Cheng Chin - Curriculum Vitae

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Education

1995-2001	Ph.D., Physics, Stanford University (Advisor: Steven Chu)
1990-1993	B.S., Physics, National Taiwan University

Academic Position

2015	JILA Visiting Fellow, JILA
2014, 2015	Visiting Professor, Universität München, Munich, Germany
2014, 2015	Guest Scientist, Max-Planck-Institut für Quantenoptik, Garching, Germany
2014, 2015	Visiting Professor, Universität Ulm, Ulm, Germany
2014	Visiting Professor, ETH Zurich, Zurich, Switzerland
2013	Visiting Scientist, Institute of Atomic and Molecular Sciences, Taiwan
2013	Visiting Scientist, Center for Ultracold Atoms, MIT
2013	Visiting Professor, Physics and Astronomy Department, Rice University
2013-	Professor, Enrico Fermi institute, University of Chicago
2013-	Professor, James Franck institute, University of Chicago
2013-	Professor, Department of Physics, University of Chicago
2009-2012	Associate Professor, James Franck institute, University of Chicago
2009-2012	Associate Professor, Department of Physics, University of Chicago
2005-2008	Assistant Professor, James Franck institute, University of Chicago
2005-2008	Assistant Professor, Department of Physics, University of Chicago
2005	Visiting Professor, ETH, Zurich, Switzerland
2003	Visiting Professor, Institut für Experimentalphysik, Universtät Innsbruck, Austria
2003-2005	Visiting Scientist, Institut für Experimentalphysik, Universtät Innsbruck, Austria
2001-2003	Postdoctoral Fellow, Physics Department, Stanford University

Honors and Awards *(since 2003)*

2017	Bose-Einstein Condensation Award
2014	American Physical Society Fellow
2014	Thomson Reuters Highly Cited Researcher
2014	Distinguished Alumni Award, Physics Department, National Taiwan University
2013-2015	Alexander von Humboldt Research Fellow
2011	I. I. Rabi Prize, American Physics Society
2009	Materials Computation Center Travel Award
2008	IUPAP Young Scientist Prize in Atomic, Molecular and Optical Physics
2008-2012	National Science Foundation CAREER award
2006-2012	The David and Lucile Packard Fellow
2006	Outstanding Young Researcher Award, Overseas Chinese Physics Association
2006-2008	Alfred P. Sloan Research Fellow

2003-2005	Lise-Meitner Postdoctoral Research Fellow, Austrian Science Fund

Academic Activities *(since 2001)*

2017	AMO Physics program organizer, OCPA9
2016-2019	APS DAMOP Executive Committee
2015-2019	Bose-Einstein Condensation Scientific Committee
2015	Co-organizer, INT Program: "Frontiers on Quantum Simulation with Cold Atoms"
2014	JILA National Science Foundation Physics Frontier Center Advisory Committee
2012	Chair, American Physical Society (APS) Midwest Prairie Section
2011~2014	Program Committee, American Physical Society Division of Atomic, Molecular and Optical Physics (APS DAMOP) conference
2011	Co-organizer, Aspen Workshop "Few- & Many-Body Physics in Cold Quantum Gases Near Resonances"
2011	National Science Foundation AMO Physics Proposal Review Panelist
2010	Co-organizer, Conference on *Novel Quantum States in Condensed Matter*, Beijing, China
2010~2017	Editor, New Journal of Physics
2008~2017	Organizer, S.M.A.R.T. (Science, Mathematics, and Research Training) Woodlawn High School Science Outreach Program
2008	Organizer, "Frontier in Laser Cooling, Single-Molecule Biophysics and Energy Science – *Dr. Steven Chu's 60th Birthday Celebration Symposium*"
2007~2012	Director, Chicago MRSEC Research Experiences for Undergraduates (REU) Program
2007, 2011	Organizer, France-Chicago research exchange program in Physics
2005, 2009	Organizer, MidWest Regional Meeting on Quantum Gases
2001	Local committee member and Editor, the 15th ICOLS (International Conference of Laser Spectroscopy Conference)

Current Group Members

4 Postdoc fellows	Brian DeSalvo (Grainger Postdoc Fellow), Mickey McDonald (UChicago Dean's Postdoc Fellow), Anita Gaj (Kadanoff-Rice Postdoc Fellow), Jiazhong Hu.
5 Ph.D. students	Lei Feng, Jonathan Trisnadi, Krutik Patel, Kevin Yao, Geyue Cai
6 Undergrad students	Tyler Johnson, Frankie Feng, Misha Usatyuk, Benjamin Foster, Connor Fieweger, Joey He

Former Group Members

Name	*UChicago Position*	*Current position*
Chen-Lung Hung	Ph.D. in Physics, 2005~2011	Assistant Professor, Purdue University
Xibo Zhang	Ph.D. in Physics, 2006~2012	Assistant Professor, Peking University, China
Nathan Gemelke	Postdoc fellow, 2007~2010	Assistant Professor, Penn State University
Kathy-Anne Soderberg	Postdoc fellow, 2007~2010	Funding Agent, Booz Allen Hamilton

Eric Hazlett	Postdoc fellow, 2011~2013	Assistant Professor, Carleton College
Shih-Kuang Tung	Postdoc fellow, 2010~2014	Assistant Professor, Tsinghua Univ., Taiwan
KarinaJimenez Garcia	Postdoc fellow, 2012~2014	Postdoc fellow, College de France, France
Colin Parker	Postdoc fellow, 2011~2015	Assistant Professor, Georgia institute of Technology
Li-Chung Ha	Ph.D. in Physics, 2010~2016	Postdoc Fellow, University of Texas in Austin
Jacob Johansen	Ph.D. in Physics, 2011~2017	Postdoc Fellow, Northwestern University
Logan Clark	Ph.D. in Physics, 2012~2017	Postdoc Fellow, University of Chicago

Publications – Cheng Chin

86. Collective emission of matter-wave jets from driven Bose-Einstein condensates
Logan W. Clark, Anita Gaj, Lei Feng, Cheng Chin
Nature (2017) doi:10.1038/nature24272

85. Ultracold gases with intrinsic scale invariance
Cheng Chin
In "Universal Themes of Bose-Einstein Condensation", Cambridge University Press, editors: D. Snoke, N. Proukakis, P. Littlewood, (2017).

84. Dynamics and interactions of particles in a thermophoretic trap
Benjamin Foster, Frankie Fung, Connor Fieweger, Mykhaylo Usatyuk, Anita Gaj, B. J. DeSalvo, Cheng Chin
Proc. SPIE 10347, Optical Trapping and Optical Micromanipulation XIV, 103471Z (2017/08/25). http://dx.doi.org/10.1117/12.2277140

83. Observation of three-photon bound states in a quantum nonlinear medium
Qi-Yu Liang, Aditya V. Venkatramani, Sergio H. Cantu, Travis L. Nicholson, Michael J. Gullans, Alexey V. Gorshkov, Jeff D. Thompson, Cheng Chin, Mikhail D. Lukin, Vladan Vuletic
arXiv:1709.01478 (under review in Science)

82. Coherent inflationary dynamics for Bose-Einstein condensates crossing a quantum critical point
Lei Feng, Logan W. Clark, Anita Gaj, Cheng Chin
arXiv:1706.01440 (In print, Nature Physics)

81. Observation of a Degenerate Fermi Gas Trapped by a Bose-Einstein Condensate
B.J. DeSalvo, Krutik Patel, Jacob Johansen, Cheng Chin
arXiv:1706.01220 (Accepted in Physical Review Letters)

80. Direct Lattice Shaking of Bose Condensates: Finite Momentum Superfluids
Brandon M. Anderson, Logan W. Clark, Jennifer Crawford, Andreas Glatz, Igor S. Aranson, Peter Scherpelz, Lei Feng, Cheng Chin, and K. Levin
Phys. Rev. Lett. 118, 220401 (2017)

79. Testing universality of Efimov physics across broad and narrow Feshbach resonances
Jacob Johansen, B. J. DeSalvo, Krutik Patel, Cheng Chin
Nature Physics 13, 731 (2017)

78. Stable thermophoretic trapping of generic particles at low pressures
Frankie Fung, Mykhaylo Usatyuk, B. J. DeSalvo, and Cheng Chin
Appl. Phys. Lett. 110, 034102 (2017)

77. Calibrating High Intensity Absorption Imaging of Ultracold Atoms
Klaus Hueck, Niclas Luick, Lennart Sobirey, Jonas Siegl, Thomas Lompe, Henning Moritz, Logan W. Clark, Cheng Chin
Optics Express 25, 8670 (2017)

76. Exotic domain walls in Bose-Einstein condensates with double-well dispersion
Tongtong Liu, Logan W. Clark, Cheng Chin
Phys. Rev. A 94, 063646 (2016)

75. Universal space-time scaling symmetry in the dynamics of bosons across a quantum phase transition
Logan W. Clark, Lei Feng, Cheng Chin

Science, 354, 606 (2016)

74. Ultracold atomic gases going strong
Cheng Chin
National Science Review 03: 168-173 (2016) doi: 10.1093/nsr/nwv073

73. Universal Loss Dynamics in a Unitary Bose Gas
Ulrich Eismann, Lev Khaykovich, Sébastien Laurent, Igor Ferrier-Barbut, Benno S. Rem, Andrew T. Grier, Marion Delahaie, Frédéric Chevy, Christophe Salomon, Li-Chung Ha, and Cheng Chin
hal-01149089 (2015)

72. Stable levitation and dynamics of ice particles at low pressures
Nicholas Kowalski, Bernard Xie, Colin V. Parker, Cheng Chin
arXiv:1504.01035 (2015)

71. Quantum dynamics with spatiotemporal control of interactions in a stable Bose-Einstein condensate
Logan W. Clark, Li-Chung Ha, Chen-Yu Xu, Cheng Chin
Phys. Rev. Lett. 115, 155301 (2015)

70. Ten years of Nature Physics: Bound to be universal?
Cheng Chin and Yujun Wang
Nature Physics, 11, 449 (2015)

69. Roton-maxon excitation spectrum of Bose condensates in a shaken optical lattice
Li-Chung Ha, Logan W. Clark, Colin V. Parker, Brandon M. Anderson, Cheng Chin
Phys. Rev. Lett. 114, 055301 (2015)

68. Observation of geometric scaling of Efimov states in a Fermi-Bose Li-Cs mixture
Shih-Kuang Tung, Karina Jimenez-Garcia, Jacob Johansen, Colin V. Parker, Cheng Chin
Phys. Rev. Lett. 113, 240402 (2014)

67. Bosonic thermoelectric transport and breakdown of universality
A. Rancon, Cheng Chin, K. Levin
New J. Phys. 16, 113072 (2014)

66. Strong Interaction Effects in Superfluid Ising Quantum Phase Transition
Wei Zheng, Boyang Liu, Jiao Miao, Cheng Chin, Hui Zhai
Phys. Rev. Lett. 113, 155303 (2014)

65. In Situ Imaging of Atomic Quantum Gases
Chen-Lung Hung and Cheng Chin
Book Chapter of "*Quantum Gas Experiments*" (2014)

64. Physics Viewpoint: Looking for Hofstadter's Butterfly in Cold Atoms
Cheng Chin, Erich J. Mueller
Physics 6, 118 (2013)

63. Efficient Continuous-Duty Bitter-Type Electromagnets for Cold Atom Experiments
Dylan Sabulsky, Colin V. Parker, Nathan D. Gemelke, Cheng Chin
Rev. Sci. Instrum. 84, 104706 (2013)

62. Anomalous thermoelectric transport in two-dimensional Bose gas
Eric L. Hazlett, Li-Chung Ha, Cheng Chin
arXiv:1306.4018 (2013)

61. Direct observation of effective ferromagnetic domains of cold atoms in a shaken optical lattice
Colin V. Parker, Li-Chung Ha, Cheng Chin
Nature Physics 9, 769 (2013)

60. Quench Dynamics in Bose condensates in the Presence of a Bath: Theory and Experiment
A. Rancon, Chen-Lung Hung, Cheng Chin, K. Levin
Phys. Rev. A 88, 031601 (2013)

59. Strongly interacting two-dimensional Bose gases
Li-Chung Ha, Chen-Lung Hung, Xibo Zhang, Ulrich Eismann, Shih-Kuang Tung, Cheng Chin
Phys. Rev. Lett. 110, 145302 (2013)

58. Ultracold mixtures of atomic Li-6 and Cs-133 with tunable interactions
Shih-Kuang Tung, Colin Parker, Jacob Johansen, Cheng Chin, Yujun Wang, Paul S. Julienne
Phys. Rev. A 87, 010702 (2013)

57. From Cosmology to Cold Atoms: Observation of Sakharov Oscillations in Quenched Atomic Superfluids

Chen-Lung Hung, Victor Gurarie, Cheng Chin
Science 341, 1213 (2013)

56. Quantum critical behavior of ultracold atoms in two-dimensional optical lattices
Xibo Zhang, Chen-Lung Hung, Shih-Kuang Tung, Cheng Chin
Science 335, 1070 (2012)

55. Universal scaling of Efimov resonance positions in cold atom systems
Cheng Chin, arXiv:1111.1484 (2011)

54. Extracting density-density correlations from in situ images of atomic quantum gases
Chen-Lung Hung, Xibo Zhang, Li-Chung Ha, Shih-Kuang Tung, Nathan Gemelke, Cheng Chin
New Journal of Physics 13 075019 (2011)

53. Exploring quantum criticality based on ultracold atoms in optical lattices
Xibo Zhang, Chen-Lung Hung, Shih-Kuang Tung, Nathan Gemelke, Cheng Chin
New Journal of Physics 13 045011 (2011)

52. Observation of scale invariance and universality in two-dimensional Bose gases
Chen-Lung Hung, Xibo Zhang, Nathan Gemelke, Cheng Chin
Nature 470, 236 (2011)

51. Feshbach Resonances in Ultracold Gases
Cheng Chin, Rudolf Grimm, Paul Julienne, Eite Tiesinga
Review of Modern Physics 82, 1225 (2010)

50. Atoms in chequerboard order
Cheng Chin, Nathan Gemelke
Nature News and Views 464 1289 (2010)

49. Slow Mass Transport and Statistical Evolution of An Atomic Gas Across the Superfluid-Mott Insulator Transition
Chen-Lung Hung, Xibo Zhang, Nathan Gemelke, Cheng Chin
Phys. Rev. Lett.104.160403 (2010)

48. Optical lattices for coherent quantum collision microscopy
Andreas Klinger, Skyler Degenkolb, Nathan Gemelke, Kathy-Anne Brickman Soderberg, and Cheng Chin
Rev. Sci. Instrum., 80, 013109 (2010)

47. *In-situ* Observation of incompressible Mott-insulating domains of ultracold atomic gases
Nathan Gemelke, Xibo Zhang, Chen-Lung Hung, Cheng Chin
Nature 460, 995 (2009)

46. Ultracold molecules: new probes on the variation of fundamental constants
Cheng Chin, V.V. Flambaum, M.G. Kozlov
New Journal of Physics 11, 055048 (2009)

45. Ultracold molecules: vehicles to scalable quantum information processing
Kathy-Anne Brickman Soderberg, Nathan Gemelke, Cheng Chin
New Journal of Physics 11, 055022 (2009)

44. Precision determination of scattering lengths from molecular binding energies
A. Lange, K. Pilch, A. Prantner, F. Ferlaino, B. Engeser, H.-C. Nägerl, R. Grimm and C. Chin
Phys. Rev. A 79, 013622 (2009)

43. Exploring Universality of Few-Body Physics Based on Ultracold Atoms Near Feshbach Resonances
Nathan Gemelke, Chen-Lung Hung, Xibo Zhang, Cheng Chin
Proceedings of the 21st International Conference on Atomic Physics (ICAP 2008, Storrs)

42. Simple, accelerating evaporation to Bose-Einstein condensation in a tilted optical trap
Chen-Lung Hung, Xibo Zhang, Nathan Gemelke and Cheng Chin
Phys. Rev. A 78, 01604 (2008)

41. 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)

40. `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)

39. Precision measurements of collective oscillations in the BEC-BCS crossover
A. Altmeyer, S. Riedl, C. Kohstall, M. J. Wright, R. Geursen, M. Bartenstein, C. Chin, J. Hecker Denschlag, and R. Grimm
Phys. Rev. Lett. 98, 040401 (2007).

38. Experimental Evidence for Efimov Quantum States
H.-C. Nagerl, T. Kramer, M. Mark, P. Waldburger, J.G. Danzl, B. Engeser, A.D. Lange, K. Pilch, A. Jaakkola, C. Chin, R. Grimm
Proceedings of the 20th International Conference on Atomic Physics (ICAP 2006, Innsbruck)

37. Enhanced sensitivity to fundamental constants in ultracold atomic and molecular systems near Feshbach resonances
Cheng Chin and V.V. Flambaum
Phys. Rev. Lett. 96, 230801 (2006)

36. 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 and R. Grimm
Nature 440, 315-318 (16 March 2006).

35. A simple model of Feshbach molecules
Cheng Chin, cond-mat/0506313

34. Formation and Bose-Einstein condensation of ultracold molecules
Cheng Chin, Physics Bimonthly, Taiwan, 27, 403 (2005)

33. Observation of Feshbach-like resonances in collisions between ultracold molecules
C. Chin, T. Kraemer, M. Mark, J. Herbig, P. Waldburger, H.-C. Nägerl and R. Grimm
Phys. Rev. Lett. 94, 123201 (2005)

32. Simple mean-field model for condensates in the BEC-BCS crossover regime
Cheng Chin
Phys. Rev. A, 72, 041601(R) (2005)

31. Efficient creation of molecules from a cesium Bose-Einstein condensate
M. Mark, T. Kraemer, J. Herbig, C. Chin, H.-C. Nägerl and R. Grimm
Europhys. Lett. 69, 706 (2005).

30. Radio-frequency transitions on weakly-bound ultracold molecules
C. Chin and P. Julienne
Phys. Rev. A, 71, 012713 (2005)

29. Precise determination of Li6 cold collision parameters by radio-frequency spectroscopy on weakly bound molecules
M. Bartenstein, A. Altmeyer, S. Riedl, R. Geursen, S. Jochim, C. Chin, J. Hecker Denschlag, and R. Grimm
Phys. Rev. Lett. 94, 103201 (2005)

28. Exploring the BEC-BCS Crossover with an Ultracold Gas of Li-6 Atoms
M. Bartenstein, A. Altmeyer, S. Riedl, S. Jochim, R. Geursen, C. Chin, J. Hecker Denschlag, R. Grimm
in Proceedings of the XVII. International Conference on Atomic Physics (ICAP 2004, Rio de Janeiro)

27. The birth of ultracold molecules in the world of quantum gas
C. Chin
Association of Asia Pacific Physical Societies Bulletin 14, 14 (2004)

26. Observation of the Pairing Gap in a Strongly Interacting Fermi Gas
C. Chin, M. Bartenstein, A. Altmeyer, S. Riedl, S. Jochim, J. Hecker Denschlag, and R. Grimm
Science 305, 1128 (2004); published online July 22 2004; 10.1126/science.1100818

25. Collective Excitations of an ultracold Gas in the BEC-BCS Crossover Regime
M. Bartenstein, A. Altmeyer, S. Riedl, S. Jochim, C. Chin, J. Hecker Denschlag, and R. Grimm
Phys. Rev. Lett. 92, 203201 (2004)

24. Ultracold Cs_2 Feshbach Spectroscopy
C. Chin, V. Vuletić, A. J. Kerman, S. Chu, E. Tiesinga, P.J. Leo and C.J. Williams
Phys. Rev. A 70, 032701 (2004)

23. Thermal Equilibrium and Efficient Evaporation in an Ultracold Atom-Molecule Mixture
C. Chin and R. Grimm

Phys. Rev. A 69, 033612 (2004)

22. Crossover from a Molecular Bose-Einstein Condensation to a Degenerate Fermi Gas
M. Bartenstein, A. Altmeyer, S. Riedl, S. Jochim, C. Chin, J. Hecker Denschlag, and R. Grimm
Phys. Rev. Lett. 92, 120401 (2004)

21. Optimized Production of a Cesium Bose-Einstein Condensate
T. Kraemer, J. Herbig, M. Mark, T. Weber, C. Chin, H.-C. Nägerl and R. Grimm
Appl. Phys. B 79, 1013 (2004)

20. Impact of Casimir-Polder Potential and Johnson Noise on Bose-Einstein Condensate Stability Near Surfaces
Y. Lin, I. Teper, C. Chin, and V. Vuletić
Phys. Rev. Lett. 92, 050404 (2004).

19. Experiments with a Bose-Einstein Condensate of Cesium Atoms
T. Weber, J. Herbig, M. Mark, T. Kraemer, C. Chin, H.-C. Nägerl and R. Grimm
in Proceedings of the XVI International Conference on Laser Spectroscopy (ICOLS 2003, Palm Cove).

18. Bose-Einstein Condensation of Molecules
S. Jochim, M. Bartenstein, A. Altmeyer, G. Hendl, S. Riedl, C. Chin, J. Hecker Denschlag and R. Grimm
Science 302, 2101 (2003); published online Nov. 13, 2003; 10.1126/science.1093280 (Science Express).

17. Pure Gas of Optically Trapped Molecules Created from Fermionic Atoms
S. Jochim, M. Bartenstein, A. Altmeyer, G. Hendl, C. Chin, J. Hecker Denschlag, and R. Grimm
Phys. Rev. Lett. 91, 240402 (2003).

16. Preparation of a Pure Molecular Quantum Gas
J. Herbig, T. Kraemer, M. Mark, T. Weber, C. Chin, H.-C. Nägerl and R. Grimm
Science 301, 1510-1513 (2003)

15. Sensitive Detection of Cold Cesium Molecules Formed on Feshbach Resonances
C. Chin, A. J. Kerman, V. Vuletić and S. Chu
Phys. Rev. Lett. 90, 033201 (2003).

14. Controlled Atom-Molecule Interactions in Ultracold Gases
C. Chin, V. Vuletić, A. J. Kerman and S. Chu
in Proceedings of the II. Asia Pacific Conference on Few-Body Problems in Physics (APFB 2002, Shanghai), Modern Physics Letters A 18, 398 (2003).

13. Measurement of Collision Shifts on Clock Transition and Quantum Computation in Optical Lattices
C. Chin, V. Vuletić, A. J. Kerman and S. Chu
in Proceedings of the XV. International Conference on Laser Spectroscopy (ICOLS 2001, Snowbird).

12. Cooling, Collisions and Coherence of Cold Cesium Atoms in a Trap (Ph.D. Thesis)
C. Chin (Stanford 2001).

11. High Precision Feshbach Spectroscopy of Ultracold Cesium Collisions
C. Chin, V. Vuletić, A. J. Kerman and S. Chu
in Proceedings of the XVI. International Conference on Few-Body Problems in Physics (FB16, Taipei), Nuclear Physics A 684, 641 (2001).

10. Measurement of An Electron's Electric Dipole Moment Using Cesium Atoms Trapped in Optical Lattices
C. Chin, V. Leiber, V. Vuletić, A. J. Kerman and S. Chu
Phys. Rev. A. 63, 033401 (2001).

09. Determination of Cs-Cs Interaction Parameters Using Feshbach Spectroscopy
A. J. Kerman, C. Chin, V. Vuletić, S. Chu, P. J. Leo, C. J. Williams, and P. S. Julienne
in Proceedings of the Euroconference on Atomic Optics and Interferometry (Cargese), C. R. Acad. Sci. Paris, t. 2, Serie IV, p. 633 (2001).

08. High Resolution Feshbach Spectroscopy of Cesium
C. Chin, V. Vuletić, A. J. Kerman and S. Chu
Phys. Rev. Lett. 85, 2717 (2000).

07. Laser Cooling: Beyond Optical Molasses and Beyond Closed Transitions
V. Vuletić, A. J. Kerman, C. Chin, and S. Chu
in Proceedings of the XVII. International Conference on Atomic Physics (ICAP 2000, Florence).

06. Beyond Optical Molasses: 3D Raman Sideband Cooling of Atomic Cesium to High Phase-Space Density
A. J. Kerman, V. Vuletić, C. Chin, and S. Chu

Phys. Rev. Lett. 84, 439 (2000).

05. Suppression of Atomic Radiative Collisions by Tuning the Ground-State Scattering Length
V. Vuletić, C. Chin, A. J. Kerman, and S. Chu
Phys. Rev. Lett. 83, 943 (1999).

04. Observation of Low-Field Feshbach Resonances in Collisions of Cesium Atoms
V. Vuletić, A. J. Kerman, C. Chin, and S. Chu
Phys. Rev. Lett. 82, 1406 (1999).

03. Raman Sideband Cooling in An Optical Lattice
V. Vuletić, A. J. Kerman, C. Chin, and S. Chu
in Proceedings of the 14th International Conference on Laser Spectroscopy (ICOLS 1999, Innsbruck).

02. Degenerate Raman Sideband Cooling of Trapped Cesium Atoms at Very High Atomic Densities
V. Vuletić, C. Chin, A. J. Kerman, and Steven Chu
Phys. Rev. Lett. 81, 5768 (1998).

01. Exploring the Properties of the Physical Fields by Computer Simulation
C. Chin and W. Li
1989 National Science Exhibition (Ministry of Education, Taipei, Taiwan 1990).

Invited Talks in Conferences and Workshops (~ Nov. 2017)

11/17	**Conference on Frontiers in Two-Dimensional Quantum Systems (smr 3167)**, Trieste, Italy
10/17	**International School & Workshop on "Critical Stability of Quantum Few-Body Systems"**, Dresden, Germany
09/17	**Bose-Einstein condensation 2017: Frontiers in Quantum Gases**, Sant Feliu, Spain
06/17	**Aspen workshop on "Correlations and Entanglement in and out of Equilibrium: from Cold Atoms to Electrons"**, Aspen, Co
05/17	**SPICE workshop on Non-equilibrium Quantum Matter workshop,** Schloss Waldthausen, Mainz, Germany
12/16	**NCTS Annual Meeting 2016: Quantum Simulation and Numerical Studies in Many-Body Systems**, National Tsinghua University, Taiwan
08/16	**Quantum Gases 2016: Non-equilibrium dynamics**, Beijing, China.
06/16	**Qin-Huang-Dao Summer Workshop: Beyond Standard Quantum Gases,** Qinhuangdao, China
06/16	**KITPC-PKU conference in Synthetic Topological Quantum Matter**, Beijing, China
04/16	**614. We-Heraeus-Seminar, "Few-body physics: Advances and prospects in Theory and Experiment"** , Physikzentrum Bad Honnef, Germany
12/15	**IAS Program and Croucher Conference on Topological Phases in Condensed Matter and Cold Atomic Systems**, Hong Kong, China
11/15	**SFB/Transregio 21 Workshop 2015: 9th International Conference on Control of Quantum Correlations in Tailored Matter: Common Perspectives of Mesoscopic Systems and Quantum Gases**, Gunsberg, Germany
11/15	**The International Symposium on Material Sciences**, Osaka, Japan
10/15	**Joint Conference on Novel Quantum Matter**, Beijing, China
09/15	**12th US-Japan Seminar: Many-body Quantum Systems from Quantum Gases to Metrology and Information Processing**, Madison, Wisconsin
09/15	**FINESS-2015: Finite-Temperature Non-Equilibrium Superfluid Systems**, Sopot, Poland
08/15	**Synthetic Quantum Magnetism,** Dresden, Germany
08/15	**International Conference on Quantum Fluids and Solids**, Niagara Falls, NY
07/15	**CIOP 2015: 7th International Conference on Information Optics and Photonics**, Nanjing, China
07/15	**2015 Taiwan International Symposium on Contemporary Atomic and Optical Physics**, Hsinchu, Taiwan
04/15	**INT-15-1 Program: Frontiers in Quantum Simulation with Cold Atoms**, Seattle, WA
03/15	**Aspen Workshop: Non-equilibrium quantum matter**, Aspen, Co

03/15 **Quantum Many-Body Systems Far from Equilibrium**, Stellenbosch, South Africa
12/14 **Topological Aspects of Quantum Matters**, Hsinchu, Taiwan
11/14 **Phase Transitions in Low Dimensions**, Buffalo, NY
08/14 **Quantum Gases 2014: Synthetic Gauge and Large Spin System**, Beijing, China
08/14 **Extreme Sciences: Explore the Unknown Environments**, CiTou, Taiwan
08/14 **Quantum Critical Matter – From Atoms to Bulk** (QCM 14), Obergurgl, Austria
08/14 **International Conference on Atomic Physics**, Washington DC
06/14 (Plenary) **OCPA8 International Conference on Physics Education and Frontier Physics**, Nanyang Technological University, Singapore
06/14 **American Physical Society DAMOP**, Madison, WI
03/14 **American Physical Society March meeting**, Denver, CO
02/14 **International Conference on Quantum Optics**, Obergurgl, Austria
02/14 **CIFAR Cold Atoms**, Banff, Canada
09/13 **NSFC-ISF: Joint Workshop on Bose-Einstein Condensation and Ultracold Phenomena**, Beijing, China
09/13 **Bose-Einstein Condensation 2013 – Frontier in Quantum Gases**, Sant Feliu de Guixols, Spain
04/13 **US-Japan Joint Seminar 2013**, Nara, Japan
04/13 **Few-body Physics in Cold Atomic Gases**, Beijing, China
03/13 **Finite temperature and low energy effects in cold atomic and molecular few- and many-body systems**, ITAMP, Cambridge, MA
03/13 **Universal Themes of Bose-Einstein Condensation**, Lorentz Center, Leiden, Netherlands
02/13 **FINESS-2013: Finite-Temperature Non-equilibrium Superfluid Systems**, Queenstown, New Zealand
01/13 **43rd Winter Colloquium on the Physics of Quantum Electronics (PQE-2013)**, Snowbird, UT
09/12 **Packard Fellow Meeting**, Monterey, CA
07/12 **ICTP Workshop on Quantum Simulations with Ultracold Atoms**, Trieste, Italy
07/12 **Summer School on Quantum Many-Body Physics of Ultra-Cold Atoms and Molecules**, Trieste, Italy
06/12 **5th International Symposium on Cold Atom Physics**, IChang, China
05/12 **2012 International workshop on ultracold atoms and molecules**, Taichung, Taiwan
05/12 **International Conference on Frontiers of Cold Atoms and Related Topics**, Hong Kong, China
03/12 **Frontiers of quantum condensed matter physics: light, matter and unusual devices out of equilibrium,** New York, NY
01/12 **2012 Aspen Ultracold Atomic Systems Conference**, Aspen, CO
11/11 **Modeling Materials with Cold Gases Through Simulations,** Zurich, Switzerland
09/11 **Bose-Einstein Condensation 2011 – Frontiers in Quantum Gases**, Sant Feliu de Guixols, Spain
09/11 **2011 Conference on the UK Network for Research at the Interface between Cold Atoms and Condensed Matter Physics**, Nottingham, UK
08/11 (Plenary) **26th International Conference on Low Temperature Physics**, Beijing, China
07/11 (Plenary) **The 7th Chinese Physicists Worldwide International Conference**, Kaohsiung, Taiwan
06/11 **Gordon Research Conference**, Vermont, VT
06/11 (Prize talk) **DAMOP (Meeting of the Division of Atomic, Molecular and Optical Physics)**, Atlanta, GA
06/11 **Aspen Workshop "Few- & Many-Body Physics in Cold Quantum Gases Near Resonance"**, Aspen, CO
05/11 **INT Ultracold Atom Symposium,** Seattle, WA
12/10 **Control of Quantum Correlations in Tailored Matter SFB/TTR 21 workshop (SFB/TTR21)**, Gunzburg, Germany
10/10 **Beyond Standard Optical Lattices**, Santa Barbara, CA
07/10 **Quantum Simulation Workshop**, Hefei, China
07/10 **4th International Symposium on Cold Atom Physics**, Zhoushan, China

06/10 **2nd International Conference: Nonlinear waves-Theory and Applications**, Beijing, China
06/10 **Complexity and Disorder at Ultra-low temperatures**, Santa Fe, NW
06/10 **Ultracold Fermi Gas: Superfluidity and Strong-Correlation**, Tokyo, Japan
06/10 **Critical Behavior of Lattice Models in Condensed Matter and Particle Physics**, Aspen, CO
05/10 **DAMOP (Meeting of the Division of Atomic, Molecular and Optical Physics)**, Houston, TX
05/10 **Joint Urbana Chicago Festival,** Chicago, IL
03/10 **APS March Meeting**, Portland, OR
11/09 **Ab-Initio Modeling of Cold Gases,** Zurich, Switzerland
10/09 **Efimov Physics in Ultracold Gases,** Innsbruck, Austria
10/09 **Efimov States in molecules and nuclei,** Rome, Italy
09/09 **Bose-Einstein condensation 2009 – Frontiers in Quantum Gases,** Sant Feliu de Guixols, Spain
08/09 **6th Meeting of Chinese Physicists Worldwide,** Lanzhou, China
07/09 **Low-Temperature Physics Conference in China**, Qingdao, China
07/09 **International Conference on Quantum Foundation and Technology: Frontier and Future**, Shanghai, China
07/09 **Colorado Cold Molecule Workshop**, Denver, CO
05/09 **Quantum Simulation/Computation with Cold Atoms and Molecules**, Aspen, CO
04/09 **Nearly Perfect Fluids – from quark-gluon plasma to ultracold atoms**, Research Triangle, NC
01/09 (Plenary Talk) **Third Winter School of Asian CORE Program,** Taipei, Taiwan
01/09 **39th Winter Colloquium on the Physics of Quantum Electronics (PQE-2009)**, Snowbird, UT
10/08 **New Laser Scientists Conference**, Rochester, NY
08/08 **Frontiers in Laser Cooling, Single-Molecule Biophysics and Energy Science**, Berkeley, CA
07/08 **21st International Conference on Atomic Physics**, Storrs, CT
07/08 **Third International Symposium on Cold Atom Physics**, Wuhan, China
07/08 **Summer School on Cold Atom Physics and Precision Measurements**, Shanghai, China
12/07 **Workshop on Bose-Einstein Condensation and Quantized Vortices in Superfluidity and Superconductivity,** Singapore
11/07 **2nd MidWest Cold Atom Workshop,** Madison, WI
09/07 **Packard Fellow Meeting**, Monterey, CA
08/07 **Summer School on Experimental Cold Atomic and Molecular Physics**, Shanghai
09/06 **4th COE Symposium On Physics of Self-Organization Systems**, Tokyo, Japan
06/06 **Gordon Research Conference**, South Hadley, MA
06/06 **Strong Correlations in Fermi Systems**, Copenhagen, Denmark
02/06 **CIAR UltraCold Matter Workshop,** Banff, Alberta, Canada
01/06 **Aspen Physics Workshop on Strong Correlations in Ultracold Fermi System**, CO
12/05 **60th Anniversary of Phys. Dept. at National Taiwan University**, Taipei, Taiwan
11/05 **Cold Atom Workshop**, Taipei, Taiwan
09/05 **Workshop on Bose condensation and degenerate Fermi gases,** Wuhan, China
09/05 **The Chinese Physics Society Annual meeting**, Wuhan, China
08/05 **LT24 (International Conference on Low temperature Physics)**, Orlando, FL
07/05 **Telluride Workshop on "Theory of Ultracold Molecules"**, Telluride, CO
06/05 **Ultracold Trapped Atomic Gases**, Aspen, CO
05/05 **DAMOP (Meeting of the Division of Atomic, Molecular and Optical Physics)**, Lincoln, NE
04/05 **Strongly Interacting Quantum Gases**, Columbus, OH
02/05 **Banff Cold Atom Meeting,** Banff, Alberta, Canada
02/05 (Plenary Talk) **2005 PSROC Annual Meeting**, Kaohsiung, Taiwan
10/04 **New Laser Scientist Conference III**, Rochester, NY
09/04 **Meeting on Interacting Fermions and Optical Lattices,** ETH, Zürich, Switzerland
07/04 **ISCAP-I (International Symposium on Cold Atom Physics)**, Jiangxi, China
06/04 **Gordon Research Conference**, South Hadley, MA

05/04 **CLEO/IQEC 2004**, San Francisco, CA
09/03 **Theoretical Concepts and Recent Experiments on Ultracold Molecules**, Volterra, Italy
06/00 **APS DAMOP (Meeting of the Division of Atomic, Molecular and Optical Physics)**, Storrs, CN
03/99 **FB16 (International Conference on Few-Body Problems in Physics),** Taipei, Taiwan

Colloquium and Seminar talks *(Jan. 2005 ~Dec. 2017)*

08/17 CM/AMO Seminar talk, UC San Diego, San Diego
07/17 Special Seminar talk, MIT, Boston
03/17 Seminar talk, Tsinghua University, Beijing, China
03/17 Seminar talk, USTC, Hefei, China
01/17 Colloquium talk, Physics Department, Purdue University
12/16 AMO seminar talk, Academic Sinica, Taiwan
12/16 Colloquium talk, Electrophysics Department, National Chiao Tung University, Taiwan
11/16 Colloquium talk, University of British Columia, Canada,
10/16 Friday Lunch Seminar, University of Chicago
06/16 AMO Seminar talk, Physics Department, Stanford University
02/16 Colloquium talk, Physics Department, Columbia University, New York
01/16 Physical Science Seminar, IBM Thomas J. Watson Research Center, Yorktown Height, New York.
12/15 General Education Colloquium talk, National Cheng Kung University, Tainan, Taiwan
12/15 Colloquium talk, University of Vermont, Burlington, Vermont
11/15 887^{th} Colloquium talk, Institute for Molecular Science, Okazaki, Japan
10/15 Seminar talk, Tsinghua University, Beijing, China
10/15 Seminar talk, University of Ulm, Ulm, Germany
09/15 Seminar talk, Max Planck institute for Quantum Optics, Munich, Germany
07/15 Seminar talk, Institute for Atomic and Molecular Science, Academic Sinica, Taiwan
04/15 Colloquium talk and Seminar talk, Washington State University, WA
03/15 Seminar talk, Harvard University, MA
02/15 Colloquium talk, JILA, Co
01/15 Colloquium talk, University of Michigan, MI
01/15 Colloquium talk, Michigan State University, MI
12/14 Seminar talk, Institute for Atomic and Molecular Science, Academic Sinica, Taiwan
12/14 Seminar talk, Research Center for Applied Sciences, Academic Sinica, Taiwan
12/14 Colloquium talk, National Taiwan University, Taiwan
11/14 Condensed matter seminar, Princeton University, NJ
11/14 Colloquium talk, Illinois State University, Normal IL
09/14 Seminar talk, University of Amsterdam, Amsterdam, Netherlands
09/14 Seminar talk, Bonn University, Germany
09/14 Seminar talk, Max Planck Institute of Quantum Optic, Garching, Germany
05/14 Seminar talk, Tubingen University, Germany
05/14 SFB/ZOQ colloquium talk, Tubingen University, Germany
05/14 Ecole Normale Superieure, France
04/14 CQD Special Colloquium, Heidelberg University, Germany
04/14 Seminar talk, Innsbruck University, Austria
03/14 Colloquium talk, ETH, Zurich, Switzerland
01/14 Seminar talk and 4 lectures, Ulm University, Germany
01/14 Colloquium talk, Hamburg University, Germany
01/14 SFB/TRR 21-Colloquium, Ulm University, Germany
12/13 Seminar talk, National Tsinghua University, Hsinchu, Taiwan
12/13 colloquium talk, seminar talk and 3 lectures, Institute of Atomic and Molecular Science, Academic Sinica, Taiwan

11/13 Colloquium talk, Kansas State University, KS
08/13 Seminar talk, Lincoln National Laboratory, MA
07/13 Seminar talk, Physics Department, MIT, MA
05/13 Seminar talk, Physics & Astronomy Department, Rice University, TX
05/13 Seminar talk, Physics & Astronomy Department, Rice University, TX
04/13 Institute of Advanced Studies, Tsinghua University, Beijing, China
02/13 Colloquium talk, Enrico Fermi Institute, University of Chicago, IL
12/12 Joint CQSE and CASTS Seminar talk, National Taiwan University, Taiwan
12/12 Seminar talk, Institute of Physics, Academic Sinica, Taiwan
10/12 Colloquium talk, University of Chicago, IL
09/12 Hard Condensed Matter and Atomic-Molecular-Optical Physics Seminar, Georgia Institute of Technology, GA
09/12 Seminar talk, Ecole Normale Superieure, Paris, France
09/12 AMO physics lectures, Ecole Normale Superieure, Paris, France
07/12 Seminar talk, Innsbruck University, Innsbruck, Austria
06/12 Special lectures, Shanxi University, China
05/12 Colloquium talk, Cornell University, NY
03/12 Seminar talk, Georgia Institute of Technology, GA
01/12 Seminar talk, Stanford University, CA
01/12 Colloquium talk, Cornell University, NY
12/11 Joint CQSE and CASTS Seminar talk, National Taiwan University, Taiwan
12/11 Seminar talk, National Tsinghua University, Hsinchu, Taiwan
10/11 Seminar talk, Purdue University (Calumet campus), Hammond, IN
10/11 Atomic, Molecular, and Optical Physics Seminar talk, Northwestern University, Evanston, IL
10/11 Colloquium talk, University of Wisconsin – Madison, Madison, WI
09/11 Colloquium talk, Princeton University, Princeton, NJ
09/11 Seminar talk, LENS, Florence, Italy
09/11 Colloquium talk, University of Virginia, VA
08/11 Seminar talk, Institute for Interdisciplinary Information Sciences, Tsinghua University, China
06/11 Colloquium talk, Aspen Workshop, Aspen, CO
02/11 Colloquium talk, Pennsylvania State University, State College, PA
02/11 Colloquium talk, University of Washington, Seattle, WA
02/11 Colloquium talk, University of Connecticut, Storrs, CN
12/10 Seminar talk, National Tsing-Hua University, Hsinchu, Taiwan
12/10 Seminar talk, Institute of Physics, Academic Sinica, Taipei, Taiwan
12/10 Colloquium talk, Physics Department, Chinese University of Hong Kong, Hong Kong, China
12/10 Seminar talk, Institute of Atomic and Molecular Sciences, Academic Sinica, Taipei, Taiwan
12/10 Colloquium talk, Institut fur Augewandte Physik, University of Bonn, Bonn, Germany
11/10 Seminar talk, 5th Physics institute, University of Stuttgart, Stuttgart, Germany
11/10 Colloquium talk, Oklahoma State University, Stillwater, OK
10/10 Colloquium talk, University of Calgary, Calgary, Canada
10/10 CM seminar talk, Purdue University, IN
09/10 CM seminar talk, University of Massachusetts Amherst, MA
06/10 ZhongCuanCun Forum talk, Beijing, China
06/10 Seminar talk, Peking University, Beijing, China
06/10 Seminar talk, Tsinghua University, Beijing China
04/10 AMO seminar talk, Joint Quantum Institute, University of Maryland, MD
04/10 Colloquium talk, Indiana University-Purdue University, Indianapolis, IN
04/10 Colloquium talk, Illinois Institute of Technology, Chicago, IL
03/10 CM/AMO Seminar talk, University of Michigan, Ann Arbor, MI

12/09 NCKU Physics/NCTS Seminar talk, National Cheng Kung University, Taiwan
12/09 Seminar talk, Physics Department, National Chung Hsing University, Taiwan
12/09 NTU Physics/CTS Seminar talk, National Taiwan University, Taiwan
11/09 Colloquium talk, Physics Department, Colorado School of Mines, Golden, CO
11/09 Special Colloquium talk, JILA, Boulder, CO
11/09 Colloquium talk, Physics Department, University of Ulm, Germany
10/09 Nuclear Physics Seminar Talk, University of Kentucky, Lexington, IL
10/09 Colloquium talk, University of Kentucky, Lexington, IL
10/09 AMO seminar talk, UC Berkeley, Berkeley, CA
10/09 Colloquium talk, Northwestern University, Evanston, IL
10/09 Colloquium talk, University of Chicago, Chicago, IL
09/09 Colloquium talk, University of Massachusetts, Boston, MA
09/09 Center for Ultracold Atoms Seminar talk, MIT, Boston, MA
09/09 Colloquium talk, Heidelberg University, Heidelberg, Germany
09/09 Seminar talk, Max-Planck-Institute for Quantum Optics, Munich, Germany
08/09 Seminar talk, Los Alamos National Laboratory, Los Alamos, NM
07/09 Seminar talk, Institute of Quantum Electronics, Peking University, University, Beijing, China
07/09 Seminar talk, Institute of Physics, Chinese Academy of Science, Beijing, China
07/09 Colloquium talk, Physics Department, Tsinghua University, Beijing, China
07/09 Seminar talk, Center for Advanced Study, Tsinghua University, Beijing, China
06/09 Colloquium talk, Institute for Quantum Computing, Waterloo, Canada
04/09 Seminar talk, Physics Department, Ohio State University, OH
04/09 Seminar talk, High Energy Physics division, Argonne National Laboratory, IL
03/09 Colloquium talk, Physics Department, University of California, Davis, CA
03/09 Seminar talk, Physics Department, University of Texas at Austin, TX
03/09 AMO seminar talk, Physics Department, Rice University, Houston, TX
12/08 CQSE Seminar talk, Institute of Atomic, Molecular Science, National Taiwan University, Taiwan
09/08 Seminar talk, Physics Department, Michigan State University, MI
09/08 Seminar talk, Physics Department, University of Toronto, Canada
12/07 Seminar talk, Physics Department, National Tsinghua University, Hsinchu, Taiwan
08/07 Seminar talk, Physics Department, Beijing University, China
04/07 Colloquium talk, Physics Department, Northwestern University
12/06 Colloquium talk, Physics Department, National Taiwan University, Taipei, Taiwan
10/06 HEP Seminar Talk, Physics Department, University of Chicago
10/06 Colloquium talk, Physics Department, Toledo University
09/06 Seminar talk, Physics Department, Kyoto University, Kyoto, Japan
09/06 Seminar talk, Physics Department, Tokyo University, Tokyo, Japan
08/06 Colloquium talk, Physics Department, National Cheng-Kung University, Tainan, Taiwan
08/06 Seminar talk, Institute of Atomic and Molecular Science, Academic Sinica, Taipei, Taiwan
05/06 Colloquium talk, Argonne National Laboratory, Argonne
04/06 Seminar talk, Physics Department, Ohio State University
04/06 Colloquium talk, Physics Department, Purdue University
03/06 Contributed talk, APS March meeting, Baltimore, Maryland
03/06 Colloquium talk, James Franck institute, University of Chicago
01/06 Seminar talk, Physics Department, University of Michigan
09/05 Seminar talk, Physics Department, Jiao Tong University, Shanghai, China
03/05 Colloquium talk, Argonne National Laboratory, Argonne, IL
03/05 Colloquium talk, Physics Department, University of Chicago, IL

Selected Public Coverage *(since 2005)*

2017 **Univ. of Chicago News:** UChicago scientists see fireworks from atoms at ultra-low temperatures

2017 **Univ. of Chicago News:** UChicago physicists settle debate over how exotic quantum particles form

2017 **Univ. of Chicago:** Undergrads achieve levitation breakthrough

2017 **Chicago Maroon:** Physics Undergraduates Help Discover New Levitation Method

2017 **Univ. of Chicago News:** New method uses heat flow to levitate variety of objects

2016 **Univ. of Chicago News:** Researchers confirm decades-old theory decribing principle of phase transitions

2015 **Univ. of Chicago News:** *Laser-wielding physicists seize control of atoms' behavior*

2015 **Physics Viewpoint:** Casting new light on atomic interactions

2015 **Univ. of Chicago News:** *Cesium atoms shaken, not stirred, to create elusive excitation in superfluid*

2015 **Univ. of Chicago News:** *Exotic, gigantic molecules fit inside each other like Russian nesting dolls*

2014 **Quanta:** *Physicists Find a Surprising Rule of Threes*

2013 **Science**: Ultracold Big Bang experiment successfully simulates evolution of early universe

2013 **Univ. of Chicago News**: Ultracold Big Bang experiment successfully simulates evolution of early universe

2012 **Univ. of Chicago News**: Ultracold experiments heat up quantum research

2011 **Univ. of Chicago News**: *Same rules apply to some experimental systems regardless of scale*

2009 **NSF**: *"Wedding Cake" Images Display Transitions between Exotic Quantum States*

2009 **Univ. of Chicago News**: *Experiment reveals dramatic transition from conductor to insulator*

2008 **Physorg.com**: *Physicists propose ultracold scheme for scalable quantum information processing*

2008 **Univ. of Chicago Inquiry**: *Faculty Q and A with Cheng Chin*

2007 **Univ. of Chicago News**: *Physicists warm up to ultracold experiments*