-Einstein Condensation of Cesium**

T. Weber, J. Herbig, M. Mark, H.-C. Nägerl, R. Grimm,  
[Science 299, 232 \(2003\)](#) (311 citations)

**3. Preparation of a Pure Molecular Quantum Gas**

J. Herbig, T. Kraemer, M. Mark, T. Weber, C. Chin, H.-C. Nägerl, R. Grimm,  
[Science 301, 1510 \(2003\)](#) (304 citations)

**4. Quantum State Engineering on an Optical Transition and Decoherence in a Paul Trap**

C. Roos, T. Zeiger, H. Rohde, H.-C. Nägerl, J. Eschner, D. Leibfried, F. Schmidt-Kaler, R. Blatt,  
[Phys. Rev. Lett. 83, 4713 \(1999\)](#) (272 citations)

**5. Realization of an Excited, Strongly Correlated Quantum Gas Phase**

E. Haller, M. Gustavsson, M.J. Mark, J.G. Danzl, R. Hart, G. Pupillo, H.-C. Nägerl,  
[Science 325, 1224 \(2009\)](#) (249 citations)

**5. State-Insensitive Cooling and Trapping of Single Atoms in an Optical Cavity**

J. McKeever, J.R. Buck, A.D. Boozer, A. Kuzmich, H.-C. Nägerl, D.M. Stamper-Kurn, H.J. Kimble,  
[Phys. Rev. Lett. 90, 133602 \(2003\)](#) (238 citations)

**7. Quantum Gas of Deeply Bound Ground State Molecules**

J.G. Danzl, E. Haller, M. Gustavsson, M.J. Mark, R. Hart, N. Bouloufa, O. Dulieu, H. Ritsch, H.-C. Nägerl,  
[Science 321, 1062 \(2008\)](#) (214 citations)

**8. An ultracold high-density sample of rovibronic ground-state molecules in an optical lattice**

J.G. Danzl, M.J. Mark, E. Haller, M. Gustavsson, R. Hart, J. Aldegunde, J.M. Hutson, H.-C. Nägerl,  
[Nature Physics 6, 265 \(2010\)](#) (182 citations)

**9. Observation of an Efimov-like trimer resonance in ultracold atom-dimer scattering**

S. Knoop, F. Ferlaino, M. Mark, M. Berninger, H. Schöbel, H.-C. Nägerl, R. Grimm,  
[Nature Physics 5, 227 \(2009\)](#) (158 citations)

**10. Evidence for universal four-body states tied to an Efimov trimer**

F. Ferlaino, S Knoop, M. Berninger, W. Harm, J.P. D' Incao, H.-C. Nägerl, R. Grimm,  
[Phys. Rev. Lett. 102, 140401 \(2009\)](#) (140 citations)

**C) All refereed (or for refereeing submitted) publications (newest to oldest)**

**67. Bloch oscillations in the absence of a lattice**

F. Meinert, M. Knap, E. Kirilov, K. Lauber, M. B. Zvonarev, E. Demler, and H.-C. Nägerl,  
to appear soon, preprint at: [arXiv:1608.08200](#)

**66. Degenerate Raman sideband cooling of 39K**

M. Gröbner, P. Weinmann, E. Kirilov, H.-C. Nägerl,  
[Phys. Rev. A 95, 033412 \(2017\)](#),  
DOI:10.1103/PhysRevA.95.033412, preprint at: [arXiv:1612.02309](#)

**65. Observation of interspecies Feshbach resonances in an ultracold 39K-133Cs mixture and refinement of interaction potentials**

M. Gröbner, P. Weinmann, E. Kirilov, H.-C. Nägerl, P. S. Julienne, C. R. Le Sueur, and J. M. Hutson,  
[Phys. Rev. A 95, 022715 \(2017\)](#),  
DOI:10.1103/PhysRevA.95.022715, preprint at: [arxiv:1612.07196](#)

**64. Quantum engineering of a low-entropy gas of heteronuclear bosonic molecules in an optical lattice**

L. Reichsöllner, A. Schindewolf, T. Takekoshi, R. Grimm, and H.-C. Nägerl,  
[Phys. Rev. Lett. 118, 073201 \(2017\)](#),  
DOI:10.1103/PhysRevLett.118.073201, preprint at: [arXiv:1607.06536](#)

**63. Floquet engineering of correlated tunneling in the Bose-Hubbard model with ultracold atoms**

F. Meinert, M. J. Mark, K. Lauber, A. J. Daley, H.-C. Nägerl,

[Phys. Rev. Lett. 116, 205301 \(2016\)](#),

DOI:10.1103/PhysRevLett.116.205301, preprint at: [arXiv:1602.02657](#)

**62. A new quantum gas apparatus for ultracold mixtures of K and Cs and KCs ground-state molecules**

M. Gröbner, P. Weinmann, F. Meinert, K. Lauber, E. Kirilov, H.-C. Nägerl,

[Journal of Modern Optics online \(2016\)](#),

DOI:10.1080/09500340.2016.1143051, preprint at: [arXiv:1511.05044](#)

**61. Model for the hyperfine structure of electronically-excited KCs molecules**

A. Orban, R. Vexiau, O. Kriegelsteiner, H.-C. Nägerl, O. Dulieu, A. Crubellier, N. Bouloufa-Maafa,

[Phys. Rev. A 92, 032510 \(2015\)](#),

DOI:10.1103/PhysRevA.92.032510, preprint at [arXiv:1507.06519](#)

**60. Probing the Excitations of a Lieb-Liniger Gas from Weak to Strong Coupling**

F. Meinert, M. Panfil, M. J. Mark, K. Lauber, J.-S. Caux, H.-C. Nägerl,

[Phys. Rev. Lett. 115, 085301 \(2015\)](#),

DOI:10.1103/PhysRevLett.115.085301, preprint at: [arXiv:1505.08152](#)

**59. Compact, robust, and spectrally pure diode-laser system with a filtered output and a tunable copy for absolute referencing**

E. Kirilov, M. Segl, M. J. Mark, H.-C. Nägerl,

[Appl. Phys. B 0946-2171 \(2015\)](#),

DOI:10.1007/s00340-015-6049-5, preprint at: [arXiv:1412.1116](#)

**58. Ultracold Dense Samples of Dipolar RbCs Molecules in the Rovibrational and Hyperfine Ground State**

T. Takekoshi, L. Reichsöllner, A. Schindewolf, J. M. Hutson, C. R. Le Sueur, O. Dulieu, F. Ferlaino, R. Grimm, H.-C. Nägerl,

[Phys. Rev. Lett. 113, 205301 \(2014\)](#),

DOI:10.1103/PhysRevLett.113.205301, preprint at: [arXiv:1405.6037](#)

**57. Observation of density-induced tunneling**

O. Jürgensen, F. Meinert, M. J. Mark, H.-C. Nägerl, D.-S. Lühmann,

[Phys. Rev. Lett. 113, 193003 \(2014\)](#),

DOI:10.1103/PhysRevLett.113.193003, preprint at: [arXiv:1407.0835](#)

**56. Resonant atom-dimer collisions in cesium: Testing universality at positive scattering lengths**

A. Zenesini, B. Huang, M. Berninger, H.-C. Nägerl, F. Ferlaino, R. Grimm,

[Phys. Rev. A 90, 022704 \(2014\)](#),

DOI:10.1103/PhysRevA.90.022704, preprint at: [arXiv:1406.3443](#)

**55. Observation of many-body dynamics in long-range tunneling after a quantum quench**

F. Meinert, M. J. Mark, E. Kirilov, K. Lauber, P. Weinmann, M. Gröbner, A. J. Daley, H.-C. Nägerl,

[Science 344, 1259 \(2014\)](#),

DOI:10.1126/science.1248402, preprint at: [arXiv:1312.2758](#)

**54. Interaction-induced quantum phase revivals and evidence for the transition to the quantum chaotic regime in 1D atomic Bloch oscillations**

F. Meinert, M. J. Mark, E. Kirilov, K. Lauber, P. Weinmann, M. Gröbner, H.-C. Nägerl,

[Phys. Rev. Lett. 112, 193003 \(2014\)](#),

DOI:10.1103/PhysRevLett.112.193003, preprint at: [arXiv:1309.4045](#)

**53. Quantum quench in an atomic one-dimensional Ising chain**

F. Meinert, M. J. Mark, E. Kirilov, K. Lauber, P. Weinmann, A. J. Daley, H.-C. Nägerl,

[Phys. Rev. Lett. 111, 053003 \(2013\)](#),

DOI:10.1103/PhysRevLett.111.053003, preprint at: [arXiv:1304.2628](#)

**52. Resonant Five-Body Recombination in an Ultracold Gas**

A. Zenesini, B. Huang, M. Berninger, S. Besler, H.-C. Nägerl, F. Ferlaino, R. Grimm, Chris H. Greene, J. von Stecher,

[New J. Phys. 15 043040 \(2013\)](#),

DOI:10.1088/1367-2630/15/4/043040, preprint at: [arXiv:1205.1921](#)

- 51. Feshbach resonances, weakly bound molecular states, and coupled-channel potentials for cesium at high magnetic fields**  
M. Berninger, A. Zenesini, B. Huang, W. Harm, H.-C. Nägerl, F. Ferlaino, R. Grimm, P. S. Julienne, J. M. Hutson,  
[Phys. Rev. A 87, 032517 \(2013\)](#),  
DOI:10.1103/PhysRevA.87.032517, preprint at: [arXiv:1212.5584](#)
- 50. Preparation and spectroscopy of a metastable Mott insulator state with attractive interactions**  
M.J. Mark, E. Haller, K. Lauber, J.G. Danzl, A. Janisch, H.P. Büchler, A.J. Daley, H.-C. Nägerl,  
[Phys. Rev. Lett. 108, 215302 \(2012\)](#),  
DOI:10.1103/PhysRevLett.108.215302, preprint at: [arxiv:1201.1008](#)
- 49. Towards the production of ultracold ground-state RbCs molecules: Feshbach resonances, weakly bound states, and coupled-channel model**  
T. Takekoshi, M. Debatin, R. Rameshan, F. Ferlaino, R. Grimm, H.-C. Nägerl, C.R. Le Sueur, J.M. Hutson, P.S. Julienne, S. Kotochigova, E. Tiemann,  
[Phys. Rev. A 85, 032506 \(2012\)](#),  
DOI:10.1103/PhysRevA.85.032506, preprint at: [arxiv:1201.1438](#)
- 48. Three-body correlation functions and recombination rates for bosons in three dimensions and one dimension**  
E. Haller, M. Rabie, M.J. Mark, J.G. Danzl, R. Hart, K. Lauber, G. Pupillo, H.-C. Nägerl,  
[Phys. Rev. Lett. 107, 230404 \(2011\)](#),  
DOI:10.1103/PhysRevLett.107.230404, preprint at: [arXiv:1107.4516](#)
- 47. Precision Measurements on a Tunable Mott Insulator of Ultracold Atoms**  
M.J. Mark, E. Haller, K. Lauber, J. G. Danzl, A. J. Daley, H.-C. Nägerl,  
[Phys. Rev. Lett. 107, 175301 \(2011\)](#),  
DOI:10.1103/PhysRevLett.107.175301, preprint at: [arXiv:1107.1803](#)
- 46. Efimov Resonances in Ultracold Quantum Gases**  
F. Ferlaino, A. Zenesini, M. Berninger, B. Huang, H.-C. Nägerl, R. Grimm,  
[Few-Body Systems 51, 113 \(2011\)](#),  
DOI:10.1007/s00601-011-0260-7, preprint at: [arXiv:1108.1909](#)
- 45. Molecular spectroscopy for ground-state transfer of ultracold RbCs molecules**  
M. Debatin, T. Takekoshi, R. Rameshan, L. Reichsöllner, F. Ferlaino, R. Grimm, R. Vexiau, N. Bouloufa, O. Dulieu, H.-C. Nägerl,  
[Phys. Chem. Chem. Phys. 13, 18926 \(2011\)](#),  
DOI:10.1039/c1cp21769k, preprint at: [arXiv:1106.0129](#)
- 44. Universality of the Three-Body Parameter for Efimov States in Ultracold Cesium**  
M. Berninger, A. Zenesini, B. Huang, W. Harm, H.-C. Nägerl, F. Ferlaino, R. Grimm, P. S. Julienne, J. M. Hutson,  
[Phys. Rev. Lett. 107, 120401 \(2011\)](#),  
DOI:10.1103/PhysRevLett.107.120401, preprint at: [arXiv:1106.3933](#)
- 43. Demonstration of the temporal matter-wave Talbot effect for trapped matter waves**  
M. J. Mark, E. Haller, J. G. Danzl, K. Lauber, M. Gustavsson, H.-C. Nägerl,  
[New J. Phys. 13, 085008 \(2011\)](#),  
DOI:10.1088/1367-2630/13/8/085008, preprint at: [arxiv:1105.0295](#)
- 42. Optimal trapping wavelengths of Cs<sub>2</sub> molecules in an optical lattice.**  
R. Vexiau, N. Bouloufa, M. Aymar, J. G. Danzl, M. J. Mark, H.-C. Nägerl, O. Dulieu,  
[Eur. Phys. J. D 65, 243 \(2011\)](#),  
DOI:10.1140/epjd/e2011-20085-4, preprint at: [arxiv:1102.1793](#)
- 41. Global analysis of data on the spin-orbit coupled  $A^1\Sigma^+_u$  and  $b^3\Pi_u$  states of Cs<sub>2</sub>**  
J. Bai, E.H. Ahmed, B. Beser, Y. Guan, S. Kotochigova, A.M. Lyyra, S. Ashman, C.M. Wolfe, J. Huennekens, F. Xie, D. Li, L. Li, M. Tamanis, R. Ferber, A. Drozdova, E. Pazyuk, A.V. Stolyarov, J.G. Danzl, H.-C. Nägerl, N. Bouloufa, O. Dulieu, C. Amiot, H. Salami, T. Bergeman,  
[Phys. Rev. A 83, 032514 \(2011\)](#),

DOI:10.1103/PhysRevA.83.032514, preprint at: [arxiv:1101.5412](https://arxiv.org/abs/1101.5412)

**40. Production of a dual-species Bose-Einstein condensate of Rb and Cs atoms**

A.D. Lercher, T. Takekoshi, M. Debatin, B. Schuster, R. Rameshan, F. Ferlaino, R. Grimm, H.-C. Nägerl,

[Eur. Phys. J. D 65, 3 \(2011\)](https://doi.org/10.1140/epjd/e2011-20015-6),

DOI:10.1140/epjd/e2011-20015-6, preprint at: [arxiv:1101.1409](https://arxiv.org/abs/1101.1409)

**39. Pinning quantum phase transition for a Luttinger liquid of strongly interacting bosons**

E. Haller, R. Hart, M.J. Mark, J.G. Danzl, L. Reichsöllner, M. Gustavsson, M. Dalmonte, G. Pupillo, H.-C. Nägerl,

[Nature 466, 597 \(2010\)](https://doi.org/10.1038/nature09259),

DOI:10.1038/nature09259, preprint at: [arXiv:1004.3168](https://arxiv.org/abs/1004.3168)

**38. Interference of interacting matter waves**

M. Gustavsson, E. Haller, M.J. Mark, J.G. Danzl, R. Hart, A. Daley, H.-C. Nägerl,

[New J. Phys. 12 065029 \(2010\)](https://doi.org/10.1088/1367-2630/12/6/065029),

DOI:10.1088/1367-2630/12/6/065029, preprint at: [arXiv:0812.4836](https://arxiv.org/abs/0812.4836)

**37. Inducing Transport in a Dissipation-Free Lattice with Super Bloch Oscillations**

E. Haller, R. Hart, M.J. Mark, J.G. Danzl, L. Reichsöllner, H.-C. Nägerl,

[Phys. Rev. Lett. 104, 200403 \(2010\)](https://doi.org/10.1103/PhysRevLett.104.200403),

DOI:10.1103/PhysRevLett.104.200403, preprint at: [arXiv:1001.1206](https://arxiv.org/abs/1001.1206)

**36. Confinement-Induced Resonances in Low-Dimensional Quantum Systems**

E. Haller, M.J. Mark, R. Hart, J.G. Danzl, L. Reichsöllner, V. Melezhik, P. Schmelcher, H.-C. Nägerl,

[Phys. Rev. Lett. 104, 153203 \(2010\)](https://doi.org/10.1103/PhysRevLett.104.153203),

DOI:10.1103/PhysRevLett.104.153203, preprint at: [arXiv:1002.3795](https://arxiv.org/abs/1002.3795)

**35. Colliding Bose-Einstein condensates to observe Efimov physics**

Y. Wang, J.P. D'Incao, H.-C. Nägerl, B.D. Esry,

[Phys. Rev. Lett. 104, 113201 \(2010\)](https://doi.org/10.1103/PhysRevLett.104.113201)

DOI:10.1103/PhysRevLett.104.113201

**34. An ultracold high-density sample of rovibronic ground-state molecules in an optical lattice**

J.G. Danzl, M.J. Mark, E. Haller, M. Gustavsson, R. Hart, J. Aldegunde, J.M. Hutson, H.-C. Nägerl,

[Nature Physics 6, 265 \(2010\)](https://doi.org/10.1038/NPHYS1533),

DOI:10.1038/NPHYS1533, preprint at: [arXiv:0909.4700](https://arxiv.org/abs/0909.4700)

**33. Magnetically Controlled Exchange Process in an Ultracold Atom-Dimer Mixture**

S. Knoop, F. Ferlaino, M. Berninger, M. Mark, H.-C. Nägerl, R. Grimm, J.P. D'Incao, B.D. Esry,

[Phys. Rev. Lett. 104, 053201 \(2010\)](https://doi.org/10.1103/PhysRevLett.104.053201),

DOI:10.1103/PhysRevLett.104.053201, preprint at: [arXiv:0911.1999](https://arxiv.org/abs/0911.1999)

**32. Realization of an Excited, Strongly Correlated Quantum Gas Phase**

E. Haller, M. Gustavsson, M.J. Mark, J.G. Danzl, R. Hart, G. Pupillo, H.-C. Nägerl,

[Science 325, 1224 \(2009\)](https://doi.org/10.1126/science.1175850)

DOI:10.1126/science.1175850

**31. Deeply bound ultracold molecules in an optical lattice**

J.G. Danzl, M.J. Mark, E. Haller, M. Gustavsson, R. Hart, A. Liem, H. Zellmer, H.-C. Nägerl,

[New J. Phys. 11, 055036 \(2009\)](https://doi.org/10.1088/1367-2630/11/5/055036),

DOI:10.1088/1367-2630/11/5/055036, preprint at: [arXiv:0812.5070](https://arxiv.org/abs/0812.5070)

**30. Observation of interspecies Feshbach resonances in an ultracold Rb-Cs mixture**

K. Pilch, A.D. Lange, A. Prantner, G. Kerner, F. Ferlaino, H.-C. Nägerl, R. Grimm,

[Phys. Rev. A 79, 042718 \(2009\)](https://doi.org/10.1103/PhysRevA.79.042718),

DOI:10.1103/PhysRevA.79.042718, preprint at: [arXiv:0812.3287](https://arxiv.org/abs/0812.3287)

**29. Evidence for universal four-body states tied to an Efimov trimer**

F. Ferlaino, S. Knoop, M. Berninger, W. Harm, J.P. D'Incao, H.-C. Nägerl, R. Grimm,

[Phys. Rev. Lett. 102, 140401 \(2009\)](https://doi.org/10.1103/PhysRevLett.102.140401),

DOI:10.1103/PhysRevLett.102.140401, preprint at: [arXiv:0903.1276](https://arxiv.org/abs/0903.1276)



- 28. Precision molecular spectroscopy for ground state transfer of molecular quantum gases**  
J.G. Danzl, M.J. Mark, E. Haller, M. Gustavsson, N. Bouloufa, O. Dulieu, H. Ritsch, R. Hart, H.-C. Nägerl,  
[Faraday Discuss. \(2009\)](#)  
DOI:10.1039/B820542F, preprint at: [arXiv:0811.2374](#)
- 27. Dark resonances for ground state transfer of molecular quantum gases**  
M.J. Mark, J.G. Danzl, E. Haller, M. Gustavsson, N. Bouloufa, O. Dulieu, H. Salami, T. Bergeman,  
H. Ritsch, R. Hart, H.-C. Nägerl,  
[Appl. Phys. B 95, 219-225 \(2009\)](#),  
DOI:10.1007/s00340-009-3407-1, preprint at: [arXiv:0811.0695](#)
- 26. Observation of an Efimov-like trimer resonance in ultracold atom-dimer scattering**  
S. Knoop, F. Ferlaino, M. Mark, M. Berninger, H. Schöbel, H.-C. Nägerl, R. Grimm,  
[Nature Physics 5, 227 \(2009\)](#),  
DOI:10.1038/NPHYS1203, preprint at: [arXiv:0807.3306](#)
- 25. Determination of atomic scattering lengths from measurements of molecular binding energies near Feshbach resonances**  
A.D. Lange, K. Pilch, A. Prantner, F. Ferlaino, B. Engeser, H.-C. Nägerl, R. Grimm, C. Chin,  
[Phys. Rev. A 79, 013622 \(2009\)](#),  
DOI:10.1103/PhysRevA.79.013622, preprint at: [arXiv:0810.5503](#)
- 24. Quantum Gas of Deeply Bound Ground State Molecules**  
J.G. Danzl, E. Haller, M. Gustavsson, M.J. Mark, R. Hart, N. Bouloufa, O. Dulieu, H. Ritsch, H.-C. Nägerl,  
[Science 321, 1062 \(2008\)](#),  
DOI:10.1126/science.1159909, preprint at: [arXiv:0806.2284](#)
- 23. Collisions between tunable halo dimers: exploring an elementary four-body process with identical bosons**  
F. Ferlaino, S. Knoop, M. Mark, M. Berninger, H. Schöbel, H.-C. Nägerl, R. Grimm,  
[Phys. Rev. Lett. 101, 023201 \(2008\)](#), preprint at: [arXiv:0803.4078](#)  
DOI:10.1103/PhysRevLett.101.023201
- 22. Control of interaction-induced dephasing of Bloch oscillations**  
M. Gustavsson, E. Haller, M.J. Mark, J.G. Danzl, G. Rojas-Kopeinig, H.-C. Nägerl,  
[Phys.Rev. Lett. 100, 080404 \(2008\)](#), preprint at: [arXiv:0710.5083](#)  
DOI:10.1103/PhysRevLett.100.080404
- 21. Metastable Feshbach molecules in high rotational states**  
S. Knoop, M. Mark, F. Ferlaino, J.G. Danzl, T. Kraemer, H.-C. Nägerl, R. Grimm,  
[Phys. Rev. Lett. 100,083002 \(2008\)](#), preprint at: [arXiv:0710.4052](#)  
DOI:10.1103/PhysRevLett.100.083002
- 20. Spectroscopy of ultracold, trapped cesium Feshbach molecules**  
M. Mark, F. Ferlaino, S. Knoop, J.G. Danzl, T. Kraemer, C. Chin, H.-C. Nägerl, R. Grimm,  
[Phys. Rev. A 76,042514 \(2007\)](#), preprint at: [arXiv:0706.1041](#)  
DOI:10.1103/PhysRevA.76.042514
- 19. Stückelberg interferometry with ultracold molecules**  
M. Mark, T. Kraemer, P. Waldburger, J. Herbig, C. Chin, H.-C. Nägerl, R. Grimm,  
[Phys. Rev. Lett. 99,113201 \(2007\)](#), preprint at: [arXiv:0704.0653](#)  
DOI:10.1103/PhysRevLett.99.113201
- 18. Evidence for Efimov quantum states in an ultracold gas of caesium atoms**  
T. Kraemer, M. Mark, P. Waldburger, J. G. Danzl, C. Chin, B. Engeser, A. D. Lange, K. Pilch, A. Jaakkola, H.-C. Nägerl, R. Grimm,  
[Nature 440, 315 \(2006\)](#), preprint at: [cond-mat/0512394](#)  
DOI:10.1038/nature04626
- 17. Observation of Feshbach-like resonances in collisions between ultracold molecules**  
C. Chin, T. Kraemer, M. Mark, J. Herbig, P. Waldburger, H.-C. Nägerl, R. Grimm,  
[Phys. Rev. Lett. 94, 123201 \(2005\)](#). preprint at: [cond-mat/0411258](#)

DOI:10.1103/PhysRevLett.94.123201

**16. Efficient creation of molecules from a cesium Bose-Einstein condensate**

M. Mark, T. Kraemer, J. Herbig, C. Chin, H.-C. Nägerl, R. Grimm,  
[Europhys. Lett. 69, 706 \(2005\)](#), preprint at: [cond-mat/0409737](#)  
DOI:10.1209/epl/i2004-10427-7

**15. Optimized production of a cesium Bose-Einstein condensate**

T. Kraemer, J. Herbig, M. Mark, T. Weber, C. Chin, H.-C. Nägerl, R. Grimm,  
[Appl. Phys. B 79, 1013 \(2004\)](#), preprint at: [cond-mat/0408268](#)  
DOI:10.1007/s00340-004-1657-5

**14. Two-dimensional Bose-Einstein condensate in an optical surface trap**

D. Rychtarik, B. Engeser, H.-C. Nägerl, R. Grimm,  
[Phys. Rev. Lett. 92, 173003 \(2004\)](#), preprint at: [cond-mat/0309536](#)  
DOI:10.1103/PhysRevLett.92.173003

**13. Preparation of a Pure Molecular Quantum Gas**

J. Herbig, T. Kraemer, M. Mark, T. Weber, C. Chin, H.-C. Nägerl, R. Grimm,  
[Science 301, 1510 \(2003\)](#)  
DOI:10.1126/science.1088876

**12. State-Insensitive Cooling and Trapping of Single Atoms in an Optical Cavity**

J. McKeever, J.R. Buck, A.D. Boozer, A. Kuzmich, H.-C. Nägerl, D.M. Stamper-Kurn, H.J. Kimble,  
[Phys. Rev. Lett. 90, 133602 \(2003\)](#)  
DOI:10.1103/PhysRevLett.90.133602

**11. Three-body recombination at large scattering lengths in an ultracold atomic gas**

T. Weber, J. Herbig, M. Mark, H.-C. Nägerl, R. Grimm,  
[Phys. Rev. Lett. 91, 123201 \(2003\)](#), preprint at: [physics/0304052](#)  
DOI:10.1103/PhysRevLett.91.123201

**10. Bose-Einstein Condensation of Cesium**

T. Weber, J. Herbig, M. Mark, H.-C. Nägerl, R. Grimm,  
[Science 299, 232 \(2003\)](#)  
DOI:10.1126/science.1079699

**9. Evanescent-wave trapping and evaporative cooling of an atomic gas at the crossover to two dimensions**

M. Hammes, D. Rychtarik, B. Engeser, H.-C. Nägerl, R. Grimm,  
[Phys. Rev. Lett. 90, 173001 \(2003\)](#), preprint at: [physics/0208065](#)  
DOI:10.1103/PhysRevLett.90.173001

**8. Cold-atom gas at very high densities in an optical surface microtrap**

M. Hammes, D. Rychtarik, H.-C. Nägerl, R. Grimm,  
[Phys. Rev. A 66, 051401\(R\) \(2002\)](#), preprint at: [physics/0204026](#)  
DOI:10.1103/PhysRevA.66.051401

**7. Evaluation of heating effects on atoms trapped in an optical trap**

C.W. Gardiner, J. Ye, H.-C. Nägerl, H.J. Kimble,  
[Phys. Rev. A 61, 045801 \(2000\)](#),  
DOI:10.1103/PhysRevA.61.045801

**6. Ground state cooling, quantum state engineering and study of decoherence of ions in Paul traps**

F. Schmidt-Kaler, C. Roos, H.-C. Nägerl, H. Rohde, S. Gulde, A. Mundt, M. Lederbauer, G. Thalhammer, T. Zeiger, P. Barton, L. Hornekaer, G. Reymond, D. Leibfried, J. Eschner, R. Blatt,  
[J. Mod. Opt. 47, 2573 \(2000\)](#),  
DOI: 10.1080/09500340008232182

**5. Investigating a qubit candidate: Spectroscopy on the S1/2 to D5/2 transition of a trapped calcium ion in a linear Paul trap**

H.-C. Nägerl, C. Roos, D. Leibfried, H. Rohde, G. Thalhammer, J. Eschner, F. Schmidt-Kaler, R. Blatt,  
[Phys. Rev. A 61, 023405 \(2000\)](#),

DOI:10.1103/PhysRevA.61.023405

**4. Quantum State Engineering on an Optical Transition and Decoherence in a Paul Trap**

C. Roos, T. Zeiger, H. Rohde, H.-C. Nägerl, J. Eschner, D. Leibfried, F. Schmidt-Kaler, R. Blatt,  
[Phys. Rev. Lett. 83, 4713 \(1999\)](#).

DOI:10.1103/PhysRevLett.83.4713

**3. Laser addressing of individual ions in a linear ion trap**

H.-C. Nägerl, D. Leibfried, H. Rohde, G. Thalhammer, J. Eschner, F. Schmidt-Kaler, R. Blatt,  
[Phys. Rev. A 60, 145 \(1999\)](#).

DOI:10.1103/PhysRevA.60.145

**2. Coherent excitation of normal modes in a string of Ca<sup>+</sup> ions**

H.-C. Nägerl, R. Blatt, F. Schmidt-Kaler, J. Eschner, D. Leibfried,  
[Optics Express 3, 89 \(1998\)](#),

DOI:10.1364/OE.3.000089

**1. Ion strings for quantum gates**

H.-C. Nägerl, W. Bechter, J. Eschner, F. Schmidt-Kaler, R. Blatt,  
[Appl. Phys. B 66, 603 \(1998\)](#),

DOI:10.1007/s003400050443

## D) Further (non-refereed) publications

**12. Ultracold and dense samples of ground-state molecules in lattice potentials**

H.-C. Nägerl, M.J. Mark, E. Haller, M. Gustavsson, R. Hart, J.G. Danzl,  
*J. Phys.: Conf. Ser.* [264 012015 \(2011\)](#); preprint at: [arXiv:1011.0179](#)

**11. Production of a quantum gas of rovibronic ground-state molecules in an optical lattice**

J.G. Danzl, M.J. Mark, E. Haller, G. Gustavsson, R. Hart, H.-C. Nägerl,  
[Laser Spectroscopy 256 \(2010\)](#)

**10. Collisions of optically trapped ultracold cesium Feshbach molecules**

F. Ferlaino, S. Knoop, M. Berninger, M. Mark, H.-C. Nägerl, R. Grimm,  
Special issue in memoriam Prof. Vladilen S. Letokhov

[Laser Phys. 20, 23 \(2010\)](#), [arXiv:0904.0935](#)

**9. Observation of an Efimov resonance in an ultracold mixture of atoms and weakly bound dimers**

S. Knoop, F. Ferlaino, M. Berninger, M. Mark, H.-C. Nägerl, R. Grimm,  
Proceedings ICPEAC 2009 (Kalamazoo)

[J. Phys.: Conf. Ser. 194, 012064 \(2009\)](#), [arXiv:0907.4510](#)

**8. Collisions of optically trapped ultracold cesium Feshbach molecules**

F. Ferlaino, S. Knoop, M. Berninger, M. Mark, H.-C. Nägerl, R. Grimm,  
Special issue in memoriam Prof. Vladilen S. Letokhov

[Laser Phys. \(2009\)](#), [arXiv:0904.0935](#)

**7. Crossover to 2D in a double-evanescent wave trap**

D. Rychtarik, B. Engeser, M. Hammes, H.-C. Nägerl, and R. Grimm,  
in Quantum Gases in Low Dimensions, ed. by L. Pricoupenko, H. Perrin, and M. Olshanii

[J. Phys. IV France 116, 241 \(2004\)](#)

**6. Addressing and cooling of single ions in Paul traps**

H.-C. Nägerl, C. Roos, H. Rohde, D. Leibfried, J. Eschner, F. Schmidt-Kaler, and R. Blatt,  
Proceedings of the Adriatico Conference on Quantum Interferometry III, Trieste, March 1999,  
*Fortschr. Phys.* 48, 623 (2000).

**5. Single Ions in Paul traps**

F. Schmidt-Kaler, C. Roos, H.-C. Nägerl, H. Rohde, S. Gulde, A. Mundt, T. Zeiger, G. Reymond,  
G. Thalhammer, D. Leibfried, J. Eschner, R. Blatt,

Proceedings of the 14th International Conference on Laser Spectroscopy (ICOLS99) June 7-11,  
1999, World Scientific, Singapore, 1999.

#### **4. Single Ions in Paul traps**

H.-C. Nägerl, C. Roos, H. Rohde, D. Leibfried, J. Eschner, F. Schmidt-Kaler, R. Blatt,  
in: Decoherence: Theoretical, Experimental, and Conceptual Problems, eds. P. Blanchard, D. Giulini, C. Kiefer, and I. O. Stamateccu, Springer, Berlin, 1999.

#### **3. Cavity QED-Experiments for Quantum Information: Trapped Ions and Atoms in Cavities**

F. Schmidt-Kaler, H.-C. Nägerl, D. Leibfried, R. Blatt, M. Brune, J.M. Raimond, S. Haroche,  
in: The Physics of Quantum Information, Springer, Berlin, 2000.

#### **2. Linear Ion Traps for Quantum Computation**

H.-C. Nägerl, F. Schmidt-Kaler, J. Eschner, R. Blatt, W. Lange, H. Baldauf, H. Walther,  
in: The Physics of Quantum Information, Springer, Berlin, 2000.

#### **1. Trapped ions for quantum gates and Cavity QED**

H.-C. Nägerl, C. Roos, W. Bechter, J. Eschner, F. Schmidt-Kaler, R. Blatt,  
in: Proceedings of the 13. International Conference on Laser Spectroscopy (THICOLS), Hangzhou, China, 03.-07.06.97.

### **D) Popular articles**

#### **4. Gigantische Dreiteilchenbindung**

H.-C. Nägerl

**Physik Journal 13, 18 (2014).**

#### **3. Wenn drei sich binden**

H.-C. Nägerl

[Physik Journal 8, 18 \(2009\).](#)

#### **2. Moleküle am absoluten Nullpunkt: Ultrakalte Moleküle erobern die Welt der Quantgase**

J. Hecker Denschlag, H.-C. Nägerl, R. Grimm

[Physik Journal 3, 33 \(2004\).](#)

#### **1. Quantenoptik: Bose-Einstein-Kondensation mit Cäsium**

T. Weber, J. Herbig, M. Mark, H.-C. Nägerl

[Physik in unserer Zeit 34, 58 \(2003\)](#)

### **List of invited talks**

(talks delegated to members of the team(s) are not listed)

#### **A) Conference and workshop participations - invited lectures only**

1. Workshop IsoQuant, Obergurgl, Austria, 21.2.2017, "Atomic quantum gas experiments: Transport and long-range physics" (evening talk).
2. Quantum Technologies Conference VII, Warsaw, Poland, 20.9.2016, "Bloch oscillations in the absence of a lattice" (keynote speaker).
3. Workshop on "Long-range Interactions in the Ultracold", Ercolano/Naples, Italy, 7.9.2016, "Quantum engineering of a low-entropy gas of heteronuclear bosonic molecules in an optical lattice".
4. Workshop on "Synthetic Topological Quantum Matter", KITPC Beijing, China, 4.8.2016, "Floquet engineering of correlated tunneling in the Bose-Hubbard model with ultracold atoms".
5. International Conference on Atomic Physics (ICAP) 2016, 28.7.2016, Seoul, Korea, "Correlation-induced Bloch oscillations in a translationally invariant one-dimensional Bose liquid".
6. STIRAP Conference Kaiserslautern, 22.9.2015, "STIRAP on molecules at nanokelvin temperatures".
7. BEC-Conference San Feliu, 9.9.2015, San Feliu, "Dynamics of ultracold bosons under strong confinement".
8. Gordon Research Conference 2015 Atomic Physics, Newport, Rhode Island, USA, June 17<sup>th</sup> 2015, "Dynamics in one-dimensional chains of bosons".
9. Winter School on "Non-Equilibrium Quantum Systems: Theory and Experimental Implementation", Universitätszentrum Obergurgl, 7.-10. April 2015, "Dynamics in one-dimensional chains of bosons".

10. DPG March Meeting 2015, March 24<sup>th</sup>, Heidelberg, Germany, "Ground-state molecules near quantum degeneracy: the nuts and bolts".
11. Workshop "Physics at the Falls: Phase Transitions in Low Dimensions", November 12<sup>th</sup>-14<sup>th</sup> 2014, University of Buffalo, NY, USA, "Dynamics in one-dimensional chains (and wires) of bosons".
12. Conference "Frontiers of Matter-Wave Optics", FOMO2014, October 6<sup>th</sup>-10<sup>th</sup> 2014, Chania, Crete, "Dynamics in one-dimensional chains (and wires) of bosons".
13. Workshop "Quantum Critical Matter—from Atoms to Bulk", August 18<sup>th</sup>-23<sup>rd</sup> 2014, Obergurgl, Austria, "Dynamics in one-dimensional chains of bosons".
14. APS March Meeting 2014, March 3<sup>rd</sup> – 7<sup>th</sup>, 2014, Denver, USA, "Many-body quantum quench in an atomic one-dimensional Ising chain".
15. Conference on "Ultrafast Dynamics of Correlated Materials", October 14<sup>th</sup>-17<sup>th</sup>, 2013, Trieste, Italy, "Quench dynamics in strongly correlated Bose-Hubbard chains".
16. Workshop on "Long-range interactions in the ultracold", September 3<sup>rd</sup>-5<sup>th</sup>, 2013, Stuttgart, Germany, "Ultracold samples of RbCs and Cs<sub>2</sub> ground-state molecules".
17. Workshop on "Quantum Many Body Systems out of Equilibrium", August 18<sup>th</sup>-23<sup>rd</sup>, 2013, Dresden, Germany, "Quench dynamics in strongly correlated Bose-Hubbard chains".
18. Workshop on "Low-D Quantum Condensed Matter 2013", July 8<sup>th</sup>-12<sup>th</sup>, 2013, Amsterdam, Netherlands, "Strongly correlated gases and dynamics in 1D".
19. Workshop on "Quantized Vortices in Superfluidity and Superconductivity and Related Problems", July 1<sup>st</sup>-5<sup>th</sup>, 2013, at the Wolfgang Pauli Institute (WPI) Vienna, Austria, "Quench dynamics in strongly correlated Bose-Hubbard chains".
20. APS-DAMOP conference, June 3<sup>rd</sup>-8<sup>th</sup>, 2013, in Quebec, Canada, "Quench dynamics in strongly correlated Bose-Hubbard chains".
21. Workshop on "New magnetic field frontiers", May 6<sup>th</sup>-10<sup>th</sup>, 2013, in Les Houches, France, "Quench dynamics in strongly correlated Bose-Hubbard chains".
22. Workshop on "Equilibration and Thermalization in Quantum Systems", April 15<sup>th</sup>-19<sup>th</sup>, 2013, in Stellenbosch, South Africa, "Quench dynamics in strongly correlated Bose-Hubbard chains".
23. Heraeus workshop on "Quantum many-body dynamics in open systems", April 3<sup>rd</sup>-5<sup>th</sup>, 2013, in Bad Honnef/Bonn, Germany, "Quench dynamics in strongly correlated Bose-Hubbard chains".
24. Workshop on "Dynamical Correlations in Quantum Matter: From Few- to Many-Body Systems", May 30<sup>th</sup>-June 1<sup>st</sup>, 2012, at ITAMP/ZOQ/CFEL, Hamburg, Germany, "An atomic Mott insulator with strong attractive interactions".
25. Workshop on "New quantum states of matter in and out of equilibrium", May 21<sup>st</sup>-25<sup>th</sup>, 2012, at the Galileo Galilei Institute for Theoretical Physics (GGI), Florence, Italy, "Atoms with tunable interactions in optical lattice confinement".
26. Workshop on "Low-Dimensional Quantum Gases out of Equilibrium", May 11-13, 2012, at the University of Minnesota, Minneapolis, USA, "A meta-stable Mott insulator with strong attractive interactions".
27. Workshop on "Research Frontiers in Ultra-Cold Atoms and Molecules: Unequal Mass Mixtures and Dipolar Molecules", April 23-25, 2012 at ITAMP, Harvard University, Cambridge, USA, "Generation of ultracold samples of ground-state RbCs molecules in an optical lattice".
28. APS-March Meeting Boston, 1.3.2012, "An ultracold high-density sample of rovibronic ground-state molecules in an optical lattice".
29. Diavolezza Workshop 2012 on "Cold Molecules", Switzerland, Feb. 12.-18., 2012, "Generation of ultracold samples of ground-state RbCs".
30. Aspen Center for Physics Winter Conference 2012: New Directions in Ultracold Atoms, Aspen, Colorado, USA, January 9 - 14, 2012, "Generation of ultracold samples of ground-state RbCs".
31. Workshop "Phase Transformations and Novel Materials", Obergurgl, Austria, 4. Nov. 2011, "Model Studies of Phase Transitions in Optical Lattices".
32. Advanced Working Group on Nonequilibrium Phenomena in low-dimensional Cold Gases, Royal Holloway, University of London, 21.10.2011, "Strong local three-body correlations for bosons in 1D".

33. Topical Group on "Fundamental Science with Ultracold Molecules" at ITAMP, Harvard University, 20.9.2011, "Towards quantum many-body physics with ultracold molecules".
34. Conference on "Quantum Quenches and Strongly Correlated Physics", Montauk, Long Island, USA, 7.9.2011, "Strong correlations in ultracold gases".
35. SFB-Workshop CoCoMat, Reischensberg, Germany, 29.11.2010, "Quantum engineering at nanokelvin temperatures: Quantum phase transitions, strong correlations, and novel many-body systems".
36. KITP-Conference "Frontiers of Ultracold Atoms and Molecules", Santa Barbara, USA, 14. Oct. 2010, "Strongly-interacting Quantum Gases in One-dimensional Geometry".
37. Conference "Correlations and Coherence at Different Scales", Ustron, Poland, 6. Sept. 2010, "Quantum engineering at nanokelvin temperatures: Quantum phase transitions, strong correlations, and novel many-body systems".
38. MPIPKS-Conference "Quo Vadis BEC?", Dresden, Germany, 19. Aug. 2010, "Tunable quantum gases in low dimensions".
39. International Conference on Atomic Physics 2010 (ICAP2010), Cairns, Australia, 28. July 2010, "Ultracold ground state molecules in an optical lattice".
40. MPIPKS-Conference on "Few Body Dynamics in Atoms, Molecules and Planetary Systems", Dresden, Germany, 29. June 2010, "Few-body systems in the context of ultracold gases".
41. Symposium Junge Akademie Berlin, 25. June 2010, "Quantum engineering of many-body systems (the bottom up approach)".
42. APS DAMOP, Houston, Tx, USA, 29. May 2010, "Ultracold ground state molecules in an optical lattice".
43. APS DAMOP, Houston, Tx, USA, 28. May 2010, "Efimov physics: what we can learn from cesium atoms".
44. Fysica 2010, Utrecht, Netherlands, 23. April 2010, "Ultracold atomic gases for the investigation of strongly-correlated 1D many-body systems".
45. Deutsche Physikalische Gesellschaft (DPG) Frühjahrstagung, 10.3.2010, Hannover, Hauptvortrag, "Tunable quantum gases in optical lattice potentials".
46. BEC-Conference San Feliu, 8.9.2009, San Feliu, "Strongly interacting bosons in 1D".
47. JILA CoCoMo-Workshop, JILA, Boulder, USA, 16.7.2009, "A quantum gas of rovibronic ground-state molecules in an optical lattice".
48. ETH-Zürich Monte-Verità Conference on Quantum Engineering, Switzerland, 19.6.2009, "Atomic and Molecular Quantum Gases in Optical Lattices".
49. International Conference on Laser Spectroscopy (ICOLS), Hokkaido, Japan, 11.6.2009, "A quantum gas of rovibronic ground state molecules in an optical lattice, plus: Strongly-interacting 1D gases".
50. MPIKS-Workshop on "Bloch oscillations and Landau-Zener tunnelling", 8.5.2009, Dresden, "Tunable quantum gases in optical lattices".
51. Young Atom Opticians (YAO) Conference, Vienna, 17.2.2009, Keynote Talk, "The Magic of Tunable Bosonic Quantum Gases".
52. SFB final conference, Innsbruck, 30.1.2009, "Few-body processes in quantum gas systems...and some deviations".
53. ESF-EuroQUASAR Kick-off Conference, Florence, Italy, 12.12.2008, "Quantum Degenerate Gases for Precision Measurements".
54. Workshop: Strong Correlations in Multiflavor Ultracold Quantum Gases, München, Germany, 2.10.2008, "Interference and Transport for Matter Waves with Tunable Interactions".
55. EuroQUAM Inauguration Conference, Barcelona, Spain, 8.4.2008, "Matter wave interference with tunable interactions".
56. Interf08, Levico Terme, Italy, 4.4.2008, "Matter wave interference with tunable interactions".
57. APS March Meeting, New Orleans, USA, 10.3.2008, "Collisions of ultracold molecules".
58. QuDipMol Workshop, Freiburg, Germany, 12.11.2007, "Towards Ultracold RbCs molecules in an optical lattice".
59. EFB20, Pisa, Italy, 12.9.2007, "Evidence for Efimov Quantum States in Experiments with Ultracold Cesium Gases".
60. UBC Workshop "Ultracold Molecules", 1.8.2007, Vancouver, "Dimer and Trimers near Threshold".
61. ECAMP2005, Crete, Greece, 11.5.2007, "Evidence for Efimov Quantum states in Experiments with Ultracold Cesium Atoms".

62. KITP, Santa Barbara, USA, 27.4.2007, "Evidence for Efimov Quantum states in Experiments with Ultracold Cesium Atoms".
63. Bad Honnef, Germany, "Achievements and Perspectives of Cold Molecules", 2.11.2006, "Experiments with ultracold dimer molecules and evidence for Efimov trimer states".
64. ICAP 2006, Innsbruck, Austria, 20.7.2006, "Experimental Evidence for Efimov Quantum States"
65. DAMOP 2006, Knoxville, TN, USA, 20.5.2006, "Experimental Evidence for Efimov Quantum States".
66. Les Houches, France, Workshop on "Achievements and Perspectives of Cold Molecules", 8.3.2006, "Experimental Evidence for Efimov Quantum States".
67. BEC 2005, San Feliu, Spain, 12.9.2005, „Observation of Efimov resonance(s)".
68. Shonan Village, Japan, ESF-JSPS Conference on "Quantum Information and Quantum Physics", 17.3.2005, „Experiments with ultracold molecules and molecular quantum gases“.
69. ITAMP, Harvard University, Boston, USA, Workshop on „Quantum Degenerate Gases in Low-Dimensionality“, 4.10.2004, „A Two-Dimensional Bose-Einstein Condensate in an Optical Surface Trap“.
70. Tucson, USA, OSA-Conference "Frontiers in Optics", 6.10.2003, "Ultracold Molecules from a Cs BEC".
71. Volterra, Italy, Workshop on "Ultracold Molecules", 26.9.2003, "Ultracold Molecules from a Cs BEC".
72. EQEC 2003, München, Germany, 25.6.2003, "Bose-Einstein condensation of optically trapped cesium and more exciting news from our lab".
73. DPG-Frühjahrstagung, Hannover, Germany, Hauptvortrag, 25.3.2003, "Bose-Einstein-Kondensation von Cäsium".
74. Quantum Optics 2003, Obergurgl, 28.2.2003, „Bose-Einstein condensation of optically trapped cesium“.
75. QELS Baltimore, USA, 11.5.2001 "Interactions of ultracold atoms in optical dipole traps".
76. ESF Conference "Quantum Optics X", Palma de Mallorca, Spain, Oct. 1999, "Cavity QED with trapped atoms".

## **B) Invited colloquium and invited seminar talks**

1. Universite de Strasbourg, France, 20. January 2017, "Overview Innsbruck Activities: Dipolar quantum gases, ultracold molecular collisions, impurity transport, modulated interactions,..."
2. Universität Hamburg, Germany, 19. October 2016, "Bloch oscillations in the absence of a lattice".
3. University of Trento, Italy, 8. April 2016, "Experiments with quantum-gas mixtures and tunable interactions: Dipolar gases, modulated interactions, and impurity transport".
4. UQUAM Video-Seminar, Innsbruck/MPQ/Paris/Weizmann, 11. June 2015, „Atoms and Molecules in Lattice Potentials“.
5. MIT and Harvard University combined CUA-Seminar, Boston, USA, 5. May 2015, "Dynamics in one-dimensional chains of bosons".
6. Universität Mainz, Germany, 4. Dec. 2014, "Dynamics in one-dimensional chains (and wires) of bosons".
7. Universität Heidelberg, Germany, CQD-Kolloquium, 29. Oct. 2014, "Dynamics in one-dimensional chains (and wires) of bosons".
8. Universität Hannover, Germany, RTG-Kolloquium, 23. Oct. 2014, "Dynamics in one-dimensional chains (and wires) of bosons".
9. University of California at Berkeley, USA, 29. April 2014, "Dynamics in one-dimensional chains of bosons".
10. University of Colorado, JILA, Boulder, USA, 23. April 2014, "Dynamics in one-dimensional chains of bosons".
11. Universität Stuttgart, Germany, 20. Dec. 2013, "Quench dynamics in strongly correlated Bose-Hubbard chains".
12. SISSA/ICTP Trieste, Italy, 18. Dec. 2012, "Ultracold atoms with tunable interactions in confined geometry".
13. Technical University of Graz, Austria, 13. Dec. 2012, "Quantum engineering with ultracold atoms and molecules".

14. University of Amsterdam, Netherlands, 3. Dec. 2012, "Tunable quantum gases in optical lattices".
15. Max-Planck-Institute for Quantum Optics, München, Germany, 19. June 2012, "Molecools: Ultracold samples of ground-state molecules near quantum degeneracy" (colloquium talk)
16. University of Florence and LENS, Florence, Italy, 24. May 2012, "Molecools: Ultracold samples of ground-state molecules near quantum degeneracy".
17. University of Nottingham, 2. May 2012, "Molecools: Ultracold samples of ground-state molecules near quantum degeneracy" (physics colloquium talk).
18. Universität Ulm, Germany, 16. April 2012, "Quantum engineering at nano-Kelvin temperatures: Quantum phase transitions, strong correlations, and novel many-body systems" (physics colloquium talk).
19. Universität Göttingen, Germany, 31. Oct. 2011, "Quantum engineering at nano-Kelvin temperatures" (physics colloquium talk).
20. Harvard University, Boston, USA, 22. Sept. 2011, "Molecools: Ultracold samples of ground-state molecules near quantum degeneracy" (joint Atomic ITAMP-Harvard Physics Colloquium Talk).
21. Universität Bonn, Germany, 5. July 2011, "Strongly correlated one-dimensional quantum systems" (physics colloquium talk).
22. University of California at Los Angeles (UCLA), USA, 21. April 2011, "Quantum engineering at nanokelvin temperatures: Quantum phase transitions, strong correlations, and novel many-body systems" (physics colloquium talk).
23. Yale University, New Haven, USA, 18. April 2011, "Quantum engineering at nanokelvin temperatures: Quantum phase transitions, strong correlations, and novel many-body systems" (physics colloquium talk).
24. Stony Brook University, Stony Brook, USA, 15. April 2011, "Strongly correlated one-dimensional quantum systems".
25. Stony Brook University, Stony Brook, USA, 14. April 2011, "Molecools: Ultracold samples of ground-state molecules near quantum degeneracy".
26. University of Connecticut, Storrs, USA, 12. April 2011, "Molecools: Ultracold samples of ground-state molecules near quantum degeneracy".
27. ETH Zürich, Schweiz, 15. März 2011, "Molecools: Ultracold samples of ground-state molecules near quantum degeneracy" (colloquium talk "Physikalische Chemie").
28. University of Hamburg, Institut für Laserphysik, Germany, 8. Dec. 2010, "Quantum engineering at nanokelvin temperatures: Quantum phase transitions, strong correlations, and novel many-body systems".
29. Australian National University (ANU), Canberra, Australia, 22. July 2010, "Quantum engineering at nanokelvin temperatures: Quantum phase transitions, strong correlations, and novel many-body systems".
30. Swinburne University, Melbourne, Australia, 20. July 2010, "Quantum engineering at nanokelvin temperatures: Quantum phase transitions, strong correlations, and novel many-body systems".
31. Kolloquium Max-Planck-Institut für Quantenoptik (MPQ), Munich, Germany, 6. July 2010, "Quantum engineering at nanokelvin temperatures: Quantum phase transitions, strong correlations, and novel many-body systems".
32. Universität Frankfurt, Physikkolloquium, 16. June 2010, "Quantum engineering at nanokelvin temperatures: Quantum phase transitions, strong correlations, and novel many-body systems".
33. Harvard ITAMP AMOP Seminar, 12. May 2010, "Ultracold quantum gases in optical lattice potentials: From molecules to strongly-interacting 1D systems".
34. Atomic physics colloquium, Cambridge University, Cambridge, United Kingdom, 3. May 2010, "Tunable quantum gases in optical lattices: Ground state molecules and strongly-interacting 1D systems".
35. Atomic physics colloquium Utrecht, Utrecht University, Netherlands, 21. April 2010, "Quantum engineering at nanokelvin temperatures: Quantum phase transitions, strong correlations, and novel many-body systems".
36. Seminar Physikalische Chemie Innsbruck, 15. April 2010, "Quantum engineering at nanokelvin temperatures: Quantum phase transitions, strong correlations, and novel many-body systems".



37. Physics-Colloquium Kaiserslautern, 27.11.2009, "Ultracold quantum gases in optical lattice potentials: From molecules and strongly-interacting 1D systems to super Bloch oscillations".
38. Colloquium Amsterdam, 27.10.2009, "Ultracold quantum gases in optical lattice potentials: From molecules to strongly-interacting 1D systems".
39. Colloquium Prague, 21.9.2009, "Atoms and molecules at zero temperature".
40. Seminar NIST, Boulder, USA, 14.7.2009, "Tunable quantum gases in optical lattices: Ground state molecules and 1D systems".
41. Colloquium Trento, Italy, 12.1.2009, "Experiments with ultracold atomic and molecular quantum gases".
42. Seminar Mainz, 20.11.2008, "Experiments with ultracold atomic and molecular quantum gases".
43. SFB-Colloquium Ulm, 18.7.2008, "Matter Wave Interference with Interactions and Quantum Gases of Deeply Bound Molecules".
44. Seminar Fritz-Haber Institut of the MPG, 20.6.2008, Berlin, "Ultracold deeply bound molecules".
45. Colloquium Konstanz, 17.6.2008, "Molecules at zero temperature".
46. Kolloquium Doktoranden-Kolleg Heidelberg, 8.2.2008, "Matter wave interference with tunable interactions".
47. SFB-Kolloquium Innsbruck, 1.2.2008, "Matter wave interference with tunable interactions".
48. University of Durham, England, Atomic Physics seminar talk, 5.12.2007, "Experiments with tunable quantum gases".
49. LENS Florence, Italy, Seminar talk, 9.11.2007, "Experiments with tunable quantum gases".
50. Universität Wien, Austria, 29.10.2007, Graduiertenkolleg Kolloquium, "Experiments with tunable quantum gases".
51. UC Berkeley, USA, Atomic Physics Seminar, 30.4.2007, "Evidence for Efimov Quantum states in Experiments with Ultracold Cesium Atoms".
52. Institute d'Optique, Orsay, France, 1.12.2006, Colloquium, "Evidence for Efimov Trimer States".
53. ENS Paris, France, 30.11.2006, Physics Colloquium, "Evidence for Efimov Trimer States".
54. Universität Ulm, Germany, Quantum Optics Colloquium, 3.11.2006, "Experiments with ultracold dimer molecules and evidence for Efimov trimer states".
55. Universität Heidelberg, Germany, Quantum Optics Seminar, 5.7.2006, "Dimers and Trimers".
56. SFB-Kolloquium, Innsbruck, Austria, 27.1.2006, "Experimental Evidence for Efimov Quantum States".
57. ETH Zürich, Switzerland, Quantum Optics Seminar, 5.12.2005, "From Dimers to Trimers".
58. TU Vienna, Institut für Photonik, Seminar talk, 5.11.2005, "Experiments with ultracold molecules and molecular quantum gases".
59. Universität Jena, Institut für Angewandte Physik, Semiar talk, 15.10.2005, "Abstimmbare atomare und molekulare Quantengase".
60. Universität Göttingen, Seminar talk at the Institute for Theoretical Physics, 11.5.2005, "Abstimmbare atomare und molekulare Quantengase".
61. NIST, Boulder, USA, Seminar talk, 10.10.2003, "Ultracold Molcules from a Cs BEC".
62. JILA, Boulder, USA, Seminar talk, 9.10.2003, "Ultracold Molcules from a Cs BEC".
63. Universität Hamburg, Institut für Laserphysik, Seminar talk, 16.7.2003, "Molecular Matter Waves".
64. Universität Heidelberg, Seminar talk, 21.5.2003, "Bose-Einstein Kondensation von Cäsium".
65. Stanford, USA, Seminar talk, 2.12.2002, "A tunable Bose-Einstein Condensate with Cesium Atoms".
66. Caltech, Pasadena USA, Quantum Optics Seminar, 18.11.2002, "A tunable Bose-Einstein Condensate with Cesium Atoms".
67. Universität Stuttgart, Seminar talk, 14.11.2002, "A tunable Bose-Einstein Condensate with Cesium Atoms".
68. Universität Giessen, Colloquium talk, 11.11.2002, "Atoms @ atto-eV energies: new developments in the ultracold".
69. Uni München, Seminar talk, 12.6.2001, "Experimente mit ultrakaltem Cs-Gas in Dipol-Fallen".
70. Caltech, Pasadena USA, Quantum Optics Seminar, 14.5.2001, "Interactions of ultracold atoms in optical dipole traps".

71. Los Alamos, USA, Seminar talk, 21.9.2000, "Cavity QED with trapped atoms".
72. Universität Innsbruck, Quantum Optics Seminar, Feb. 2000, „Dipolfallen und Hohlraum-quantenelektrodynamik: Einzelne Atome in Wechselwirkung mit einzelnen Photonen“.
73. Los Alamos, USA, Seminar talk, 10.2.1999, "Ion strings for quantum gates".
74. Caltech, Pasadena, USA, Quantum Optics Seminar, Sept.1997, "Ion strings in a linear ion trap".

## List of recent and ongoing projects

(only those projects are listed for which H.-C. Nägerl is the sole resp. lead project leader)

1. "Tunable Quantum Matter for Precision Measurements", BMWF-FWF-START-project, duration September 2003 to December 2009, budget 1.2 Mio Euros.
2. "Ultracold RbCs molecules in an optical lattice", ESF-FWF-EuroQUAM-project, duration August 2007 to July 2010, budget 210.000 Euros.
3. "Tunable quantum gases of Cs atoms and molecules in optical lattices", ESF-FWF-EuroQUASAR-project, duration August 2008 to July 2011, budget 200.000 Euros.
4. "Quantum gases of ground-state molecules", FWF-project, duration August 2009 to July 2012, budget 380.000 Euros, project number I153-N16.
5. "Dipolar quantum gases", FWF-SFB-project within SFB FOQUS, duration January 2009 to December 2012, budget about 320.000 Euros, project number F4006-N16.
6. "Microscopy of Tunable Many-Body Quantum Systems", ERC Starting "Consolidator" Grant, duration January 2012 to December 2016, budget 1.48 Mio. Euros, project number 278417.
7. "Dipolar quantum gases", FWF-SFB-project within SFB FOQUS, duration January 2013 to December 2015, budget about 400.000 Euros, project number F4006-N23.
8. "Control of ultracold quantum gases with shielded interactions", FWF-ANR joint project, duration fall 2014 to fall 2017, budget about 213.000 Euros for the Innsbruck part, project number I1789-N20.
9. "Dipolar quantum gases", FWF-SFB-project within SFB FOQUS, duration January 2016 to December 2018, budget about 420.000 Euros, project number F4006-N23.
10. "Dynamics of strongly correlated RbCs dipolar quantum gases", project with a DFG-FWF Forschergruppe, duration fall 2016 to fall 2019 , budget about 327.000 Euros, project number I2789-N36
11. "Experiments with Potassium-Cesium Quantum Gas Mixtures", FWF stand-alone project, duration Nov. 2016-Oct. 2019, budget about 476.000 Euros, project number P29602-N36.
12. "Impurity dynamics in tunable one-dimensional quantum gases" FWF-ANR joint project, duration Nov. 2016 to Oct. 2019, budget about 219.000 Euros for the Innsbruck part, project number I2922-N36.