

Invited talks and seminars

1. Relaxation dynamics of ultra-cold bosons in optical ladders
Collective Phenomena workshop
August 2024,
Konstanz (Germany)
2. Exploring (some of) the rich physics of dipolar lattice gases
Colloquium at JILA
June 2024,
Boulder (US)
3. Course on the "Theory of dipolar gases"
Block course at ICFO
May 2024,
Barcelona (Spain)
4. Dipolar lattice gases
Invited seminar by Prof. Fabian Heydrich-Meisner
April 2024,
Gttingen (Germany)
5. Dipolar gases: dipolar supersolid mixtures and bilayer spin models
Invited seminar (online)
December 2023,
Cracow (Poland)
6. One- and two-dimensional models with density-dependent gauge fields
Workshop on "One-dimensional anyons"
November 2023,
Berlin (Germany)

7. Long-range-interacting spin and Hubbard models with dipolar particles
Invited seminar at ICFO (by L. Tarruell),
July 2023,
Barcelona (Spain)
8. Dynamics and localization in polar lattice gases
ITAMP Workshop: "Unravelling quantum many-body physics with
long-range interacting platforms"
May 2023,
Cambridge (US)
9. Dynamics and localization in polar lattice gases
Invited talk, Workshop on "Ergodicity Breaking and Integrability in
Long-Range Systems and on random graphs"
November 2022,
Stockholm (Sweden)
10. Dipolar gases: from supersolids to disorder-free localization
Invited colloquium,
August 2022,
Kolkata (online) (India)
11. Dipolar gases: a new playground for ultracold mixtures
Lecture at the Varenna school on "Quantum mixtures with ultracold
atoms",
July 2022,
Varenna (Italy)
12. Dynamics and localization in polar lattice gases
Invited talk, ECT Workshop on "Connections between cold atoms and
nuclear matter",
June 2022,
Trento (Italy)

13. Dipolar gases: from supersolids to disorder-free localization
Invited colloquium,
May 2022,
Mexico City (online) (Mexico)
14. Dipolar gases: from supersolidity to disorder-free localization
Invited seminar by Prof. J. Zakrzewski,
March 2022,
Cracow (Poland) (online)
15. Dipolar gases: Towards 2D Supersolids and Binary Mixtures
EMMI interdisciplinary workshop on supersolidity
September 2021,
Trento (Italy)
16. Transport and localization in polar lattice gases
BEC 2021 conference,
September 2021,
Sant Feliu de Guixols (Spain)
17. Dipolar gases: Supersolids and many-body localization
Second Colombian Meeting on Many-Body Quantum Simulation,
July 2021,
Cali (Colombia) (online)
18. Dipolar gases: Supersolids, mixtures and localization
Invited talk,
March 2021,
Warsaw (Poland) (online)
19. Polar gases: Dipolar condensates and lattice dynamics
Workshop Quantum Science and Technology 2019,
October 2019,

Taiyuan (China)

20. Dynamics and localization of 1D lattice gases with power-law interactions,
Conference Quantum Science and Technology 2019,
October 2019,
Xi'an (China)
21. Dynamics and localization of 1D lattice gases with power-law interactions,
Workshop on Many-body dynamics and polar molecules,
September 2019,
Oxford (UK)
22. Quantum link models and ladders,
Workshop of Dynamical gauge fields,
June 2019
Zurich, Switzerland
23. Polar gases from supersolids and rotons to peculiar disorder models,
Colloquium,
May 2019
Heidelberg, Germany
24. Dynamics of one-dimensional lattice gases with power-law interactions,
3rd International Symposium on "Novel states in correlated condensed matter - from model systems to real materials",
March 2019
Bad Neuenahr, Germany
25. Disordered models with power-law hops,
Cold Atom Workshop 2018,
November 2018

Bilbao, Spain

26. Rotons and peculiar disordered models,
International Symposium on Many-body Physics and Quantum Technologies,
October 2018
Moscow, Russia
27. Disordered models with power-law hops,
Conference on Quantum Simulations with Atoms and Light,
August 2018
Aarhus, Denmark
28. Droplets and rotons in dipolar Bose-Einstein condensates,
Conference of Ultracold atoms in optical lattices,
July 2018
Cali, Colombia
29. Disordered models with power-law hops,
Conference on Long-range interactions,
June 2018
Hannover, Germany
30. Droplets and rotons in dipolar Bose-Einstein condensates,
Conference of Recent Trends in cold and ultra cold atoms,
March 2018
Guwahati, India
31. The world of ultra cold temperatures
Popular talk invited by Prof. T. Mishra,
March 2018
Guwahati, India

32. Rotons, quantum fluctuations, and peculiar disorder models in dipolar gases
Invited talk by Prof. R. Nath,
March 2018,
Pune, India
33. Droplets, rotons, and peculiar disorder models in dipolar gases
Conference on Long-range interactions
December 2017
São Carlos (Brazil)
34. Droplets and rotons in dipolar Bose-Einstein condensates
Invited talk by L. Tarruell,
November 2017
Barcelona (Spain)
35. Dipolar gases: droplets, rotons and peculiar disorder models
Conference DIP-Quantum 2017,
October 2017
Jerusalem (Israel)
36. The physics of ultra-cold gases
QMSC 2017 - Quantum Metrology Students Conference,
September 2017
Turin (Italy)
37. Quantum fluctuations in dipolar Bose-Einstein condensates
Meeting of the Forschergruppe 2247,
June 2017
Stuttgart (Germany)
38. Quantum fluctuations in dipolar Bose-Einstein condensates
Invited talk by Prof. F. Ferlaino,
March 2017

Innsbruck (Austria)

39. Quantum fluctuations in dipolar Bose-Einstein condensates
Conference “Quantum State Engineering 2017”,
March 2017
Hannover (Germany)
40. Ultra-cold dipolar gases: quantum droplets, non-equilibrium lattice dynamics, and spin transport
Conference “Long-range interactions in the ultra-cold”,
September 2016
Ercolano (Italy)
41. The world of ultracold temperatures
Popular talk (invited by Prof. Rejish Nath)
May 2016
Pune (India)
42. Ultra-cold dipolar gases: quantum droplets and non-equilibrium lattice dynamics
Conference of Novel trends in Ultracold atoms
May 2016
Pune (India)
43. Ultra-cold dipolar gases: quantum droplets, non-equilibrium lattice dynamics, and spin transport
Quo Vadis BEC V,
May 2016
Bad Honnef (Germany)
44. Density-dependent gauge fields for atoms in optical lattices
Many-body physics in synthetic quantum systems
April 2016

Stellenbosch (South Africa)

45. Ultra-cold dipolar gases: quantum droplets, non-equilibrium lattice dynamics, and spin transport
Invited talk at IQOQI (by Prof. F. Ferlaino)
February 2016
Innsbruck (Austria)
46. Past, present, and future of dipolar gases
Frontiers of Quantum Physics 2015
October 2015
Barcelona (Spain)
47. Periodically modulated interactions and density-dependent synthetic magnetism
FINESS 2015
September 2015
Sopot (Poland)
48. Modulated interactions and density-dependent magnetism
Workshop on emergence in driven solid state and cold atom systems
September 2015
Hamburg (Germany)
49. Density-dependent synthetic magnetism for cold gases in optical lattices
Invited talk at University of Mainz (by Prof. F. Schmidt-Kaler)
July 2015
Mainz (Germany)
50. Density-dependent synthetic magnetism for cold gases in optical lattices
Invited talk at the Institute of Theoretical Physics of Utrecht University (by Prof. C. de Morais Smith)

July 2015
Utrecht (The Netherlands)

51. Density-dependent synthetic magnetism for cold gases in optical lattices
ICTS Ligh-matter discussion meeting
December 2014
Kolkata (India)
52. Theory of dipolar gases
Course at the Enrico Fermi School
July 2014
Varenna (Italy)
53. Ultra-cold lattice gases with density-dependent hopping
Invited talk at the BEC Center in Trento
June 2014
Trento(Italy)
54. Theory of dipolar gases
Invited lectures at the BEC Center in Trento
June 2014
Trento (Italy)
55. Ultra-cold lattice gases with density-dependent hopping
Invited talk at ICFO (by Prof. M. Lewenstein)
May 2014
Barcelona (Spain)
56. Ultra-cold lattice gases with density-dependent hopping
Invited talk at the Universitat Central de Barcelona (by. Dr. B. Julia-Diaz)
May 2014

Barcelona (Spain)

57. Theory of dipolar gases
Spring school on “Recent trends in quantum gases”
May 2014
Chlef (Algolia)
58. Ultra-cold lattice gases with density-depending hopping
Symposium on ”Novel states in correlated condensed matter – from
model systems to real materials”
April 2014
Königstein (near Frankfurt), Germany
59. Novel scenarios for quantum simulation with ultracold gases
Invited talk by Prof. G. Morigi
November 2013
Saarbrücken, Germany
60. Dipolar Bose-Einstein condensates: dBEC in optical lattices and roton-
like excitations
Workshop on Long-range interactions in the ultracold
September 2013
Stuttgart, Germany
61. Trapped Bose-Einstein condensates with spin-orbit coupling
Workshop on synthetic gauge fields with atoms and photons
July 2013
Trento (Italy)
62. Changing the rules of the game with the dipole-dipole interactions:
from dipolar condensates to quantum magnetism in optical lattices
Gordon Conference on Atomic Physics 2013
June 2013

Newport, Rhode Island (US)

63. Polar molecules in one-dimensional optical lattices
Conference on "New Science with ultra-cold molecules"
March 2013
Santa Barbara (USA)
64. Novel features of dipolar Bose-Einstein condensates
FINESS 2013 Conference
February 2013
Queenstown (New Zealand)
65. Novel scenarios for atoms in optical lattices
Workshop on "Pushing the boundaries with cold atoms"
January, 2013
Stockholm (Sweden)
66. Dipolar quantum gases
Invited talk at IISER by Dr. S. Sinha
December, 2012
Kolkata (India)
67. Novel scenarios for ultra-cold lattice gases
Invited talk by Prof. G. Juzeliunas
October, 2012
Vilnius (Lithuania)
68. Ultracold dipolar gases in optical lattices
International Conference on Quantum Gases of Polar Molecules and
Magnetic Atoms,
August, 2012
Beijing (China)

69. Novel scenarios for ultra-cold lattice gases
Conference Quo vadis BEC? IV,
August, 2012
Bad Honnef (Germany)
70. Novel scenarios for ultra-cold lattice gases: zig-zag ladders and periodically modulated interactions
Workshop on quantum simulations with cold atoms,
July, 2012
Trieste (Italy)
71. Ultra-cold (mostly) polar gases in one-dimensional optical lattices,
Colloquium, invited by Prof. W. Hofstetter,
January 2012,
Frankfurt (Germany)
72. Ultra-cold spinor gases: from non-classical states of matter to synthetic gauge fields
Colloquium, invited by Prof. M. Fleischhauer
November 2011
Kaiserslautern (Germany)
73. Dipolar gases in deep optical lattices
FINES Conference
October 2011
Heidelberg (Germany)
74. Spinor gases in optical lattices
FOMO Conference
March 2011
Obergurl (Austria)
75. Spinor and dipolar lattice gases
Invited talk (Prof. A. Smerzi)

BEC Center Trento (Italy) February 2011

76. Spinor quantum gases: from parametric matter-wave amplification to strongly-correlated lattice gases
Invited talk (Prof. E. Lundh)
University Umea (Sweden)
February 2011
77. Dipolar quantum gases
Invited talk (Prof. A. Pelster)
FU Berlin (Germany)
January 2011
78. Spinor quantum gases: from non-classical states of matter to strongly-correlated gases
Conference on "Research Frontiers in Ultra-Cold Atomic and Molecular Gases"
Goa (India)
January 2011
79. Spinor quantum gases: from non-classical states of matter to strongly-correlated gases
International Symposium on Quantum Dynamics of Ultracold Atoms and Quantum Technologies
Guangzhou (China)
December 2010
80. Dipolar gases in deep optical lattices
Conference on "Cold Rydberg gases and ultracold plasmas"
Dresden (Germany)
September 2010
81. Following the path of optics with matter waves
Alexander von Humboldt Forum on "Science and Society in modern Eu-

rope”
Vilnius (Lithuania)
September 2010

82. Spinor quantum gases: from non-classical states of matter to strongly-correlated gases
Conference on ”Correlations and coherence at different scales”
Ustron (Poland)
September 2010

83. Spinor quantum gases: from non-classical states of matter to strongly-correlated gases
Quantum technologies conference
Torun (Poland)
September 2010

84. Dipolar quantum gases in Hannover
Invited talk by Prof. Tilman Pfau
Stuttgart (Germany)
August 2010

85. Theory of dipolar gases
Les Houches Summer School on “Many-body physics with ultracold gases” (3 lectures)
Les Houches (France)
July 2010

86. Nonlinear phenomena in polar gases and in quasirelativistic spinor condensates
Conference on “Nonlinear Waves—Theory and Applications”
Beijing (China)
June 2010

- 87. Parametric amplification in spinor Bose-Einstein condensates
International WE Heraeus Research School on "Frontiers in matter
wave interferometry"
Bad Honnef (Germany)
June 2010

- 88. Ultra-cold spinor gases
Invited talk by Prof. T. Nattermann
Köln (Germany)
April 2010

- 89. Ultra-cold spinor gases
Invited talk by Prof. H. Kroha
Bonn (Germany)
April 2010

- 90. Nonlinear phenomena in polar gases and in quasirelativistic spinor con-
densates
NLQUGAS10
Ourense (Spain)
April 2010

- 91. Artificial electromagnetism: From synthetic magnetic fields to quasi-
relativistic physics with cold gases
DPG Frühjahrstagung 2010
Hannover (Germany)
March 2010

- 92. Polar gases in optical lattices
Nordforsk Network meeting on Coherent Quantum Gases,
Hamburg (Germany)
December 2009

93. Dipolar gases: from spinor gases to polar molecules
Meeting on dipolar gases
Stuttgart (Germany)
September 2009
94. Amplification of vacuum fluctuations in trapped spinor Bose-Einstein condensates
Invited talk by C. Pethick
Copenhagen (Denmark)
May 2009
95. Amplification of vacuum fluctuations in trapped spinor Bose-Einstein condensates
Invited talk by S. Reimann
Lund (Sweden)
May 2009
96. Amplification of vacuum fluctuations in trapped spinor Bose-Einstein condensates
Invited talk by G. Modugno
Florence (Italy)
March 2009
97. Dipolar Bose-Einstein condensates in optical lattices
SFB-IFRAF-ACQUAO Meeting
Les Houches (France)
February 2009
98. Multiresonant spinor dynamics in an $F=2$ spinor condensate
COCOMAT Meeting
Günzburg (Germany),
December 2008

99. New scenarios in the physics of ultra cold gases
Conference on New trends in the manipulation of atoms and photons
Shanghai (China)
October 2008
100. Nonlinear effects in dipolar Bose-Einstein condensates
Conference 60th Birthday of G.V. Shlyapnikov
ENS, Paris (France)
September 2008
101. Dipolar condensates: Nonlocal nonlinearity
Invited talk by B. Laburthe,
Universite Paris Nord, Paris (France),
June 2008
102. Cold atomic gases: Bose-Einstein condensation and beyond,
Invited talk
IFISC, Palma de Mallorca (Spain)
June 2008
103. New scenarios in cold atomic physics,
Hamburg University, invited by Prof. Klaus Sengstock,
April 2008,
Hamburg (Germany)
104. Dark solitons and vortices in dipolar Bose-Einstein condensates,
Conference "Nonlinear phenomena in degenerate quantum gases 2008",
April 2008,
Toledo (Spain)
105. Cold atomic gases: from Bose-Einstein condensates to strongly-correlated
systems
Conference FISES'08,
March 2008,

Salamanca (Spain)

106. Dipolar gases: from nonlinear atom optics to strongly-correlated systems,
Conference on “Control of quantum correlations in tailored matter”,
October 2007,
Reisensburg (Germany)
107. Cold atomic gases: the role of interactions,
Meeting of the European Graduate colleague on Quantum interference
and applications,
September 2007,
Büsum (Germany)
108. Dipolar gases: theory Summer School on quantum phase transitions
and non-equilibrium phenomena in cold atomic gases
July 2007
Trieste (Italy)
109. Kelvin-roton instability in vortex lines in dipolar Bose-Einstein condensates,
Institut Henri Poincare,
June 2007,
Paris (France)
110. Ultracold gases: from nonlinear physics to strongly-correlated systems,
Invited talk by Dr. J. Ruostekoski,
May 2007,
Southampton (U.K.)
111. Solitons and other non-linear phenomena in dipolar Bose-Einstein condensates,
Conference on nonlinear physics in periodic structures and metamaterials,

March 2007,
Dresden (Germany)

- 112. Ultra cold quantum gases: some possibilities of control
Workshop on condensed-matter physics with cold gases,
March 2007,
KITP, Santa Barbara, USA

- 113. Mott-insulator phases of coupled two-component Bose gases,
APS March Meeting 2007,
March 2007,
Denver (USA)

- 114. Novel effects in the physics of dipolar gases,
Invited talk by Dr. N. Barberá
February 2007,
Barcelona (Spain)

- 115. Mott-insulator phases in non-locally coupled dipolar gases
Meeting on disorder in quantum gases,
January 2007,
Barcelona (Spain)

- 116. Dipolar Bosonic Gases
379. Wilhelm und Else Heraeus-Seminar on Cold Molecules
October 2006
Bad Honnef (Germany)

- 117. Dipolar and Spin-3 Bose-Einstein condensates
Meeting ICQFT'06
August 2006
Hangzhou (China)

118. Spin-3 Chromium Bose-Einstein condensates
Meeting on “Cold Atoms meet condensed matter”
March 2006
Dresden (Germany)
119. Spin-3 Chromium Bose-Einstein condensates
DPG Frühjahrstagung
March 2006
Frankfurt (Germany)
120. Chromium Bose-Einstein condensates
European-Australian Workshop on Quantum Optics
February 2006
Kioloa (Australia)
121. Chromium Bose-Einstein condensates
Invited by Prof. Yuri Kivshar
February 2006
Canberra (Australia)
122. Cold atomic gases in disordered optical lattices
Minerva Quantum Optics conference
November 2005
Eilat (Israel)
123. Dipolar gases: theory
Summer School on quantum phase transitions and non-equilibrium phenomena in cold atomic gases
July 2005
Trieste (Italy)
124. Tutorial on ultra cold atomic gases
Conference “Control of quantum correlations and tailored matter”
July 2005

Freudenstadt (Germany)

125. Two-dimensional bright solitons in dipolar Bose-Einstein condensates
CLEO/EQEC 2005 June 2005
München (Germany)
126. Gases atómicos ultrafríos : un puente entre la óptica cuántica y la física de la materia condensada
Invited by Dr. R. Fézé
March 2005
Granada (Spain)
127. Ultracold atomic gases in optical lattices: a bridge between quantum optics and condensed-matter physics
Frühjahrstagung der DPG
March 2005
Berlin (Germany)
128. Ultracold atomic gases: from nonlinear physics to lattice gases
Invited by Prof. O. Lechtenfeld
January 2005
Hannover (Germany)
129. Ultracold atomic gases in optical lattices: a bridge between quantum optics and condensed-matter physics
Invited by Prof. H. Herrmann
November 2004
Stuttgart (Germany)
130. Coupled one-dimensional atomic gases in two-dimensional optical lattices
Conference “Mesoscopic phenomena in ultracold matter: From single atoms to coherent ensembles”,
October 2004,

Dresden (Germany)

131. Strongly-correlated systems in optical lattices
Conference “Disordered Systems in cold atomic gases”,
June 2004
Hannover (Germany)
132. Strongly-correlated systems in optical lattices
Invited by Prof. R. Graham,
May 2004
Essen (Germany)
133. Strongly-correlated systems in optical lattices
Invited by Prof. A. Muramatsu,
January 2004
Stuttgart (Germany)
134. Strongly-correlated systems in optical lattices
Conference Atomic physics 2003
December 2003
Dresden (Germany)
135. Strongly-correlated systems in optical lattices
Invited by Prof. M. Oberthaler,
November 2003
Heidelberg (Germany)
136. Dynamics of one-dimensional Bose gases
Quantum Challenges II Conference
September 2003
Warsaw (Poland)

- 137. Dynamics of one-dimensional Bose gases
LASPHYS'03 Conference
August 2003
Hamburg (Germany)

- 138. Introduction to the physics of ultracold atoms
Coloquium. European Graduate College Meeting
June 2003
Glasgow (UK)

- 139. Dynamics of one-dimensional Bose gases
Invited by Prof. M. Fleischhauer June 2003
Kaiserslautern (Germany)

- 140. Ultracold atoms: From laser cooling to strongly-interacting systems
Coloquium. Invited by Prof. A. Muramatsu
June 2003
Stuttgart (Germany)

- 141. From laser cooling to strongly-interacting systems
Coloquium. Invited by Prof. M. Lewenstein
May 2003
Hannover (Germany)

- 142. Atomic mixtures in optical lattices
Cold gases meeting
May 2003
Ringberg (Germany)

- 143. Dynamics of one-dimensional Bose gases
Quantum gases conference
April 2003
Gunzburg, Germany

- 144. Dynamics of one-dimensional Bose gases
Coloquium. Invited by Prof. G. V. Shlyapnikov
March 2003
University of Amsterdam (The Netherlands)

- 145. Atomos fríos en Hannover
Invited by Prof. L. Roso
February 2003
Salamanca (Spain)

- 146. Dipolar bosons in optical lattices
Invited by Prof. J. Walraven
September 2002
AMOLF, Amsterdam (The Netherlands)

- 147. Nonlinear phenomena in Bose-Einstein condensates
Non linear guided waves and its applications conference of the Optical
Society of America
September 2002
Stressa (Italy)

- 148. Ultracold dipolar bosonic gases
IQEC Conference
June 2002
Moscow (Russia)

- 149. Ultracold dipolar bosonic gases
Benasque Center of Science
June 2002
Benasque (Spain)

- 150. Towards the Tonks gas
Invited by Prof. M. Lewenstein
May 2002

Hannover (Germany)

151. Dipolar bosons in optical lattices
Gittertag
February 2002
Stuttgart (Germany)
152. Ultracold dipolar bosonic gases
Invited by Dr. I. Bloch
January 2002
Max Planck Institut für Quantenoptik, München (Germany)
153. Ultracold dipolar bosonic gases
Colloquium. Invited by Prof. M. Lewenstein
December 2001
Universität Hannover (Germany)
154. Bose-Einstein condensation in trapped dipolar gases
Invited by Prof. W. Schleich
Universität Ulm (Germany)
November 2001
155. La condensación de Bose-Einstein
Invited by Prof. L. Roso
Popular talk
October 2001
Salamanca (Spain)
156. Solitons and vortices in two-component Bose-Einstein condensates
Invited by Prof. G. V. Shlyapnikov
October 2001
University of Amsterdam (The Netherlands)

- 157. Phase fluctuating Bose-Einstein condensates
Invited by Prof. J. Walraven
May 2001
AMOLF, Amsterdam (The Netherlands)

- 158. Solitons and vortices in two component Bose-Einstein condensates
First international workshop on “Theory of quantum gases and quantum coherence”
June 2001
Salerno (Italy)

- 159. Solitons and vortices in two component Bose-Einstein condensates
Frühjahrstagung der DFG
April 2001
Berlin (Germany)

- 160. Solitons and vortices in two component Bose-Einstein condensates
Invited by Prof. K. Rzażewski
November 2000
Warsaw (Poland)

- 161. Bose-Einstein condensation in trapped dipolar gases
Invited by Prof. T. Pfau
May 2000
Universität Stuttgart (Germany)

- 162. Bose-Einstein Condensation in trapped dipolar gases
Frühjahrstagung der DFG
April 2000
Bonn (Germany)

- 163. Filamentation in cold dipolar gases
First conference on ultracold molecules
October 1999

Heidelberg (Germany)

- 164. Collective laser cooling of bosonic samples
Conference BEC1999
September 1999
San Feliu de Guixols (Spain)
- 165. Collective laser cooling of bosonic samples
Invited by Prof. K. Rzażewski
June 1999
CFT Warsaw (Poland)
- 166. Collective laser cooling of bosonic samples
Frühjahrstagung der DFG
April 1999
Heidelberg (Germany)
- 167. A "Dielectric" Mirror for atoms
IV Conference on Atom Optics and Atom Interferometry
June 1997
Oxford (UK)