

Curriculum Vitae

Personal

Name Tom Abel
 Date of Birth September, 3rd 1970
 Present Address Kavli Institute for Particle Astrophysics and Cosmology (KIPAC), Stanford
 2575 Sand Hill Road, MS 29, Menlo Park, CA 94025
 Email tabel@stanford.edu
 www <http://tomabel.org>
 Citizenship German
 Marital Status Married. One child, Patrick, born (11/2005)
 Languages: Bilingual in German and English

Education and Employment

9-2015- Professor Department of Physics and Kavli Institute for Particle
 Astrophysics and Cosmology, Stanford University, and SLAC
 6/2015- Director, Kavli Institute for Particle Astrophysics and Cosmology, Stanford
 2/2015- SLAC, Director, Particle Astrophysics and Cosmology Division
 8/2013-6/2015 Acting Director, Kavli Institute for Particle Astrophysics and Cosmology, Stanford
 2010-2011 Visiting Professor at the University of Heidelberg at Institute for Theoretical
 Astrophysics and the Heidelberg Institute of Theoretical Studies
 10/2004-9/2015 Associate Professor Department of Physics and Kavli Institute for Particle
 Astrophysics and Cosmology, Stanford University, and SLAC
 7/2004 Associate Professor with tenure, Dept. for Astronomy and Astrophysics, Penn State
 1/2002 Assistant Professor, Dept. for Astronomy and Astrophysics,
 The Pennsylvania State University, University Park, PA
 8/2001-10/2001 Wempe Lecturer, Astrophysical Institute Potsdam, Germany
 6/2001-12/2001 Postdoctoral Researcher, Institute of Astronomy, Cambridge, UK
 10/1999-6/2001 Postdoctoral Fellow, Harvard College Observatory, Cambridge, US
 6/1999 PhD at the Ludwig Maximillians University Munich
Thesis: The First Structures in the Universe, A Theoretical Study of their
 Formation, Evolution and Impact on Subsequent Structure Formation
 (adv. Simon D.M. White and Michael L. Norman)
 1990-1998 University of Regensburg, physics (Masters degree)
 Thesis: Molecular Hydrogen and the very first Light in the Universe
 (adv. M.L. Norman and U. Krey)
 1/1997-9/1999 Visiting researcher, Max Planck Institute for Astrophysics Garching/Germany
 7/1996-6/1999 Visiting Research Scholar at the National Center for Supercomputing
 Applications at Urbana/Champaign
 1989-1990 Fachhochschule München, technical physics
 1988-1989 Fachhochschule Isny, general physics

Teaching Experience

1990-1992	Lecturer at the Berufsbildungszentrum Regensburg in introductory Math, Astronomy, Ecology, Biology, and Computer Science for a reintegration program for the longterm unemployed.
1990-1994	Tutoring from high-school to university level mostly in math and physics
1993-1994	Teaching Assistant, department of mathematics, University of Regensburg, 300 level classes in calculus and linear algebra
2002 -	502 Theoretical Astrophysics, for 10 graduate students Graduate Seminar: The high redshift Universe 7 students
2003	AST1 The Astronomical Universe, Spring 220, Fall 330 students
2004	497 Special Topics: Structure Formation in the Universe, 11 students
2005	Phys 16: Cosmic Horizons, 40 students Physics 463: Experimental Cosmology with Steve Allen, 5 students
2006/07	Phy 18: Seminar: Revolutions in the Concept of the Cosmos (5 students) Phy 360: Graduate course: Physics of Astrophysics (3 students)
2007/08/09/10	Phy 41N: Mechanics, ~ 15 students Phy 17: Black Holes, ~ 60 students (each time) AST 16: The Observed Universe and how it came to be this way (cont. ed.)
2011	Research Opportunities at Stanford for graduate students.
2012	Phy 211: Continuum Mechanics for graduate students (12 students)
2013	Phy 113: Computational Physics for undergraduates (8 students) Phy 211: Continuum Mechanics for graduate students (17 students)
2014	Phy 113: Computational Physics for undergraduates (10 students)
2015	Phy 113: Computational Physics (8 students)
2016	Phy 113: Computational Physics

Computing Skills and Experience

20 years of parallel computing with MPI and openMP on (Cray YMP, SGI ORIGIN, SGI Altix, IBM SP2 and wide range of clusters Linux/Mac OS)

Programming Languages: IDL, Fortran77, Mathematica, C, C++, Basic, Pascal, Python, PHP, Julia

Operating Systems: various UNIX dialects, Windows, Mac OS X

2014: Started ~10 million dollar research computing initiative between KIPAC, SIMES, SUNCAT and PULSE.

Acquired and operated computers:

52 processor beowulf assembled from parts and operated for three years at PSU (2002-2004)

72 processor SGI Altix with 440Gb ram and 10 Tb disk: 1/2005-2010

800 core AMD opteron based system, 3 Tb of ram with 40 Tb of lustre fs: since 5/2007

1024 core Cray XT3 since 2010

List of Publications

Citations ~13200, h-index ~ 59, i10 index: 105 [According to Google scholar]

peer reviewed accepted or published:

1. Totorica, Samuel, **Tom Abel**, Frederico Fiuza 2016, Non-Thermal Electron Energization from Magnetic Reconnection in Laser-Driven Plasmas, PRL, 116, 095003.

2. Wojtak, Radoslaw, Devon Powell, **Tom Abel** 2016, Voids in cosmological simulations over cosmic time, MNRAS, accepted.
3. Julian, Kates Harbeck, Samuel Totorica, Jonathan Zrake, Tom Abel, 2015, Simplex-in-Cell Technique for Collisionless Plasma Simulations, Journal of Computational Physics, 304, 231.
4. Hide Yajima, Yuexing Li, Qirong Zhu, **Tom Abel** 2015, Cold Accretion in Early Galaxy Formation and Its Ly α Signatures, ApJ, 801, 51.
5. Devon Powell & **Tom Abel** 2015, An exact general remeshing scheme applied to conservative voxelization, JComp, 297, 340.
6. Oliver Hahn, Raul Angulo & **Tom Abel** 2014, The Properties of Cosmic Velocity Fields, MNRAS, 454, 3920.
7. John H. Wise, Vasiliv G. Demchenko, Martin T. Halicek, Michael L. Norman, Matthew Turk, **Tom Abel**, Britton Smith 2014, The Birth of a Galaxy - III. Propelling reionisation with the faintest galaxies, MNRAS, 442, 2560.
8. Raul Angulo, Rhuizhu Chen, Stefan Hilbert & **Tom Abel** 2014, Towards Noiseless Gravitational Lensing Simulations, MNRAS, 444, 2925.
9. Ji-Hoon Kim, **Tom Abel**, Oscar Agertz, et al. (+43 co-authors) 2014, The AGORA High-resolution Galaxy Simulations Comparison Project, ApJS, 210, 14.
10. Hide Yajima, Yuexing Li, Qirong Zhu, **Tom Abel**, Caryl Cronwall, Robin Ciardullo 2014, Escape of Ly α and continuum photons from star-forming galaxies, MNRAS, 440, 776.
11. Tony Y. Li, Marcelo Alvarez, Risa Wechsler & **Tom Abel** 2013, Reionization Histories of Milky Way Mass Halos, ApJ, 785, 11.
12. Greg Bryan, Michael L. Norman, Brian O'Shea, **Tom Abel** (+24 co-authors) 2013, Enzo: An Adaptive Mesh Refinement Code for Astrophysics, ApJS, 211, 19.
13. Raul Angulo, Oliver Hahn & **Tom Abel** 2013, The Warm DM halo mass function below the cut-off scale, MNRAS, 434, 3337.
14. Raul Angulo, Oliver Hahn & **Tom Abel** 2013, How closely do baryons follow dark matter on large scales?, MNRAS, 434 1756.
15. Oliver Hahn, **Tom Abel**, Ralf Kaehler 2013, A new approach to simulating collisionless dark matter fluids, MNRAS, 434, 1171.
16. Ji-hoon Kim, Mark Krumholz, John Wise, Matthew Turk, Nathan Goldbaum, **Tom Abel** 2013, Dwarf Galaxies with Ionizing Radiation Feedback. II: Spatially-resolved Star Formation Relation, ApJ 779, 8.
17. Ji-hoon Kim, Mark Krumholz, John Wise, Matthew Turk, Nathan Goldbaum, **Tom Abel** 2013, Dwarf Galaxies with Ionizing Radiation Feedback. I: Escape of Ionizing Photons, ApJ 775, 109.
18. Jedamzik, Karsten & **Tom Abel** 2013, Weak Primordial Magnetic Fields and Anisotropies in the Cosmic Microwave Background Radiation, JCAP, 10, 50.
19. John H. Wise, **Tom Abel**, Matthew J. Turk, & Michael L. Norman 2012, The Birth of a Galaxy: II The Role of Radiation Pressure, MNRAS, 427, 311.
20. Marcelo Alvarez & **Tom Abel** 2012, The Effect of Absorption Systems on Cosmic Reionization, ApJ, 747, 126.
21. Matthew J. Turk, Jeffrey S. Oishi, **Tom Abel** & Greg Bryan 2012, Magnetic Fields in Population III Star Formation, ApJ, 745, 154.
22. John H. Wise, Matthew J. Turk, Michael L. Norman & **Tom Abel** 2012, The Birth of a Galaxy: Primordial Metal Enrichment and Stellar Populations, ApJ, 745, 50.
23. Hide Yajima, Yuexing Li, Qirong Zhu, **Tom Abel**, Caryl Cronwall, Robin Ciardullo 2012, Were progenitors of local L* galaxies Lyman-alpha emitters at high redshift?, ApJ, 754, 118.
24. **Tom Abel**, Oliver Hahn & Ralf Kaehler 2012, Tracing the Dark Matter Sheet in Phase Space, MNRAS, 427, 61.
25. Hide Yajima, Yuexing Li, Qirong Zhu & **Tom Abel** 2012, ART² : Coupling Lyman-alpha Line and Multi-wavelength Continuum Radiative Transfer, MNRAS, 424, 884.

26. Ji-hoon Kim, John H. Wise, Marcelo Alvarez & **Tom Abel** 2012, Galaxy Formation with Self-consistently Modeled Stars and Massive Black Holes. I. Feedback-regulated Star Formation and Black Hole Growth, *ApJ*, 738, 54.
27. Tafelmeyer, M et al. 2011, Extremely Metal-poor Stars in Classical Dwarf Spheroidal Galaxies: Fornax, Sculptor, and Sextans, *A&A*, 527, 1.
28. Alexei Kritsuk, Aake Nordlund, David Collins, Palo Padoan, Michael L. Norman, **Tom Abel**, Robi Banerjee, Christoph Federrath, Mario Flock, Dongwook Lee, Pak Shing Li, Wolf-Christian Mueller, Romain Teyssier, Sergey Ustyugov, Christian Vogel, Hao Xu 2011, Comparing Numerical Methods for Isothermal Magnetized Supersonic Turbulence, *ApJ*, 737, 13.
29. Oliver Hahn & **Tom Abel** 2011, Multi-scale initial conditions for cosmological simulations, *MNRAS*, 415, 2101.
30. John H. Wise & **Tom Abel** 2011, Enzo+Moray: Radiation Hydrodynamics Adaptive Mesh Refinement Simulations with Adaptive Ray Tracing, *MNRAS*, 414, 3458.
31. **Tom Abel** 2011, The first stars, as seen by supercomputers, *Physics Today*, 04/2011, page 51.
32. **Tom Abel** 2011, *rpSPH*, a novel Smoothed Particle Hydrodynamics Algorithm, *MNRAS*, 413, 271.
33. Matt Turk, Britton Smith, Jeff Oishi, Stephen Skory, Sam Skillman, **Tom Abel** & Michael Norman 2011, yt: A Multi-code Analysis Toolkit for Astrophysical Simulation Data, *ApJS*, 192, 9
34. Matt Turk, Paul Clark, Simon Glover, Thomas Greif, **Tom Abel**, Ralf Klessen, Volker Bromm 2011, Effects of Varying the Three-body Molecular Hydrogen Formation Rate in Primordial Star Formation, *ApJ*, 726, 55
35. Matt Turk, Michael L. Norman, **Tom Abel** 2010, High-entropy Polar Regions Around the First Protostars, *ApJ*, 725, 140
36. Tafelmeyer, M. et al (16 authors) Extremely metal-poor stars in classical dwarf spheroidal galaxies: Fornax, Sculptor, and Sextans 2010, *A&A* 524, 58
37. Zhi-Yun Li, Peng Wang, **Tom Abel**, Fumitaka Nakamura 2010, Lowering the Characteristic Mass of Cluster Stars by Magnetic Fields and Outflow Feedback, *ApJ*, 720, 26
38. Brant Robertson, Andrey Kravtsov, Nickolay Gnedin, **Tom Abel**, Douglas Rudd 2010, Computational Eulerian hydrodynamics and Galilean invariance, *MNRAS*, 401, 2463.
39. Peng Wang, Zhi-Yun Li, **Tom Abel**, Fumitaka Nakamura 2010, Outflow Feedback Regulated Massive Star Formation in Parsec-Scale Cluster-Forming Clumps, *ApJ* 709, 27.
40. Peng Wang, **Tom Abel** & Ralf Kähler 2010, Adaptive Mesh Fluid Simulations on GPU, *NewA*, 15, 581.
41. Michael Busha, Marcelo Alvarez, Risa Wechsler, **Tom Abel**, Louis Strigari 2010, The Impact of Inhomogeneous Reionization on the Satellite Galaxy Population of the Milky Way, *ApJ*, 710, 408.
42. Marcelo Alvarez, Michael Busha, **Tom Abel**, Risa Wechsler 2009, Connecting Reionization to the Local Universe, *ApJ*, 703, 167.
43. Matthew Turk, **Tom Abel**, Brian O'Shea 2009, The Formation of Population III Binaries from Cosmological Initial Conditions, *Science*, 3235, 601.
44. Marcelo Alvarez, John H. Wise & **Tom Abel** 2009, Accretion onto the First Stellar Mass Black Holes, *ApJL*, 701, 133.
45. Ji-hoon Kim, John H. Wise & **Tom Abel** 2009, Galaxy Mergers with Adaptive Mesh Refinement: Star Formation and Hot Gas Outflow, *ApJL*, 694, 123.
46. Peng Wang & **Tom Abel** 2009, Magnetohydrodynamic Simulations of Disk Galaxy Formation: The Magnetization of the Cold and Warm Medium, *ApJ*, 699, 96.
47. Simon Glover & **Tom Abel** 2008, Uncertainties in H₂ and HD chemistry and cooling and their role in early structure formation, *MNRAS*, 388, 1627.
48. John Wise & **Tom Abel** 2008, How the First Stars start Cosmological Reionization, *ApJ*, 684, 1.
49. John Wise & **Tom Abel** 2008, Resolving the Formation of Proto-Galaxies III) Feedback from the First Stars, *ApJ*, 685, 40.

50. John Wise, Matthew Turk & **Tom Abel** 2008, Resolving the Formation of Proto-Galaxies II) Central Gravitational Collapse, *ApJ*, 682, 745.
51. Britton Smith, Steinn Sigurdsson, **Tom Abel** 2008, Metal cooling in simulations of cosmic structure formation, *MNRAS*, 208,
52. John Wise & **Tom Abel** 2008, Suppression of H₂ Cooling in the Ultraviolet Background, *ApJ* 671, 1559.
53. Peng Wang, **Tom Abel**, Weiqun Zhang 2008, Relativistic Flows Using Spatial and Temporal Adaptive Structured Mesh Refinement, *ApJS*, 176, 467.
54. John Wise & **Tom Abel** 2008, Resolving the Formation of Proto-Galaxies I) Virialization, *ApJ*, 665, 899
55. Peng Wang & Tom Abel 2008, Dynamical Treatment of Virialization Heating in Galaxy Formation, *ApJ*, 672, 752.
56. Miroslav Micic, Kelly Holley-Bockelmann, Steinn Sigurdsson, **Tom Abel** 2007, Supermassive black hole growth and merger rates from cosmological N-body simulations, *MNRAS*, 380, 1533
57. Marcelo Alvarez & **Tom Abel** 2007, Quasar HII region during Cosmic Reionization, *MNRAS*, 380, 30.
58. Mordecai-Mark Mac Low, Jayashree Toraskar, Jeffrey S. Oishi, **Tom Abel** 2007, Dynamical Expansion of H II Regions from Ultracompact to Compact Sizes in Turbulent, Self-Gravitating Molecular Clouds, *ApJ*, 668, 980.
59. Amina Helmi, M.J. Irwin, E. Tolstoy, G. Battaglia, V. Hill, P. Jablonka, K. Venn, M. Shetrone, B. Letarte, N. Arimoto, **Tom Abel** , P. Francois, A. Kaufer, F. Primas, K. Sadakane, T. Szeifert 2006, A new view of the dwarf spheroidal satellites of the Milky Way from VLT/FLAMES: Where are the very metal poor stars?, *ApJL* 651, 121.
60. L. Gao, Tom Abel, Carlos S. Frenk, Adrian Jenkins, Volker Springel, Naoki Yoshida 2007, The first generation of stars in LCDM cosmology, *MNRAS*, 378, 449.
61. **Tom Abel**, John H. Wise, Greg L. Bryan 2007, The HII Region of a Primordial Star, *ApJL* 659, 87.
62. Naoki Yoshida, Kazuyuki Omukai, Lars Hernquist, **Tom Abel** 2006, Formation of Primordial Stars in a LCDM Universe, *ApJ* 651, 121.
63. G. Battaglia, E. Tolstoy, A. Helmi, M.J. Irwin, B. Letarte, P. Jablonka, V. Hill, K.A. Venn, M.D. Shetrone, N. Arimoto, F. Primas, A. Kaufer, P. Francois, T. Szeifert, **Tom Abel**, K. Sadakane, 2006, The DART imaging and CaT survey of the Fornax Dwarf Spheroidal Galaxy, *A&A* 459, 423.
64. Miroslav Micic, **Tom Abel**, Steinn Sigurdsson 2006, The Role of Primordial Kicks on Black Hole Merger Rates, *MNRAS* 372, 1540.
65. Jiajian Shen, **Tom Abel**, H.J. Mo, Ravi Sheth 2006, An excursion set model of the cosmic web: The Abundance of Sheets, Filaments and Halos, *ApJ* 645, 783-791
66. Brian O'Shea, **Tom Abel**, Dan Whalen & Michael L. Norman 2005, Forming a Primordial Star in a Relic H II Region, *ApJL*, 628, 5.
67. Eline Tolstoy et al., 2004, Two Distinct Ancient Components in the Sculptor Dwarf Spheroidal Galaxy: First Results from the Dwarf Abundances and Radial Velocities Team, *ApJL* 617, 119.
68. John Wise & **Tom Abel** 2005, The Number of Supernovae from Primordial Stars in the Universe , *ApJ* 629 (2005) 615-624.
69. Aaron Sokasian, Naoki Yoshida, **Tom Abel**, Lars Hernquist, Volker Springel 2004, Cosmic Reionization by stellar sources: Population III stars, *MNRAS*, 350, 47.
70. Yuexing Li, Mordecai-Mark Mac Low, **Tom Abel** 2004, Initial Ionization of Compressible Turbulence, *ApJ*, 610, 339.
71. Emanuele Ripamonti & **Tom Abel** 2004, Fragmentation and the formation of primordial protostars: the possible role of Collision Induced Emission, *MNRAS*, 348, 1019
72. Lijun Gou, Peter Meszaros, **Tom Abel**, Bing Zhang 2004, The Detectability of Long Gamma-Ray Burst Afterglows from Very High Redshifts, *ApJ*, 604, 508.
73. Dan Whalen, **Tom Abel**, Michael L. Norman 2004, Radiation Hydrodynamic Evolution of Primordial HII Regions, *ApJ* 610, 14.

74. Akimi Fujita, Crystal Martin, Mordecai-Mark Mac Low, & **Tom Abel** 2003, The Influence of Supershells and Galactic Outflows on the Escape of Ionizing Radiation from Dwarf Starburst Galaxies, *ApJ*, 599, 50.
75. Aaron Sokasian, **Tom Abel**, Lars Hernquist & Volker Springel 2003, Cosmic reionisation by stellar sources: Population II stars, *MNRAS*, 344, 607.
76. Naoki Yoshida, **Tom Abel**, Lars Hernquist, Naoshi Sugiyama 2003, Simulations of Early Structure Formation: Primordial Gas Clouds, *ApJ*, 592, 645.
77. Frank C. van den Bosch, **Tom Abel**, & Lars E. Hernquist 2003, The Angular Momentum of Gas in Proto-Galaxies: The Impact of Preheating, *MNRAS*, 346, 177
78. Konstantinos Tassis, **Tom Abel**, Greg L. Bryan and Michael L. Norman 2003, Numerical Simulations of high redshift Star Formation in Dwarf Galaxies, *ApJ* 587, 13.
79. Marie E. Machacek, Greg L. Bryan, **Tom Abel** 2003, Effects of a Soft X-ray Background on Structure Formation at High Redshift, *MNRAS*, 338, 273.
80. Aaron Sokasian, **Tom Abel** & Lars E. Hernquist 2002, The Nature of the Ionizing Background at $z = 2.5-5$, *MNRAS*, 340, 473.
81. Frank C. van den Bosch, **Tom Abel**, Rupert A. C. Croft, Lars E. Hernquist & Simon D. M. White 2002, The Angular Momentum of Gas in Proto-Galaxies: Implications for the Formation of Disk Galaxies, *ApJ*, 576, 21.
82. Marie E. Machacek, Greg L. Bryan, **Tom Abel** 2002, Effects of a Soft X-ray Background on Structure Formation at High Redshift, *ApJ*, 540, 39.
83. Aaron Sokasian, **Tom Abel** & Lars Hernquist 2002, The Epoch of Helium Reionization, *MNRAS*, 332, 601.
84. Alexei Razoumov, Michael L. Norman, **Tom Abel**, & Douglas Scott 2002, Cosmological Hydrogen Reionization with Three Dimensional Radiative Transfer, *ApJ*, 572, 695.
85. **Tom Abel**, Ben Wandelt 2002, Adaptive Ray Tracing for Radiative Transfer around Point Sources in Astrophysical Hydrodynamics, *MNRAS*, 330, L53.
86. **Tom Abel**, Greg L. Bryan, Michael L. Norman 2002, The Formation of the First Star in the Universe, *Science*, 295, 93A.
87. Tiziana Di Matteo, Rosalba Perna, **Tom Abel**, Martin J. Rees 2002, Radio Foregrounds for the 21cm Tomography of the Neutral Intergalactic Medium at High Redshifts, *ApJ*, 564, 576.
88. Greg L. Bryan, **Tom Abel**, Michael L. Norman 2001, Technical paper at Supercomputing 2001, Achieving Extreme Resolution in Numerical Cosmology Using Adaptive Mesh Refinement: Resolving Primordial Star Formation, Gordon Bell prize finalist.
89. Nick Gnedin and **Tom Abel** 2001, Multidimensional Cosmological Radiative Transfer with a Variable Eddington Tensor Formalism, *NewA*, 6, 437.
90. Aaron Sokasian, **Tom Abel**, Lars Hernquist 2001, Simulating Reionization in Numerical Cosmology, *NewA*, 6, 359.
91. Zoltan Haiman, **Tom Abel**, Piero Madau 2001, Photonconsumption in Minihalos during Cosmological Reionization, *ApJ*, 551, 599.
92. Marie E. Machacek, Greg L. Bryan, **Tom Abel** 2001, Simulations of Pregalactic Structure Formation with Radiative Feedback *ApJ*, 540, 39.
93. **Tom Abel**, Greg Bryan, Michael L. Norman 2000, The Formation and Fragmentation of Primordial Molecular Clouds, *ApJ*, 540, 39.
94. Zoltan Haiman, **Tom Abel**, Martin J. Rees 2000, The Radiative Feedback of the First Cosmological Objects, *ApJ*, 534, 11.
95. Benedetta Ciardi, Andrea Ferrara, **Tom Abel** 2000, Intergalactic H_2 Photodissociation and the soft UV Background produced by Population III objects., *ApJ*, 533, 594.
96. **Tom Abel**, Martin G. Haehnelt 1999, Radiative Transfer Effects during Photoheating of the Intergalactic Medium, *ApJL*, 520, 13L.

97. **Tom Abel**, Michael L. Norman, Piero Madau 1999, Photon Conserving Radiative Transfer in Multidimensional Numerical Cosmology, *ApJ*, 523, 66.
98. J. Kepner, T.M. Tripp, **Tom Abel**, D. Spergel 1999, Absorption Line Signatures of Gas in Dark Matter Minihalos, *AJ*, 117, 2063.
99. **Tom Abel**, Albert Stebbins, Peter Anninos, & Michael L. Norman 1998, First Structure Formation II) Cosmic String + HDM Models, *ApJ*, 508, 530.
100. **Tom Abel**, Peter Anninos, Yu Zhang, & Michael L. Norman 1998, First Structure Formation I) Primordial Star Forming Regions in Hierarchical Models, *ApJ*, 508, 518.
101. **Tom Abel**, and H.J. Mo 1998, A "Minihalo" Model for the Lyman Limit Systems at High Redshift, *ApJL*, 494, L151.
102. Peter Anninos, Yu Zhang, **Tom Abel**, & Michael L. Norman 1997, Cosmological Hydrodynamics with Multi-Species Chemistry and Nonequilibrium Ionization and Cooling, *New Astronomy*, 2, 209.
103. **Tom Abel**, Peter Anninos, Yu Zhang, & Michael L. Norman, 1997, Modelling Primordial Gas in Numerical Cosmology, *New Astronomy*, 2, 181.
104. Max Tegmark, Joseph Silk, Martin J. Rees, Alain Blanchard, **Tom Abel**, & Francesco Palla, 1997, How small were the First Cosmological Objects?, *APJ*, 474, 1.

Refereed Publications in Scientific Visualization

105. Ralf Kaehler & **Tom Abel**, 2013, Single-Pass GPU-Raycasting for Structured Adaptive Mesh Refinement Data, *Proceedings of Visualization and Data Analysis*
106. Ralf Kaehler, **Tom Abel**, Oliver Hahn 2012, A Novel Approach to Visualizing Dark Matter Simulations, *IEEE Transactions on Visualization and Computer Graphics (IEEE Scientific Visualization 2012)*, Volume 18, Number 12.
107. Ralf Kaehler & **Tom Abel** 2012, Interactive Stereoscopic Visualization of Large-scale Astrophysical Simulations, *Stereoscopic Displays and Applications XXIII*. Edited by Woods, Andrew J.; Holliman, Nicolas S.; Favalora, Gregg E. *Proceedings of the SPIE*, Volume 8288, pp. 82882O-82882O-8.
108. Ralf Kaehler, Marcelo Alvarez, **Tom Abel** 2009, "Visualizing the Reionization of the Universe on Programmable Graphics Hardware", *Proceedings of Astronom-2009: Numerical Modeling of Space Plasma Flows*, pages 311-316, Edited by N. V. Pogorelov, E. Audit and G. P. Zank. San Francisco: Astronomical Society of the Pacific
109. Ralf. Kaehler, **Tom Abel**, Hans-Christian Hege 2007, Simultaneous GPU-Assisted Raycasting of Unstructured Point Sets and Volumetric Grid Data, *Proceedings of IEEE/EG International Symposium on Volume Graphics 2007*, pages 49-56.
110. Ralf Kaehler, John Wise, **Tom Abel**, Hans-Christian Hege 2006, GPU-Assisted Raycasting for Cosmological Adaptive Mesh Refinement Simulations, *Proceedings of International Workshop on Volume Graphics 2006*, pages 103-110.
111. Ralf Kaehler, Donna Cox, Rob Patterson, Stuart Levy, Hans-Christian Hege, **Tom Abel** 2002 Rendering the First Star in the Universe - A Case Study, *Proceedings of IEEE Visualization 2002*, pages 537-540.

Reviews & Books

112. Achim Weiss, **Tom Abel** and Vanessa Hill (eds.) 2000, *The First Stars*, *Proceedings of the second MPA/ESO conference held in Garching, August 1999*, Springer Verlag.
113. **Tom Abel**, Zoltan Haiman 2000, *The Role of H₂ Molecules in Cosmological Structure Formation*, invited review for "Molecular Hydrogen in Astrophysics", Nova Science Books, eds. F. Combes, De Forest, G.
114. Emanuele Ripamonti & **Tom Abel** 2005, *The Formation of Primordial Luminous Objects*, Lecture notes for the spring 2003 SIGRAV Doctoral School "The Joint Evolution of Black Holes and Galaxies", M.Colpi, V.Gorini, F. Haardt, U. Moschella (eds.), "Joint Evolution of Black Holes and Galaxies", series in High Energy Physics, Cosmology and Gravitation, Institute of Physics Publishing, Bristol and Philadelphia

Contributed Papers

115. Yu Zhang, Michael L. Norman, Peter Anninos, **Tom Abel** 1997, Primordial Star Forming Regions in CDM Models, in *Star Formation Near and Far*, eds. Holt.
116. **Tom Abel**, Greg L. Bryan, Michael L. Norman 1998, Simulating First Structure Formation, in "H₂ in the early Universe", eds. Palla, F., Galli, D., Corbelli, E., *Memorie Della Societa Astronomica Italiana*.
117. Michael L. Norman, Pascal Paschos, **Tom Abel** 1998, Simulating inhomogenous Reionization, in "H₂ in the early Universe", eds. Palla, F., Galli, D., Corbelli, E., *Memorie Della Societa Astronomica Italiana*.
118. **Tom Abel**, Greg L. Bryan, Michael L. Norman 1999, First Structure Formation, in "Evolution of Large Scale Structure: From Recombination to Garching", eds. Banday, T., Sheth, R. K. and Costa, L. N.
119. **Tom Abel**, Greg L. Bryan, Michael L. Norman 1999, From the Universe to the Stars, in "From Stars to the Universe: 3rd German-Chinese mini-workshop on Cosmology.
120. Michael L. Norman, **Tom Abel**, Greg Bryan 1999, From Cosmological Initial Conditions to Primordial Protostellar Cloud Cores, in the proceedings of the Workshop on "From Stars to Galaxies to the Universe", Ringberg Castle, Germany in June 1998, eds. Gerhard Börner and Houjun Mo.
121. Michael L. Norman, **Tom Abel**, Greg Bryan 2000, First Structure Formation and the First Stars, in the proceedings of the MPA/ESO Workshop on "The First Stars", Garching, Germany in August 1999, Springer, eds. Weiss, A., Abel, T. and Hill V.
122. **Tom Abel** 2000, Three Dimensional Radiative Transfer in Numerical Cosmology, in the proceedings of "Plasma 99" held in Mexico City Oct. 99, ed. Franco, J.
123. **Tom Abel**, Greg L. Bryan, M. L. Norman 2000, Forming the First Star in the Universe, in the proceedings of "The Physics of Galaxy Formation", Tskuba, Japan, eds. K. Umemura & H. Susa
124. **Tom Abel**, Greg L. Bryan, M. L. Norman 2001, The Initial Mode of Star Formation in the proceedings of "Modes of Star Formation", Heidelberg, Germany, ed. E. Grebel
125. Alexander Heger, Stan E. Woosley, I. Baraffe & **Tom Abel** 2001, Evolution and Explosion of Very Massive Primordial Stars, MPA/ESO/MPE/USM Joint Astronomy Conference Lighthouses of the Universe: The Most Luminous Celestial Objects and their Use for Cosmology, ESO Symposia Conference Series, Springer, eds. R. Sunyaev, M. Gilfanov, E. Churazov
126. **Tom Abel** 2002, The Basic Building Blocks of Galaxies, in the proceedings of "The Evolution of Galaxies: Basic Building Blocks", eds. M. Sauvage, G. Stasinska, L. Vigroux, D. Schaerer, S. Madden
127. Brian W. O'Shea, Greg Bryan, James Bordner, Michael L. Norman, **Tom Abel**, Robert Harkness, Alexei Kritsuk 2004, in "Adaptive Mesh Refinement - Theory and Applications", Eds. T. Plewa, T. Linde & V. G. Weirs, Springer Lecture Notes in Computational Science and Engineering, 2004.
128. E. Ripamonti, E. Tolstoy, A. Helmi, G. Battaglia, **Tom Abel** 2006, Numerical simulations of the metallicity distribution in dwarf spheroidal galaxies, Proceedings of the CRAL-Conference Series I "Chemodynamics: from first stars to local galaxies", Lyon 10-14 July 2006, France, Eds. Emsellem, Wozniak, Massacrier, Gonzalez, Devriendt, Champavert, EAS Publications Series.
129. O'Shea, Brian W.; McKee, Christopher F.; Heger, Alexander; **Abel, Tom** 2008, Conference summary, "Proceedings of First Stars III," Eds. Brian W. O'Shea, Alexander Heger & Tom Abel
130. John H. Wise, Matthew Turk, Michael L. Norman, **Tom Abel** 2014, Primordial Enrichment of the First Galaxies, *Memorie della Societa Astronomica Italiana*, v.85, p.548
131. Oliver Hahn, **Tom Abel** & Ralf Kaehler 2015, Tracing, Analyzing, and Visualizing Dark Matter in Phase Space, The Thirteenth Marcel Grossmann Meeting, Chapter 379, March 2015, 2139

Successful Proposals

1. DOE-HEP: "A Public, Cutting Edge Code for Visualization and Analysis of Dark Matter Cosmology Simulations"

2. NSF "MRI: Acquisition of an Extreme GPU cluster for Interdisciplinary Research", PI-Todd Martinez, co-PI **Tom Abel**, co-PI Margot Gerritsen, co-PI: Vijay S. Pande, 3.5 million US\$
3. SciDAC, PI S. Habib, "Computation-Driven Discovery for the Dark Universe"
4. NASA AFTP joint with Michael L. Norman 2008-20011, funded one graduate student and one postdoc
5. NSF AST grant joint with Yuexing Li 2008-2011 (Penn State) funded two graduate students.
6. NSF AST joint with Ivan Hubeny, 2008-2011 on Radiation transport methods, one postdoc supported
7. Tom Abel, Stars and Galaxies in the First Billion Years, 2003-2008: NSF CAREER Award, 700,000\$
8. Dart Collaboration: PI: E. Tolstoy, 7 nights of VLT time fall 2003
9. Tom Abel, Matthew Shetrone, Eline Tolstoy, 4 hours of HET time in Spring 2003 for high resolution spectroscopy of metal poor red giants in nearby dwarf spheroidals.
10. E. Bergin, T. Hunter, T. Shridharan, **Tom Abel**, Alex Dalgarno 2001, A Search for Lithium Bearing Molecules in the Galaxy, Awarded 3 nights in Dec. 2001 at the Caltech Submillimeter Observatory

Awards

Elected fellow of the AAAS, 2014, "*For distinguished work and significant advances in the area of supercomputer simulations of the first stars in the Universe*"

Lagrange Prize, 2013-2015, 100,000 €, Institute Lagrange de Paris, Paris, France

Terman Fellow, Stanford 9/2007-9/2010, 250,000 US

NSF Career Award (2003-2008) 700,000 US

Wempe Award, Potsdam 2000 (<http://www.aip.de/en/institute/johann-wempe-award>) "*to be awarded to an outstanding scientist*"

DAAD Scholarship, 1993-1994

Oskar Karl Forster Scholarship, 1993

Meetings (co-) organized

(Listing only major activities not including general SOC membership)

- 2014 Collisionless Fluids, a workshop at the Institute Lagrange de Paris & IAP
- 2013 KIPAC@10, Big Questions in Particle Astrophysics and Cosmology, KIPAC, Stanford, US
- 2010 Kavli Futures Symposium, "Growing High Performance Computing in a Green Environment", Tromsø, Norway
- 2009 Kavli Futures Symposium, "Solving Real Problems with imagined Computers"
Many Core and Accelerator Based Computing workshop, held at SLAC
- 2008 Scientific Challenges for Understanding the Quantum Universe and the Role of Computation at the Extreme Scale, SLAC
- 2007 Star formation over cosmic time, 4 month workshop at KITP Santa Barbara with C. McKee, P. Padoan, A. Goodman
- 2007 First Stars III, Santa Fe, NM with Alex Heger and Brian O'Shea
- 2006 The First Stars and Evolution of the Early Universe, INT Seattle with Yong Qian, Alex Heger & Tim Beers
- 2004 GRB physics before SWIFT, State College, PA, (Chair)
- 2004 Formation of Supermassive Black Holes, Aspen, with Andrew Hamilton, Martin Haehnelt & Andrea Ghez
- 2003 First Stars II, Penn State, State College (Chair)
- 2003 The Baryonic Universe, Aspen Winter workshop with Rosie Wyse
- 1999 First Stars, Garching, Germany with Achim Weiss & Vanessa Hill

Synergistic Activities:

Associate Editor for the Journal of Cosmology and Particle Astrophysics, JCAP since 2014

Scientific Advisory committee for the KIAA, Beijing since 2013

Consulting for National Geographic Magazine 2003, 2014

NSF Postdoc review panel, HST panels, DOE INCITE panels, Astro 2010, since 2002

Advisory Board for Hayden Planetarium Space Show "Journey to the Stars", 2008-2009, 2012-2013

Refereeing for ApJ, MNRAS, Science, Nature, NewA, A&A, JCAP

 Invited Talks given at International Conferences

October 2014	Solvay conference on Astrophysics and Cosmology, Brussels
June 2014	Zel'dovich 100, Moscow, Russia
February 2014	Tracing the Cosmic Web, Lorentz Center, Leiden, Netherlands
October 2013	GRAVASCO, Institute Poincare, Paris, France
June 2013	IAP Colloquium, "Origin of the Hubble Sequence", Paris, France
August 2013	HIPACC Summer School, UCSC, US
May, 2013	Lecturer at Radiation Hydrodynamics Summer School, Leiden, Netherlands
January 2013	Plenary speaker AAS meeting Long Beach
November 2012	East Asian Numerical Astrophysics meeting, Kyoto, Japan
August 2012	Georgia Tech Vislab workshop and public talk to ~ 300 on Dark Matter
May 2012	First Stars IV, Kyoto, Japan
January 2012	New Horizons in Computational Astrophysics, Davos, Switzerland
July 2011	Galaxy Formation, Durham, UK
June 2011	First Galaxies, Ringberg, Bavaria, Germany
May 2011	The Origin of the Elements: A Modern Perspective, ECT*, Trento, Italy
October 2010	Numerical Astrophysics, Wengen, Switzerland
September 2010	Kavli Futures Symposium, Tromso, Norway
August 2010	First Stars summer school Heidelberg, Germany
	HIPACC summer school, Santa Cruz, CA
July 2010	GR19 Plenary talk, Mexico City, Mexico
June 2010	IAU Star Formation, Barcelona, Spain
	First Galaxies, Quasars & Gamma Ray Bursts, State College, PA
	Lisa Symposium Menlo Park, CA
March 2010	First Stars and Galaxies, Austin, Texas
	The View from 5 AU, Irvine, CA
January 2010	Massive Star Formation, Berkley, CA
July 2009	13th Paris Cosmology Colloquium, Paris, France
June 2009	Institute for Nuclear Theory School Quarks to Cosmos, 3 lectures, Seattle, WA
May 2009	Inaugural Meeting of Center for Relativistic Astrophysics, Georgia Tech, GA
May 2009	Astroviz 2009, California Academy of Sciences, San Francisco, CA
January 2009	Kavli Futures Symposium, Real Problems for Imagined Computers, Costa Rica
December 2008	Texas meeting on Relativistic Astrophysics, Plenary talk, Vancouver, Canada
September 2008	Cosmic Dust and Radiative Transfer workshop, Heidelberg, Germany
September 2008	JENAM, "New Challenged to European Astronomy", Vienna, Austria
July 2008	AstroSim, Ascona, Switzerland
	Far Away: Light in the Young Universe, IAP Conference, Paris, France
June 2008	IAU Symposium, Low metallicity Star formation, Rapallo, Italy
	Onassis School, Crete, Greece
May 2008	Sackler Cosmology meeting: "21cm Cosmology", Harvard, Cambridge, MA
March 2008	Canadian Institute for Advanced Research, Stanford, CA
September 2007	JWST and concurrent facilities, Tucson, AZ
September 2007	Massive Star Formation: Observations confront Theory, Heidelberg, Germany
August 2007	Star formation then and now, Kavli Inst. of Theoretical Physics, Santa Barbara
August 2007	Lectured at SLAC summer school on Dark Matter, Stanford, CA
June 2007	School on Multiscale Modeling and Simulation in Science, Bosön, Sweden

May 2007	Structure Formation in the Universe, Chamonix, France
March 2007	The Next Decade of GRB Afterglows, Amsterdam, Netherlands
October 2006	Radiation Backgrounds, Maryland October meeting, Baltimore
September 2006	Circum-stellar Media & Late Stages of Mass. Stell. Evol., Ensenada, MX
July 2006	4 lectures at Summer School in Cosmology and Astrophysics, ICTP, Trieste, It Star Formation from Galactic to Cosmological Scales, Heidelberg, Germany The First Stars and Evolution of the Early Universe, Seattle
June 2006	SWIFT and GRBs: Unveiling the Relativistic Universe, Venice, Italy
April 2006	Mitchell Symposium, Institute for Fundamental Physics, College Station, TX
October 2005	Probing Early Structure Formation with M, L and Z, Minneapolis, MN
September 2005	Structure of the Universe, Future of Cosmology, Crafoord days, Stockholm
June 2005	Reionizing the Universe, Groningen, Netherlands
October 2004	Galaxy-Intergalactic Medium Interactions, KITP, Santa Barbara
September 2004	Summary Talk, Computational Methods in Transport, Lake Tahoe Mathematical and Experimental Physics, Collegio Nacional, Mexico City
August 2004	Chemical Enrichment of the Early Universe, Santa Fee
July 2004	Plumian 300, The Quest for a Concordance Cosmology, Cambridge, UK
June 2004	17th UCL colloquium, Massive Star Formation, Windsor Great Park, UK Frontiers of Science, National Academy and Royal Society, Cambridge, UK
May 2004	Intermediate Mass Black Holes, Penn State, State College. Most Massive Stars, Jackson Hole, Wyoming
December 2003	Gravitational Collapse: From Massive Stars to Planets, Ensenada Mexico
November 2003	Formation and Evolution of Young Massive Cluster, Cancun, Mexico Galaxy Formation: A Herculean Challenge, Banff, Canada
October 2003	The Future of Cosmology, KAVLI-CERCA conference, Cleveland
August 2003	From First Light to the Milky Way, Zürich, Switzerland
July 2003	The Formation and Early Evolution of Galaxies, Irsee, Germany
June 2003	SCaLEs, DOE Workshop on the Future of Computing in the US, DC Recontres de Blois, Blois, France
May 2003	Great Lakes Cosmology Conference, Ann Arbor, Michigan 4 Lectures at Como Summer School, Como, Italy
Jan. 2003	Globular Clusters, ITP, Santa Barbara, California
Oct. 2002	The Emergence of Cosmic Structure, College Park, US
July 2002	4th International Lisa Symposium, State College, PA, US Making Light of Gravity, Martin Rees' 60th birthday, Cambridge, UK
June 2002	A Massive Star Odyssey IAU Symp. 212, Lanzarote, Spain Early Cosmic Structures and the End of the Dark Ages, Elba, Italy
March 2002	Low Z at high and low z, Michigan XEUS Workshop at MPE, Garching, Germany
19. Oct, 2001	Euroconference: Basic Building Blocks of Galaxies, Reunion, France
June 2001	Frontiers of the Universe, Euroconference Blois, France
11. October 2000	Modes of Star Formation, Heidelberg, Germany
4. July 2000	The Physics of Galaxy Formation, Tsukuba, Japan
18. May 2000	The First Generation of Cosmic Structures, Harvard
30. Sept. 1999	H ₂ in Space, Paris
28. May 1999	Oort workshop, Leiden
4. Dec. 1997	Workshop on "H ₂ in the Early Universe", Arcetri/Italy

 Contributed Talks and Colloquia

30. Mar. 2015	Colloquium, Kavli Institute for Astronomy and Astrophysics, Beijing China
11. Mar. 2015	Physics Cafe (together with Shirley Ho) at Aspen Wheeler Opera house, Aspen, CO
11. Mar. 2015	Talk on Dark Matter dynamics, at Aspen Physics Center, Aspen, 2015.
15. Feb. 2015	Chaired, “The CMB: Window into New Physics” session, AAAS, San Jose, CA
14. Feb. 2015	Chaired, “Making Data Beautiful” Session at AAAS meeting, San Jose, CA
19. Jan. 2015	Talk on Supermassive Black Hole Formation, Aspen winter conference, Aspen, CO
9. Dec. 2014	Institute for Advanced Study Colloquium, Princeton, New Jersey
25. Sept. 2014	Berkeley Astronomy colloquium, Berkeley, CA
27. May 2014	Inaugural Mandel Lecture, UCSC, Santa Cruz, CA
17. May 2014	Enzo Workshop, “The Enzo-Universe”, Columbia, NYC
7. May 2014	Caltech colloquium, “Dark Matter Dynamics”, Pasadena, CA
1. May 2014	SLAC Science Policy Committee, “Cosmic Frontier Strategy”
19 April 2014	Lecture on Hydrodynamics at Callistoga Study Sessions, CA
21. March 2014	HIPAC Computational Astrophysics Meeting, LBL, CA
23. September 2013	“What Physicists do” series at Sonoma State, Sonoma
21. June 2013	IAP colloquium, Institute Astrophysique de Paris, Paris, France
17. June 2013	Gravitational Lensing Workshop, Courmayeur, Italy
23. May 2013	ICAP meeting at IAP, Paris, France
11. March 2013	SLAC colloquium, “Why Dark Matter Matters”, Menlo Park, CA
13. September 2012	ITC colloquium, CfA Harvard, MA
16. August 2012	Santa Cruz workshop on Galaxy formation
12. April 2012	KITP: First Galaxies and Faint Dwarfs, Santa Barbara, CA
13. October 2011	Enzo workshop, Columbia University, NYC
14. March 2011	Colloquium, Heidelberg Institute of Theoretical Studies, Germany
15. February 2011	Stony brook physics and astronomy colloquium, Stony Brook, NY
14. February 2011	NSF distinguished lecture, Arlington, VA
8. February 2011	IAS seminar, Princeton, NJ
27. January 2011	IAC Colloquium, La Laguna, Tenerife, Spain
12. January 2011	Physikalisches Kolloquium, Tübingen, Germany
11. November 2010	CITA colloquium, Toronto, Canada
30. June 2010	Enzo Users workshop, San Diego, CA
13. April 2010	Cafe Scientific, SRI International, Menlo Park, CA
1. February 2010	Dean Lecture, California Academy of Sciences, San Francisco, CA
20 October 2009	Joint Astronomy colloquium, Heidelberg, Germany
5. November 2009	Harvard ITC colloquium, CfA, Boston, MA
29. September 2009	Stanford Physics Colloquium
21. September 2009	Berkeley Physics Colloquium
22. April 2009	Colloquium at SETI Institute
19. November 2008	Caltech Astronomy Colloquium, Pasadena, CA
15. October 2008	Hooker Distinguished visiting Professor lecture: Cosmic Dawn: The First Star in the Universe, McMaster University, Hamilton, Ontario, Canada

15. October 2008 McMaster, Ontario, Canada, Physics Colloquium
 2. September 2008 MPA cosmology seminar, Garching, Germany
 29. April 2008 SLAC public lecture, Cosmic Dawn: The First Star in the Universe
 25. Feb 2008 Berkley TAC seminar, UCB, Berkeley
 20. Nov 2007 Colloquium, physics department, UCSB, Santa Barbara
 22. Oct 2007 Mechanical Engineering Colloquium, UCSB, Santa Barbara
 1. Oct 2007 Directors blackboard lunch, KITP, Santa Barbara
 25. Sep 2007 New York University, Astrophysics seminar, New York City
 24. Sep 2007 Hayden Planetarium public lecture, Rose Center, AMNH, NYC
 24. Sep 2007 American Museum of Natural History, Seminar, NYC
 18. Jul 2007 Public Talk at First Stars III, Santa Fe, NM
 11. Apr 2007 UCLA Physics colloquium, Los Angeles
 30. Mar 2007 SLAC theory seminar
 1. Dec 2006 Presentation to SLAC Science Policy Committee
 11. Sept 2006 SLUO Annual meeting, SLAC
 29. August 2006 High Performance Computing day, Stanford
 7. Oct 2005 SLAC Computing Services seminar, Stanford
 27. May 2005 TAC theory seminar, UC Berkley
 25. Apr 2005 Physics Colloquium, UC Davis
 18. Apr 2005 Colloquium National Observatory Japan, Tokyo
 2. Feb 2005 Astronomy Colloquium, UC Santa Cruz
 18. Jan 2005 Physics Colloquium, Stanford University
 11. Jan 2005 Fluid Mechanics seminar, Center for Turbulence Research, Stanford
 12. Oct 2004 Colloquium, Northwestern University Chicago
 10. Mar 2004 Colloquium, Max Planck Institut für Astronomie, Heidelberg
 4. Mar 2004 Physics Colloquium, Stanford University, Palo Alto
 30. Jan. 2004 Star Formation Workshop, NASA Ames, California
 22. Oct. 2003 Astronomy Colloquium, California Institute of Technology, Pasadena
 20. Oct. 2003 Astronomy Colloquium, University of Arizona, Tucson
 2. Oct 2003 Astrophysics Seminar, McMaster University, Hamilton Ontario
 1. Oct 2003 Physics Colloquium, McMaster University, Hamilton Ontario
 19. Sep. 2003 Astrophysics Seminar, New York University
 18. Sep. 2003 Physics Colloquium, New York University
 10. Sep. 2003 Colloquium Space Telescope Science Institute
 13. Aug 2003 Mini workshop on First Structure Formation, Oxford, UK
 18. April, 2003 Colloquium, Dept. of Physics, University of Virginia, Charlottesville
 10. Apr 2003 Colloquium, Dept. of Physics, Lehigh, Bethlehem, US
 24. Mar. 2003 Colloquium, Leiden Observatory, Leiden, Nova Lecture series
 20. Mar. 2003 Colloquium, Kapteyn Institute, Gronningen, Nova Lecture series
 28. Feb. 2003 Public Talk, Museum of the Rockies, Bozeman, Montana
 13. Feb. 2002 Colloquium, Dept. of Astronomy, Michigan State, US
 15. Jan. 2003 Public Talk, Wheeler Opera house, Aspen, Colorado
 7. Oct. 2002 Colloquium, Dept. of Physics, University of Colorado, Boulder, US
 27. Sept. 2002 Colloquium, Dept. of Physics, UPENN, Philadelphia, US
 26. Sept. 2002 Colloquium, Dept. of Physics, Rutgers University, NJ, US
 25. April, 2002 Colloquium, Dept. of Astronomy, Ohio State University, US
 15. Feb. 2002 Colloquium, Dept. of Theoretical Astrophysics, Caltech, US

30. Nov., 2001	Colloquium, Dept. of Astronomy, Leeds, UK
29. Nov., 2001	Colloquium, Dept. of Mathematics, Newcastle upon Tyne, UK
22. May, 2001	Colloquium, Goddard Space Flight Center
11. April, 2001	Colloquium, Ecole Normal Superieur, Lyon, France
February, 2001	Aspen Winter Conference
11. Jan. 2001	Colloquium, Univ. of Washington, Seattle
14. Dec. 2000	Colloquium, Penn State, State College
27. Nov. 2000	High Energy Astrophysics Colloquium, U. of Michigan, Ann Arbor
21. Nov. 2000	Astronomy Colloquium, University of Illinois, Urbana/Champaign
16. Nov. 2000	Colloquium, Carnegie Mellon University, Pittsburgh
April 2000	Colloquium, University of California, Santa Cruz
3. Feb. 2000	Colloquium, UGA Astronomy Department, Athens
30. June 1999	Clustering at high z, Marseilles
7. Dec. 1999	Colloquium, Yale Astronomy Department, New Haven
10. Oct. 1998	3rd German-Chinese mini-workshop on Cosmology, Shanghai
28. Oct. 1998	Beijing Observatory
8. Sept. 1998	German American Young Scholar Inst. on Astroparticle Physics, Aspen/US
3. Sept. 1998	TMR-Workshop, Leiden/Netherlands
7. Aug. 1998	MPA/ESO Cosmology Conference, Garching/Germany
June 1998	3 talks, Workshop on Galaxy Formation & Feedback, Aspen, US
25. Sep. 1997	Colloquium at Arcetri Observatory, Italy
18. Jul. 1997	MPA Seminar, Max Planck Institute for Astrophysics
7. May 1997	Instituto de Astronomia UNAM/Mexico
27. Sep. 1996	UNLV Physics Department Colloquium, Las Vegas
3. June 1996	DAEC Seminar at the l'Observatoire de Paris, Meudon.
25. March 1996	Colloquium Instituto Astrofisica de Canarias, Tenerife

Longer Visits & Schools

3/2015	Kavli Visting Scholar, Kavli Institute for Astronomy and Astrophysics, Beijing
2013	Institute Lagrange de Paris, ILP & IAP, Paris, France ~ 2.5 months
2012	KITP, Dwarf galaxies ~ 2 months
2007	KITP, 4 months, Star formation over cosmic time
8/2003	Dept. of Physics, Oxford, UK
4/2001	Ecole Normal Superieur, Lyon, France
4/2001	Saas Fee Lectures on Brown Dwarfs and Planets, Switzerland
5/1999	Massachusetts Institute of Technology
3/1999	Saas-Fee Lectures on Star Formation in Galaxies, Switzerland.
3/1997	Instituto de Astronomia UNAM/Mexico
5/27/1996-6/7/1996	Nato Advanced Study Institute, The Cosmic Microwave Background Radiation", Strasbourg, France
4/1995 - 6/1996	Max Planck Institute for Astrophysics, Garching
2/1996 - 3/1996	Instituto Astrofisica de Canarias, Tenerife, Spain
7/1995 - 1/1996	Max Planck Institute for Astrophysics, Garching

Undergraduate, Graduate and post-graduate students (co-) supervised

Graduate Students:

At Stanford:

Sam Totorica (2013-),
Devon Powell (2013-),
Stewart Koppell (2014-),
Ji-hoon Kim (PhD 2011, Einstein Fellow at Caltech),
Fen Zhao (PhD 2010, Staff Associate at the National Science Foundation),
Matthew Turk (PhD 2009, now a Moore Investigator at NCSA, UIUC at Urbana Champaign),
Peng Wang (PhD 2009, Senior Software Engineer in HPC Developer Technology at NVIDIA),
Fabio Iocco (2007, Postdoc Institute of Theoretical Physics, Madrid, Spain),
John Wise (PhD 2007, Assistant Professor of Physics at Georgia Tech),

At Penn State:

Britton Smith (2003-2004, Postdoctoral Fellow at The Royal Observatory, Edinburgh),
Miroslav Micic (2003-2004, Permanent Staff Astronomical Observatory, Belgrade),
Jianjian Shen (2003-2004),
Manodeep Sinha (2003-2004, Postdoc at Vanderbilt University)

At Harvard: Aaron Sokasian, PhD (2003, now Head of Quantitative Strategies, FX Solutions LLC) co-supervised with Lars Hernquist,

Brian O'Shea (PhD 2006, Associate professor at Michigan State) co-supervised with Michael Norman

Postdocs:

Radek Wojtak (2014-),
Ranjan Laha (2014-),
Jonathan Zrake (2013-),
Sam Skillman (2013-),
William East (2013-),
Raul Angulo (2012-2013 Permanent Scientific Staff at the Center for the Study of the Physics of the Cosmos, Teruel, Spain),
Silvia Bonoli (2012-2013 Permanent Scientific Staff at the Center for the Study of the Physics of the Cosmos, Teruel, Spain),
Jeff Oishi (2010-2012, Assistant Professor Farmingdale College, New York),
Oliver Hahn 2009-2012 (Professor, Nice Observatory, France),
Andres Escala (2006-2009, Assistant Professor Department of Astronomy, University of Chile),
Marcelo Alvarez (2006-2009, Research Associate at Canadian Institute for Theoretical Astrophysics),
Emanuele Ripamonti 2002-2004 (Research fellow, Padova University),

Undergraduate Students:

Iryna Butsky (2014-),
Julian Kates Harbeck (2013-2014, now a physics graduate student at Harvard)
Kevin Schlaufman (2003-2004, Kavli Postdoctoral Fellow at MIT)

Media

We contribute frequently to a wide range of media. The planetarium shows currently reach approximately 3 million viewers a year with a third being high school students worldwide.

- 2015: National Geography contributed images and consulted on "Missing Universe" story
2014: KIPAC as partner on "Dark Universe" planetarium show narrated by Neil deGrasse Tyson
2012: PBS Science bytes: "Dark Matters" <http://video.pbs.org/video/2253154199/>
2012: Reuters: "Researchers shine bright light on dark matter" online video
2010: - Inside the Milky Way, National Geographic television, Interviewed in show and contributed animations.
- Developed animation of galaxy formation for a new show for the Big Bang theater at the American Museum for Natural History at New York.
- Created animation on the first stars for "Life: A Cosmic Story" which was produced and premiered at the California Academy of Sciences in San Francisco
2009: "Journey to the Stars" narrated by the Whoppi Goldberg, AMNH, Rose Center, New York, NY

Previous TV:

- "Apocalypse How" Discovery Channel 2008.
- "The Unfolding Universe" Discovery Channel, 2002 showed a 2 minute animation of our work
- "Origins" PBS NOVA series, aired Oct. 2004 with 1 minute animation of our simulations,
- FOX news (2006) showed our models of the Bullet cluster

Our research appeared in cover stories for Discover (Dec 2002), National Geographic (Feb 2003), Physics World (Mar 2003), Symmetry (2005), Discover (Dec 2005), Astronomy Magazine Dec (2005), Discover (2009), Discover (2010, 2014), Science News (2003, 2009, 2011), Physics Today (2011)

Other print media accounts:

space.com, Züricher Tagblatt, Spiegel, Scientific American (2014)

Radio:

BBC radio (2002), "Quirks and Quarks" Canada (Oct 2003), BBC radio (2006), Stanford KZSU

References:

Michael L. Norman,
Roger Blandford,
Simon D.M. White,
Lord Martin Rees