Publication List (including Talks)

Papers (and preprints) in refereed journals

1. B. Plotkin-Swing, D. Gochnauer, K. McAlpine, S. Gupta: 
   *High-visibility large-area atom interferometry* 

2. R. Roy, A. Green, R. Bowler, and S. Gupta: 
   *Two-Element Mixture of Bose and Fermi Superfluids* 

3. R. Roy, R. Shrestha, A. Green, S. Gupta, M. Li, S. Kotochigova, A. Petrov, and C.H. Yuen: 
   *Photoassociative production of ultracold heteronuclear YbLi* molecules* 

4. B. Saxberg, B. Plotkin-Swing, and S. Gupta: 
   *Active Stabilization of a Diode Laser Injection Lock.* 

5. R.J. Roy, A.M. Green, R.S. Bowler, and S. Gupta: 
   *Rapid Cooling to Quantum Degeneracy in Dynamically Shaped Atom Traps* 

6. A. Jayakumar, B. Plotkin-Swing, A.O. Jamison, and S. Gupta: 
   *Dual-axis Vapor Cell for simultaneous laser frequency stabilization on disparate optical transitions.* 

   *Magnetic Field Dependent Interactions in an Ultracold Li-Yb(3P2) Mixture.* 

8. A.O. Jamison, B. Plotkin-Swing, and S. Gupta: 
   *Advances in Precision Contrast Interferometry with Yb Bose-Einstein condensates.* 

   *Ultracold Heteronuclear Mixture of Ground and Excited State Atoms.* 

    *Production of quantum degenerate mixtures of ytterbium and lithium with controllable inter-species overlap.* 
   *Dynamics of Feshbach molecules in an ultracold three-component mixture.*

12. V.V. Ivanov and S. Gupta:
   *Laser-driven Sisyphus cooling in an optical dipole trap.*

13. A.O. Jamison, J.N. Kutz, and S. Gupta:
   *Atomic Interactions in Precision Interferometry Using Bose-Einstein Condensates.*

   *Quantum Degenerate Mixture of Ytterbium and Lithium Atoms.*

15. V.V. Ivanov, A. Khramov, A.H. Hansen, W.H. Dowd, F. Munchow, A.O. Jamison, and S. Gupta:
   *Sympathetic cooling in an optically trapped mixture of alkali and spin-singlet atoms.*

16. K.W. Murch, K.L. Moore, S. Gupta, and D.M. Stamper-Kurn:
   *Observation of quantum-measurement backaction with an ultracold atomic gas.*

17. S. Gupta, K.L. Moore, K.W. Murch, and D.M. Stamper-Kurn:
   *Cavity nonlinear optics at low photon numbers from collective atomic motion.*

18. K.L. Moore, S. Gupta, K.W. Murch, and D.M. Stamper-Kurn:
   *Probing the quantum state of a guided atom laser pulse.*

19. K.W. Murch, K.L. Moore, S. Gupta, and D.M. Stamper-Kurn:
   *Dispersion management of ultracold atoms using betatron resonances in a storage ring.*

20. S. Gupta, K.W. Murch, K.L. Moore, T.P. Purdy, and D.M. Stamper-Kurn:
   *Bose-Einstein condensation in a circular waveguide.*

   *Bose-Einstein condensation in a mm-scale Ioffe-Pritchard trap.*
22. K.L. Moore, T.P. Purdy, K.W. Murch, S. Leslie, S. Gupta and D.M. Stamper-Kurn:  
"Collimated single-pass atom source from a pulsed alkali metal dispenser for laser-cooling experiments."  

23. S. Gupta, Z. Hadzibabic, J.R. Anglin, and W. Ketterle:  
"Collisions in zero temperature Fermi gases."  

"Observation of Bose-Einstein condensation of molecules."  

25. M.W. Zwierlein, Z. Hadzibabic, S. Gupta, and W. Ketterle:  
"Spectroscopic insensitivity to cold collisions in a two-state mixture of fermions."  

"Fifty-fold improvement in the number of quantum degenerate fermionic atoms."  

"Radio-Frequency Spectroscopy of Ultracold Fermions."  

"Sodium Bose-Einstein Condensates in the F=2 State in a Large-volume Optical Trap."  

"Decay of an ultracold fermionic Lithium gas near a Feshbach resonance."  

30. S. Gupta, K. Dieckmann, Z. Hadzibabic and D.E. Pritchard:  
"Contrast Interferometry using Bose-Einstein Condensates to Measure h/m and α."  

31. Z. Hadzibabic, C.A. Stan, K. Dieckmann, S. Gupta, M.W. Zwierlein, A. Gorlitz and W. Ketterle:  
"Two-species mixture of quantum degenerate Bose and Fermi gases."  
Transport of Bose-Einstein condensates with optical tweezers.  

Realization of Bose-Einstein condensates in lower dimensions.  

Observation of vortex phase singularities in Bose-Einstein condensates.  

35. D.E. Pritchard, A.D. Cronin, S. Gupta and D.A. Kokorowski:  
Atom optics: Old ideas, current technology, and new results.  

Amplification of light and atoms in a Bose-Einstein condensate.  

37. A.P. Chikkatur, A. Gorlitz, D.M. Stamper-Kurn, S. Inouye, S. Gupta, and W. Ketterle:  
Suppression and enhancement of impurity scattering in a Bose-Einstein condensate.  

38. S. Inouye, T. Pfau, S. Gupta, A.P. Chikkatur, A. Gorlitz, D.E. Pritchard, and W. Ketterle:  
Phase-coherent amplification of atomic matter waves.  

Excitation of phonons in a Bose-Einstein condensate by light scattering.  

Measurement of the density matrix of a longitudinally modulated atomic beam.  

Search for off-diagonal density matrix elements for atoms in a supersonic beam.  

**Articles in Proceedings**


**Invited Talks**

47. *Two-Element Bose-Fermi Superfluid Mixture and Bose-Einstein condensate interferometer*  
AMO Seminar, Stanford University, Stanford, CA, November 16, 2017.

48. *Two-Element Bose-Fermi Superfluid Mixture and Bose-Einstein condensate interferometer*  
AMO Seminar, University of California, Berkeley, CA, November 15, 2017.

49. *Superfluid mixtures, molecules, and interferometry with ultracold atomic gases*  
Physics Colloquium, University of Washington, Seattle, WA, October 2, 2017.

50. *All-optical route to LiYb Molecules*  
Talk at the ARO-MURI meeting, ARL, Adelphi, MD, June 19, 2017.

51. *Two-Element Mixture of Bose and Fermi Superfluids*  
AMO Seminar, Georgia Institute of Technology, Atlanta, GA, April 20, 2017.

52. *Two-Element Mixture of Bose and Fermi Superfluids*  
AMO Seminar, Rice University, Houston, TX, Feb 23, 2017.

53. *Building new quantum systems with mixtures of ultracold atomic gases*  
Condensed Matter Seminar, Washington University at St. Louis, Feb 6, 2017.
54. Combining Ytterbium and Lithium: Molecules and Quantum Degenerate Mixtures. Talk at the ARO MURI meeting, Atlanta, GA, October 6, 2016.


60. Combining Ytterbium and Lithium for Ultracold Doublet-Sigma Molecules. Talk at the ARO MURI meeting, Harvard University, Cambridge, MA, Nov 5, 2015.


63. Combining Ytterbium and Lithium for Ultracold Doublet-Sigma Molecules. Talk at the ARO MURI meeting, University of California at Los Angeles, CA, Nov 20, 2014.

64. Combining Alkali and Alkaline-Earth-Like Atoms. AMO Seminar, University of Illinois at Urbana-Champaign, IL, Nov 5, 2014.


77. *Quantum Mixtures and Polar Molecules from Mismatched Ultracold Atoms*. AMO Seminar, Northwestern University, Evanston, IL, Feb 1, 2012.


82. *Cavity QED and Polar Molecules with Ultracold Atoms.*
   Seminar, Oregon Center for Optics, University of Oregon, Eugene, OR, 4th May 2009.

83. *Precise Infrared Methods on Ultracold Molecules.*
   CMA Seminar, Physics Department, University of Washington, Seattle, WA, 20th Jan 2009.

84. *Ultracold Atoms and Quantum Gases.*

85. *Ultracold Atoms and Quantum Optics.*
   Physics Department Colloquium, Washington State University, Pullman, October 23, 2007.

86. *Cavity QED with ultracold atoms.*

87. *Cavity QED with ultracold atoms.*

88. *Ultracold Atoms and Bose-Einstein Condensates in Storage Rings and Optical Cavities.*
   School of Natural Sciences Seminar, University of California at Merced, March 23, 2006.

89. *Ultracold Atoms and Bose-Einstein Condensates in Storage Rings and Optical Cavities.*
   Physics Department Colloquium, University of Washington, Seattle, March 09, 2006.

90. *Ultracold Atoms and Bose-Einstein Condensates in Storage Rings and Optical Cavities.*
   Physics Department Seminar, Yale University, February 23, 2006.

91. *Ultracold Atoms and Bose-Einstein Condensates in Storage Rings and Optical Cavities.*
   Physics Department Seminar, College of William and Mary, February 20, 2006.

92. *Ultracold Atoms and Bose-Einstein Condensates in Storage Rings and Optical Cavities.*
   Physics Department Seminar, Georgia Institute of Technology, February 13, 2006.

93. *Bose-Einstein Condensates in Storage Rings and Optical Cavities.*
   Physics Department Seminar, Cornell University, January 19, 2006.

94. *A Storage Ring for Bose-Einstein Condensates.*
   Physics Department Colloquium, University of Arizona, November 09, 2005.

95. *The Quest for Fermionic Superfluidity in Dilute Atomic Gases.*

96. *Sympathetic Cooling in Atom Traps: Road to Degenerate Fermions and Molecular Bose-Einstein condensates.*
97. *Experiments with a strongly interacting fermionic lithium gas.*
   Institute for Nuclear Theory, Univ. of Washington, Seattle, November 19, 2003.

98. *Strongly interacting degenerate Fermi gases.*
   Annual Meeting of the Division of Atomic, Molecular and Optical Physics (DAMOP) of the


100. *Contrast Interferometry with Bose-Einstein Condensates to Measure h/m and α.*
    Workshop on Recoil Induced Effects and BEC, Gargnano del Garda, Italy, June 23-26, 2002.

101. *Atom Optics with a Bose-Einstein Condensate.*
    Seminar, Tata Institute of Fundamental Research, Mumbai, India, February 25, 2002.

102. *Bose-Einstein Condensates: Coherent and Superfluid.*

**Contributed Talks at Conferences with Published Abstracts**

103. *Cavity Nonlinear Optics at Low Photon Numbers from Collective Atomic Motion.*

104. *Bose-Einstein condensates in a circular waveguide.*
    Annual Meeting of the Division of Atomic, Molecular and Optical Physics (DAMOP) of the
    American Physical Society, Lincoln, Nebraska, May 20, 2005.

105. *A Ring Trap for Ultracold Atoms.*
    American Physical Society March Meeting, Los Angeles, California, March 21-25, 2005.

106. *Contrast Interferometry using Bose-Einstein Condensates to Measure h/m and α.*

107. *Investigation of Feshbach resonance in a degenerate fermionic gas.*

108. *Bose-Einstein Condensates in a large-volume optical trap.*

109. *Observation of phase-coherent amplification of atomic matter waves.*
S. Inouye, T. Pfau, S. Gupta, A.P. Chikkatur, A. Gorlitz, D.E. Pritchard, and W. Ketterle