KATHERINE FREESE
Director, Weinberg Institute for Theoretical Physics
Director, Texas Center for Astroparticle Physics and Cosmology
Jeff and Gail Kodosky Endowed Chair, Professor of Physics
Department of Physics, University of Texas, Austin, TX

Citizenship: USA

Education:

Sept. 1973 - June 1974: Massachusetts Institute of Technology
Sept. 1974 - June 1977: Princeton University, B.A. in Physics '77
Sept. 1979 - Jan. 1982: Columbia University, M.A. in Physics '81
Feb. 1982 - Aug. 1984: University of Chicago, Ph.D. in Physics '84
Thesis Advisor: Dr. David N. Schramm

Positions:

2019–	Jeff and Gail Kodosky Chair, Professor of Physics, University of Texas, Austin
2009–2019	George E. Uhlenbeck Professor of Physics, University of Michigan
2014–2016	Director, Nordic Institute for Theoretical Physics (Nordita), Stockholm, Sweden
2016–	Guest Professor, Nordita and Stockholm University
1999-2009	Professor of Physics, University of Michigan
1991-99	Associate Professor of Physics (with tenure), University of Michigan
1988-91	Assistant Professor of Physics, Massachusetts Institute of Technology
1987-88	Presidential Fellow at UC Berkeley
1985-87	Postdoctoral fellow at Institute for Theoretical Physics, Santa Barbara, California
1984-85	Postdoctoral fellow at Harvard Center for Astrophysics

Awards and Honors:

2021: University of Chicago Alumni Professional Achievement Award
2020: Elected to Membership: National Academy of Sciences
2019: Julian Edgar Lilienfeld Prize, American Physical Society
2014-24: Excellence grant from the Swedish Research Council (Vetenskapsradet)
for the study of "CosmoParticle Physics" in the amount of roughly 15 million dollars
2017: Kavli Prize Lecture, American Astronomical Society, Austin, TX
2016 -2021 : Distinguished Visiting Research Chair, Perimeter Institute, Waterloo, Canada
2012: Honorary Doctorate (Honoris Causa) at the University of Stockholm
2012: Simons Foundation Fellowship in Theoretical Physics
2009– : named George E. Uhlenbeck Professor of Physics at the Univ. of Michigan
2009– : named Fellow, American Physical Society
2006-2007: Miller Professor Fellowship, UC Berkeley
1990-1995: NSF Presidential Young Investigator Award
1989-1991: Sloan Foundation Fellowship
1986: President's Fellowship of the University of California
1983-84: William Rainey Harper Fellowship of the University of Chicago

National/International Service:

2021-2022: TAMEST (Academy of Medicine, Science, and Engin. of Texas) O'Donnell Award Committee
2019-2020: Chair, Bethe Prize Committee, American Physical Society
2020: Panel Member, Project and Starting Grants in Subatomic Physics, Space Physics and Astronomy, Swedish Research Council
2020–: Member, Advisory Board, Illinois Center for Advanced Studies of the Universe
2019–: CERN-Theory Advisory Committee on Astroparticle Physics
2018: Panel Member, DOE HEP Lab Theory Review
2017–: Scientific Advisory Committee, Perimeter Institute, Canada
2017–: Search Committee for next Director of SNOLAB, Canada
2017–: International Scientific Committee of IDEX Universite Grenoble Alpes, an initiative of excellence funded by the French government
2015: External Review Committee, Neils Bohr Institute (Physics Dept) at University of Copenhagen
2011-2012: Member, Executive Board of the American Physical Society
2003-2012: Associate Director, Michigan Center for Theoretical Physics
2009-14: Int'l Advisory Board, Oskar Klein Center for CosmoParticle Physics, Stockholm
2008-2113: American Physical Society General Councillor
2005-2008: Member, Astronomy and Astrophysics Advisory Committee (AAAC) reporting to Congress
2006: NSF Panel to evaluate Theory Proposals
2006: Reviewer, Deep Underground Science and Engineering Laboratory (DUSEL)
2006-2007: Member, Dark Matter Scientific Advisory Group (DMSAG) reporting to DOE and NSF
2005: External Review Committee, Physics Dept. Temple University
2003: External Review Committee, Purdue University
2001: Member of the Steering Committee of the Institute for Theoretical Physics in Santa Barbara
2000-2005: Member of the Board of the Institute for Theoretical Physics in Santa Barbara, CA
1993-2003: General Member of the Board, Aspen Center for Physics

Honorary Lectures:

1. Resnick Memorial Lecture, Rensselaer Polytechnic Institute
   November 2023
2. Roger Dashen Memorial Lecture, Univ of California, San Diego
   October 2023
3. Watson Memorial Lecture, University of Illinois
   April 2022
4. Zachariasen Memorial Lecture, University of Chicago
   April 21, 2022
5. McDonnell Distinguished Lecture Series, Washington University, St. Louis
   March 2021
6. Julius Edgar Lilienfeld Prize Lecture, American Physical Society, Denver, CO
   April 2019
7. Kavli Prize Lecture, American Astronomical Society, Austin, TX
   "Dark Matter in the Universe,"
   June 5, 2017
   https://aas.org/grants-and-prizes/kavli-foundation-plenary-lectureship

8. Distinguished Lecture Series, Texas A&M
   "Dark Matter in the Universe,"
   April 13, 2017
   https://physics.tamu.edu/calendar/distinguished-lectures/
9. Distinguished Lecture in Honor of Frank Avignone's 50 years at the University of South Carolina
   "Dark Matter in the Universe,"
   Feb, 2016
10. Schroedinger Lecture, University of Zurich
    "The Dark Side of the Universe,"
    Oct. 19, 2015
11. 10th Pflueker Lecture, Bonn Cologne Graduate School of Physics and Astronomy,
    "The Dark Side of the Universe,"
    (Previous speakers include Gerard t'Hooft, Andrei Linde, Theodor Hänsch, Michael Berry and Serge Haroche). Bonn, Germany, Nov. 13, 2015
12. 10th Barkla Lecture at the University of Liverpool, Nov. 5, 2015
    "Dark Matter in the Universe"
    Previous Barkla lectures were presented by Frank Wilczek (2006), Martinus Veltman (2007), Francois Englert (2008), Gerard 't Hooft (2009), Michael Green (2010), John Ellis (2012), Viatcheslav Mukhanov (2013), Jacob Bekenstein (2014).
13. Plenary Talk to 109 astronauts: "What do we Know about the Universe Today?"
    Inspired by Space Conference, Association of Space Explorers, XXVIII Planetary Congress Stockholm, Sweden
    Sept. 22, 2015
14. Invited lecturer at Carl Friedrich von Siemens Foundation "Nymphenburg Talks", Nymphenburg Palace, Munich, Germany, 2013

Professional Affiliations:

National Academy of Sciences
TAMEST (Academy of Medicine, Science, and Engineering of Texas)
American Physical Society, Executive Board (2011-2014); Councillor (2008-2111)
Member of the Steering Committee of the Institute for Theoretical Physics in Santa Barbara, 2001
Member of the Board, Institute for Theoretical Physics in Santa Barbara, 2001-2004
General Member of the Board, Aspen Center for Physics, 1993-2003
American Astronomical Society
American Association for the Advancement of Science
American Geophysical Union
American Women in Science
American Association of University Women
American Association of University Professors

Additional Visitor Positions:

Sept 2016 -2022, Distinguished Visiting Research Chair, Perimeter Institute, Canada

Fall 2012, Visiting Professor, CERN, Geneva, Switzerland
January-July 2012, Visiting Professor, Caltech, Pasadena, CA
January-August 2011, Visiting Professor, University of Texas, Austin, TX
May 2009, Distinguished Visitor, University of Texas, Austin, TX
2007-2008, Visiting Professor at Perimeter Institute for Theoretical Physics, Waterloo, Canada
Sept 2006-July 2007, Visiting Miller Professor, UC Berkeley, CA
October 2006, visitor, Galileo Galilei Institute, Florence, IT
Fall 2002, Organizer of six month workshop on "The New Cosmology Confronts Observation," KITP (Kavli Institute for Theoretical Physics), Santa Barbara, CA
Winter 2002, Visiting Professor, ISCAP (Institute for Strings, Cosmology, and Astroparticle Physics), Columbia University, NY
July-August 2001, visitor, Max Planck Institut für Physik und Astrophysik, Munich, Germany
April-May 2001, visitor, University of Pennsylvania Physics Dept.
May-December 1999, August 2000, and July-August 2001, visitor, Max Planck Institut für Physik und Astrophysik, Munich, Germany
April-May 1999, visitor, CERN, Geneva, Switzerland
July-August 1998, visitor, Max Planck Institut für Physik und Astrophysik, Munich, Germany
July-December 1997, Senior Program Officer, Board of Atmospheric Sciences and Climate, National Research Council, National Academy of Sciences, Washington, D.C.
May-June 1996 visitor, Fermilab Theoretical Astrophysics Group
Spring 1995 visitor, Institute for Theoretical Physics, University of California, Santa Barbara, CA
Winter 1992 visitor, Institute for Theoretical Physics, University of California, Santa Barbara, CA
Summer 1991 visitor, Max Planck Institut für Physik, Munich, Germany
1981-82 Fermi National Accelerator Laboratory, experimental high-energy research looking for neutrino oscillations
1981 Bell Labs (Murray Hill, NJ), research assistant studying crystal surface properties
1980 CESR (Cornell), research assistant for Columbia-Stony Brook experiment (CUSB)
1978 SLAC, research assistant in experimental high-energy physics
1978 Stanford University, research assistant for Crystal Ball Experiment
1974 National Institutes of Health, research in molecular biology with Nobel Laureate Dr. M. Nirenberg

Grants Awarded:

1. 2021-2025: DOE funding: Astroparticle Physics and String Theory at UT Austin with A. Karch.
2. 2014-2024: Excellence grant from the Swedish Research Council (Vetenskapsradet) for the study of "CosmoParticle Physics" in the amount of roughly 15 million dollars over ten years.
3. 2012-2019: DoE funding: Freese received funding via a Cosmology Task started in 2012 together with D. Huterer.
4. 2015-2019: "Detecting dark matter in the laboratory" in the amount of 28,883,000 SEK (almost $3 million) from the Knut and Alice Wallenberg Foundation.

5. 2012-2013: MCUBED grant for multidisciplinary research at the University of Michigan, "Dark Matter Detectors using DNA." Co-investigators: David Gerdes and Rachel Goldman.
6. In 1997 Freese joined the Particle Theory Group portion of the DOE grant at the University of Michigan.
7. DOE grant for the study of "CosmoParticle Physics" for the time period 9/1/96 - 9/1/98.
8. NSF grant for the study of "Theoretical Studies of the Early Universe" for the time period 8/15/94 - 8/15/97.
9. Grant from the International Division of NSF for the study of "US/Japan Cooperative Research: Physical Processes in Galaxy and Large-Scale Structure Formation" for the time period 1992 -1994.
   Coinvestigators: Jerry Ostriker, Ed Turner and several U.S. scientists.
10. NSF grant for the study of "Theoretical Studies of Topics in Phase Transitions in the Early Universe" for the time period 9/1/91 - 4/1/94.
11. July 1990 - July 1995: Presidential Young Investigator Award
12. Sept. 1989 - Sept. 1991: Sloan Foundation Fellowship
13. NSF grant for the study of "Cosmological Non-Baryonic Matter" for the time period 8/1/88-1/1/90. Coinvestigators: David N. Spergel, Graciela B. Gelmini

Journal Publications:

1. Massive, Degenerate Neutrinos and Cosmology, Katherine Freese, Edward W. Kolb, and Michael S. Turner, *Physical Review* **D27**, p. 1689 (1983)
2. Is the Local Monopole Flux Enhanced?, Katherine Freese and Michael S. Turner, *Physics Letters* **123B**, p. 293 (1983)
3. Monopole Catalysis of Nucleon Decay in Old Pulsars, Katherine Freese, Michael S. Turner, and David N. Schramm, *Physical Review Letters* **51**, p. 1625 (1983)
4. Galaxy Formation with Primordial Planetary Mass Black Holes, Katherine Freese, Richard Price, and David N. Schramm, *Astrophysical Journal* **275**, p. 405 (1983)
5. General Cosmological Constraints on the Masses of Stable Neutrinos and other 'Inos', Katherine Freese and David N. Schramm, *Nuclear Physics* **B233**, p. 167 (1984)
6. Lower and Upper Bounds on the Radius of Composite Quarks and Leptons, Itzhak Bars, Mark J. Bowick, and Katherine Freese, *Physics Letters* **138B**, p. 159 (1984)
7. Do Monopoles Keep White Dwarfs Hot?, Katherine Freese, *Astrophysical Journal* **286**, p. 216 (1984)
8. Covariant Functional Schrödinger Formalism and Application to the Hawking Effect, Katherine Freese, Christopher Hill, and Mark Mueller, *Nuclear Physics* **B225**, p. 693 (1985)
9. Cold Dark Matter Candidates and the Solar Neutrino Problem, Lawrence Krauss, Katherine Freese, David Spergel, and William Press, *Astrophysical Journal* **299**, p. 1001 (1985)
10. Can Scalar Neutrinos or Massive Dirac Neutrinos be the Missing Mass? Katherine Freese, *Physics Letters* **B167**, p. 295 (1986)
11. Detecting Cold Dark Matter Candidates, Andrzej Drukier, Katherine Freese, and David Spergel, *Physical Review* **D33**, p. 3495 (1986)
12. Thermoelectric Effects in Neutron Star Crusts and the msec Pulsar, John Blondin and Katherine Freese, *Nature* **323**, p. 786 (1986)
13. Cosmology with Decaying Vacuum Energy, Katherine Freese, Fred Adams, Joshua Frieman, and Emil Mottola, *Nuclear Physics B* **287**, p. 797 (1987)

14. Neutrino Mixing, Decays and Supernova 1987A, Joshua Frieman, Howard Haber, and Katherine Freese, *Physics Letters* **B200**, p. 115 (1988)
15. Signal Modulation in Cold Dark Matter Detection, Katherine Freese, Joshua Frieman, and Andrew Gould, *Physical Review* **D37**, p. 3388 (1988)
16. Superheavy Magnetic Monopoles and Main-Sequence Stars, Joshua Frieman, Katherine Freese, and Michael S. Turner, *Astrophysical Journal*, **335**, p. 844 (1988)
17. Cosmic Ray Constraints on the Annihilations of Relic Particles in the Galactic Halo, J. Ellis, R.A. Flores, K. Freese, S. Ritz, D. Seckel, and J. Silk, *Physics Letters* **B214**, p. 403 (1988)
18. Probing the Earth with Weakly Interacting Massive Particles, Andrew Gould, Joshua Frieman, and Katherine Freese, *Physical Review* **D39**, p. 1029 (1989)
19. Spectral Distortions of the Cosmic Microwave Background, Fred Adams, Katherine Freese, Janna Levin, and Jonathan McDowell, *Astrophysical Journal* **344**, p.24 (1989)
20. Bolometric Detection of Cold Dark Matter Candidates, Andrzej Drukier, Katherine Freese, and Joshua Frieman, unpublished work
21. Halo Gamma Rays from Cold Dark Matter Annihilation, Katherine Freese and Joseph Silk, *Physical Review* **D40**, p. 3828 (1989)
22. Evolution of Nonspherical Bubbles, Fred C. Adams, Katherine Freese, and Lawrence Widrow, *Physical Review* **D41**, p. 347 (1990)
23. Evolution of Hadron Bubbles: Voyage into the Quark Sea, Katherine Freese and Fred C. Adams, *Physical Review* **D41**, p. 2449 (1990)
24. Natural Inflation with Pseudo-Nambu-Goldstone Bosons, Katherine Freese, Joshua Frieman, and Angela Olinto, *Physical Review Letters* **65**, p. 3233 (1990)
25. Constraints on the Scalar Field Potential in Inflationary Models, Fred Adams, Katherine Freese, and Alan Guth, *Physical Review* **D43**, p. 965 (1991)
26. Double Field Inflation, Fred Adams and Katherine Freese, *Physical Review* **D43**, p. 353 (1991)
27. COBE Limits on Explosive Structure Formation Scenarios, Janna Levin, Katherine Freese, and David Spergel, *Astrophysical Journal* **389**, p. 464 (1992)
28. Instability and Subsequent Evolution of Electroweak Bubbles, Marc Kamionkowski and Katherine Freese, *Physical Review Letters* **69**, p. 2743 (1992)
29. Natural Inflation: Particle Physics Models, Power Law Spectra for Large-Scale Structure, and Constraints from COBE, F. Adams, J. R. Bond, K. Freese, J. Frieman, and A. Olinto, *Physical Review D* **47**, p. 426 (1993)
30. The MAD Era: A Possible New Resolution to the Horizon and Monopole Problems, Katherine Freese and Janna Levin, unpublished
31. Possible Solution to the Horizon Problem: Modified Aging in Massless Scalar Theories of Gravity, Janna Levin and Katherine Freese, *Physical Review D* **47**, p. 4282 (1993)
32. Baryon Number Diffusion and Instabilities in the Quark/Hadron Phase Transition, Fred Adams, Katherine Freese, and James Langer, *Physical Review D* **47**, p.4303 (1993)
33. Extension of the Parker Bound on the Flux of Magnetic Monopoles, Fred Adams, Marco Fatuzzo, Katherine Freese, Greg Tarlé, Rick Watkins, and Michael Turner, *Physical Review Letters* **70**, p.2511 (1993); results quoted in Particle Data Book
34. Curvature and Flatness in a Brans-Dicke Universe, Janna Levin and Katherine Freese, *Nuclear Physics B* **421**, p. 635 (1994)
35. Coupling of Pseudo Nambu Goldstone Bosons to Other Scalars and its Role in Double Field Inflation, Katherine Freese, *Physical Review D* **50**, p. 7731 (1994)

36. Calculation of Particle Production by Nambu Goldstone Bosons with Application to Inflation Reheating and Baryogenesis, Alexandre Dolgov and Katherine Freese, *Physical Review D* **51**, p.2693 (1995).
37. The Scalar Field Potential in Inflationary Models: Reconstruction and Further Constraints, Fred Adams and Katherine Freese, *Physical Review D* **51**, p. 6722 (1995).
38. Neutrino Mixing, Decays, and Supernova 1987A, Joshua Frieman, Howard Haber, and Katherine Freese, in the book "Solar Neutrinos: The First Thirty Years," edited by J.N. Bahcall, R. Davis, Jr., P. Parker, A. Smirnov, and R. Ulrich (Reading, MA: Addison-Wesley Publishing Co.) (1995).
39. Analysis of a Space Telescope Search for Red Dwarfs: Limits on Baryonic Matter in the Galactic Halo, David Graff and Katherine Freese, *Astrophysical Journal Letters* **456**, p. L49 (1996).
40. Moduli Inflation with Large Scale Structure Produced by Topological Defects, Katherine Freese, Tony Gherghetta, and Hideyuki Umeda, *Physical Review D* **54**, p. 6083 (1996).
41. Identification and Visualization of the Formation Process of Ozone "Mini-Holes" Using Wavelet Analysis, Beth Weinberg, S. Roland Drayson, and Katherine Freese, *Geophysical Research Letters* **23**, p. 2223 (1996).
42. The Mass Function of Low Mass Halo Stars: Limits on Baryonic Halo Dark Matter, by David Graff and Katherine Freese, *Astrophysical Journal Letters* **467**, p. L65 (1996).
43. Indirect Detection of a Light Higgsino Motivated by Collider Data, by Katherine Freese and Marc Kamionkowski, *Physical Review* **55**, p. 1771 (1997).
44. Baryogenesis during Reheating in Inflation and Comments on Spontaneous Baryogenesis, by Alexandre Dolgov, Katherine Freese, Raghu Rangarajan, and Mark Srednicki, *Physical Review* **D56**, p. 6155 (1997).
45. Constraints on Intergalactic Transport of Cosmic Rays, by F.C. Adams, K. Freese, G. Laughlin, G. Tarle, and N. Schwadron, *Astrophysical Journal* **491**, p. 6 (1997).
46. MACHOs, White Dwarfs, and the Age of the Universe, by David Graff, Greg Laughlin, and Katherine Freese, *Astrophysical Journal* **499**, p.7 (1998).
47. Machos Viewed from a Cosmological Perspective: Contribution to the Baryonic Mass Density of the Universe, by B. Fields, K. Freese, and D. Graff, *New Astronomy* **3**, p. 357 (1998).
48. A Bound on the Flux of Magnetic Monopoles from Catalysis of Nucleon Decay in White Dwarfs, Katherine Freese and Eleonora Krasteva, *Physical Review D* **59**, p. 3004 (1999); results quoted in Particle Data Book (2000).
49. Constraining the Cosmic Abundance of Stellar Remnants with Multi-TeV Gamma-Rays, David Graff, Katherine Freese, Terry Walker, and Mark Pinsonneault, *Astrophysical Journal Letters* **523**, p. L77 (2000).
50. Chemical Abundance Constraints on White Dwarfs as candidate Massive Compact Halo Objects, Brian Fields, Katherine Freese, and David Graff, *Astrophysical Journal* **534** p. 265 (2000).
51. Cosmological Challenges in Theories with Extra Dimensions and Remarks on the Horizon Problem, Daniel Chung and Katherine Freese, *Physical Review D* **61**, p. 2351 (2000).
52. Can Geodesics in Extra Dimensions solve the Cosmological Horizon Problem? Daniel Chung and Katherine Freese, *Phys. Rev. D* **62**, p. 063513 (2000).
53. Protogalactic Extension of the Parker Bound, Matthew Lewis, Katherine Freese, and Greg Tarle, *Phys. Rev. D.* **62**, p. 025002 (2000).
54. CP Violating Effects in Neutralino Scattering and Annihilation, Paolo Gondolo and Katherine Freese, in , JHEP
55. Death of Baryonic Dark Matter, Katherine Freese, *Physics Reports* **333**, p. 183 (2000).

56. Hagedorn Inflation of D-Branes, Steven Abel, Katherine Freese, and Ian Kogan, *JHEP* **0101**, p. 39 (2001).
57. Direct Detection of Extragalactic WIMPs, Katherine Freese, Paolo Gondolo, and Leo Stodolsky, *Phys.Rev. D* **64** p. 123502 (2001)
58. The Cosmic Ray Positron Excess and Neutralino Dark Matter, Ted Baltz, Joakim Edsjo, Katherine Freese, and Paolo Gondolo, *Phys. Rev. D* **65** p. 063511, (2002).
59. Cardassian Expansion: a Model in which the Universe is Flat, Matter Dominated, and Accelerating, Katherine Freese and Matthew Lewis, *Phys.Lett.* **B540** p.1 (2002).
60. Lensed Density Perturbations in Braneworlds, Daniel Chung and Katherine Freese, *Phys.Rev.* **D67**, p. 103505 (2003)
61. A Wavelet Analysis of Solar Climate Forcing: I) Solar Cycle Timescales, Matthew Lewis and Katherine Freese, submitted for publication, Journal for Geophysical Research (2002).
62. The Ultimate Fate of Life in an Accelerating Universe, Katherine Freese and William Kinney, *Phys.Lett.* **B558** p.1 (2003).
63. Hagedorn Inflation: Open Strings on Branes Can Drive Inflation, Steven Abel, Katherine Freese, and Ian Kogan, *Phys.Lett.* **B561** p. 1 (2003).
64. Fluid Interpretation of Cardassian Expansion, Paolo Gondolo and Katherine Freese, *Phys.Rev.* **D68** p. 063509 (2003).
65. Observational Tests of Open Strings in Braneworld Scenarios, Katherine Freese, Matthew Lewis, and Jan Pieter van der Schaar, *JHEP* **0307** p.26 (2003).
66. An Accelerating Universe from Dark Matter Interactions with Negative Pressure, Paolo Gondolo and Katherine Freese, hep-ph/0211397
67. Future Type Ia Supernova Data as Tests of Dark Energy from Modified Friedmann Equations, Yun Wang, Katherine Freese, Paolo Gondolo, and Matthew Lewis, *Astrophys.J.* **594** p. 25 (2003).
68. What Can WMAP Tell Us About The Very Early Universe? New Physics as an Explanation of Suppressed Large Scale Power and Running Spectral Index, M. Bastero-Gil, K. Freese, L. Mersini-Houghton, *Phys. Rev.* **D68** p. 123514 (2003).
69. The Phase of the Annual Modulation as a Tool for Determining the WIMP Mass, M. J. Lewis and K. Freese, astro-ph/0307190, *Phys.Rev.* **D70** (2004) 043501.
70. Detectability of Weakly Interacting Massive Particles in the Sagittarius Dwarf Tidal Stream, K. Freese, P. Gondolo, and H. J. Newberg, astro-ph/0309279, *Phys. Rev.* **D71** (2005) 043516.
71. The Effects of the Sagittarius Dwarf Tidal Stream on Dark Matter Detectors, K. Freese, P. Gondolo, H. Newberg, and M. Lewis, *Phys.Rev.Lett.* **92**, p. 111301 (2004).
72. Probing the Evolution of the Dark Energy Density with Future Supernova Surveys, Y. Wang, V. Kostov, K. Freese, J. A. Frieman, and P. Gondolo, *JCAP* **0412** (2004) 003
73. Age of the Universe in the Cardassian Model, C.Savage, N. Sugiyama, K. Freese, astro-ph/0403196, *JCAP* **0510:**007,2005.
74. Probing Dark Energy Using Its Density Instead of Its Equation of State Authors, Y. Wang, K. Freese, astro-ph/0402208, *Phys.Lett.* **B632** (2006) 449-452
75. A Black Hole Solution to the Cosmological Monopole Problem, D. Stojkovic and K. Freese, *Physics Letters* **B606** (2005) 251.
76. On: Natural Inflation, K. Freese and W. Kinney, *Phys.Rev. D70* (2004) 083512
77. The Phantom Bounce: A New Oscillating Cosmology, M. Brown, K. Freese, and W. Kinney, astro-ph/0405353, *JCAP* **03** (2008) 002.
78. Can WIMP Spin Dependent Couplings explain DAMA data, in light of Null Results from Other Experiments? C. Savage, P. Gondolo, and K. Freese, it Phys.Rev. **D70** (2004) 123513

79. Radiative Corrections to the Inflaton Potential as an Explanation of Suppressed Large Scale Power in Density Perturbations and the Cosmic Microwave Background, A. Buchel, F. Chishtie, V. Elias, K. Freese, R. Mann, D. McKeon, and T. Steele, hep-ph/0410117, JCAP 0503 (2005) 003.
80. Cardassian Expansion: Dark Energy Density from Modified Friedmann Equations, by K. Freese, astro-ph/0501675, *New Astronomy Reviews* **49** (2005) 103.
81. Chain Inflation in the Landscape: "Bubble Bubble Toil and Trouble" by K. Freese and D. Spolyar, hep-ph/0412145, JCAP 0507 (2005) 007.
82. Inflating with the QCD Axion, by K. Freese, J. T. Liu, and D. Spolyar, hep-ph/0502177, *Phys.Rev.* **D72** (2005) 123521.
83. Holes in the walls: primordial black holes as a solution to the cosmological monopole problem, hep-ph/0505026, *Phys.Rev.* **D72** (2005) 045012.
84. Devaluation: a dynamical mechanism for a naturally small cosmological constant, by K. Freese, J. T. Liu, and D. Spolyar, hep-ph/0510065, *Physics Letters* **B634** (2006) 119.
85. New Models for a Triaxial Milky Way Spheroid and Effect on the Microlensing Optical Depth to the Large Magellanic Cloud, by C. Savage, H. J. Newberg, K. Freese, and P. Gondolo, astro-ph/0511046, *JCAP* **0607:**003, 2006.
86. A Black Hole Conjecture and Rare Decays in Theories with Low Scale Gravity. C. Bambi, A.D. Dolgov, K. Freese, hep-ph/0606321, *Nucl. Phys* **.B763:**91-114 (2007) 91
87. Annual Modulation of Dark Matter in the Presence of Streams. Chris Savage, Katherine Freese, Paolo Gondolo, astro-ph/0607121, *Phys. Rev.* **D74:**043531,2006.
88. Natural Inflation: Status after WMAP 3-year data, Christopher Savage, Katherine Freese, and William H. Kinney, hep-ph/0609144, *Phys. Rev* **.D74:**123511,2006.
89. Baryogenesis from Gravitational Decay of TeV-Particles in Theories with Low Scale Gravity, C. Bambi, A.D. Dolgov, K. Freese, hep-ph/0612018, *JCAP* **0704:**005, 2007.
90. Chain Inflation via Rapid Tunneling in the Landscape. Katherine Freese, James T. Liu, and Douglas Spolyar, hep-th/0612056
91. Dark matter and the first stars: a new phase of stellar evolution, Douglas Spolyar, Katherine Freese, and Paolo Gondolo, arXiv:0705.0521 [astro-ph], *Phys. Rev. Lett:* **100:**051101, 2008.
92. Dark Matter Capture in the first star: a Power source and a limit on Stellar Mass. Katherine Freese, Douglas Spolyar, Anthony Aguirre, arXiv:0802.1724 [astro-ph], *JCAP* **0811:**014, 2008.
93. Dangerous implications of a minimum length in quantum gravity, Cosimo Bambi and Katherine Freese, *Class. Quant. Grav* **.25:**195013, 2008.
94. "Dark Matter in the MSSM Golden Region," J. Kasahara, K. Freese and P.Gondolo, *Phys. Rev.* **D79:**045020, 2009. arXiv:0805.0999 [hep-ph].
95. "Dark Matter Densities during the Formation of the First Stars and in Dark Stars," K. Freese, P. Gondolo, J. A. Sellwood and D. Spolyar, *Astrophys.J.* **693:**1563-1569, 2009. arXiv:0805.3540 [astro-ph].
96. "Stellar Structure of Dark Stars: a first phase of Stellar Evolution due to Dark Matter Annihilation," K. Freese, P. Bodenheimer, D. Spolyar and P. Gondolo, arXiv:0806.0617 [astro-ph], *Astrophysical Journal Letters***685**, 101 (2008).
97. "Compatibility of DAMA/LIBRA dark matter detection with other searches," C. Savage, G. Gelmini, P. Gondolo, K. Freese, *JCAP* **0904:**010, 2009. arXiv:0808.3607 [astro-ph]
98. "Slow nucleation rates in Chain Inflation with QCD Axions or Monodromy," A. Ashoorioon, K. Freese, J. T. Liu, arXiv:0810.0228 [hep-ph], *Phys. Rev.***D79:**067302, 2009.
99. "Gravity Waves from Chain Inflation," A. Ashoorioon, K. Freese, arXiv:0811.2401 [hep-th]

100. "Implications of primordial black holes on the first stars and the origin of the super–massive black holes," C. Bambi , D. Spolyar, A. D. Dolgov, K. Freese, M. Volonteri, *Mon. Not. Roy. Astron. Soc.* **399:**1347-1356, 2009. arXiv:0812.0585 [astro-ph]
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203. J. J. Ziegler, T. D. P. Edwards, A. M. Suliga, I. Tamborra, S. Horiuchi, S. Ando and K. Freese, "Non-universal stellar initial mass functions: large uncertainties in star formation rates at $z \sim 4$ and other astrophysical probes," Mon. Not. Roy. Astron. Soc. **517**, no.2, 2471-2484 (2022) [arXiv:2205.07845 [astro-ph.GA]].
204. Y. Wu, S. Baum, K. Freese, L. Visinelli and H. B. Yu, "Dark stars powered by self-interacting dark matter," Phys. Rev. D **106**, no.4, 043028 (2022) doi:10.1103/PhysRevD.106.043028 [arXiv:2205.10904 [hep-ph]].
205. I. Tanseri, S. Hagstotz, S. Vagnozzi, E. Giusarma and K. Freese, "Updated neutrino mass constraints from galaxy clustering and CMB lensing-galaxy cross-correlation measurements," JHEAp **36**, 1-26 (2022) doi:10.1016/j.jheap.2022.07.002 [arXiv:2207.01913 [astro-ph.CO]].
206. K. Freese and M. W. Winkler, "Have pulsar timing arrays detected the hot big bang: Gravitational waves from strong first order phase transitions in the early Universe," Phys. Rev. D **106**, no.10, 103523 (2022) doi:10.1103/PhysRevD.106.103523 [arXiv:2208.03330 [astro-ph.CO]].
207. G. Montefalcone, V. Aragam, L. Visinelli and K. Freese, "Constraints on the scalar-field potential in warm inflation," Phys.Rev.D 107 (2023) 6, 063543, [arXiv:2209.14908 [gr-qc]].
208. H. S. Chia, T. D. P. Edwards, R. N. George, A. Zimmerman, A. Coogan, K. Freese, C. Messick and C. N. Setzer, "Dimensionally Reduced Waveforms for Spin-Induced Quadrupole Searches," [arXiv:2211.00039 [gr-qc]].
209. G. Montefalcone, V. Aragam, L. Visinelli and K. Freese, "Observational Constraints on Warm Natural Inflation," JCAP 03 (2023) 002, [arXiv:2212.04482 [gr-qc]].
210. J. Ziegler and K. Freese, "A Gap No More: Mechanism for Non-Nuclear Energy to Fill in the Black Hole Mass Gap," [arXiv:2212.13903 [astro-ph.HE]].
211. S. Baum, P. Stengel, N. Abe, J. F. Acevedo, G. R. Araujo, Y. Asahara, F. Avignone, L. Balogh, L. Baudis and Y. Boukhtouchen, *et al.* "Mineral Detection of Neutrinos and Dark Matter. A Whitepaper," Phys. Dark Univ. **41** (2023), 101245, [arXiv:2301.07118 [astro-ph.IM]].
212. K. Freese and M. W. Winkler, "Dark Matter and Gravity Waves from a Dark Big Bang," Phys.Rev.D 107 (2023) 8, 083522, [arXiv:2302.11579 [astro-ph.CO]].
213. C. Ilie, J. Paulin and K. Freese, "Supermassive Dark Star candidates seen by JWST?," [arXiv:2304.01173 [astro-ph.CO]], Proc. Nat. Acad. Sci. **120**, no.30, e2305762120 (2023)
214. S. Zhang, C. Ilie and K. Freese, "Detectability of Supermassive Dark Stars with the Roman Space Telescope," [arXiv:2306.11606 [astro-ph.GA]].
215. S. Alexander, C. Creque-Sarbinowski, H. Gilmer and K. Freese, "Higgs Inflation and the Electroweak Gauge Sector," [arXiv:2306.04671 [hep-ph]].
216. G. Montefalcone, V. Aragam, L. Visinelli and K. Freese, "WarmSPy: a numerical study of cosmological perturbations in warm inflation," JCAP 2401, 032 (2024), [arXiv:2306.16190 [astro-ph.CO]].
217. K. Freese, A. Litsa and M. W. Winkler, "The Gravitational Wave Spectrum of Chain Inflation," [arXiv:2311.03434 [astro-ph.CO]].

218. G. Montefalcone, R. O. Ramos, G. S. Vicente and K. Freese, "Defying eternal inflation in warm inflation with a negative running," [arXiv:2311.03487 [astro-ph.CO]].
219. C. Ilie, K. Freese, A. Petric and J. Paulin, "UHZ1 and the other three most distant quasars observed: possible evidence for Supermassive Dark Stars," [arXiv:2312.13837 [astro-ph.GA]].
220. M. W. Winkler and K. Freese, "Origin of the Stochastic Gravitational Wave Background: First-Order Phase Transition vs. Black Hole Mergers," [arXiv:2401.13729 [astro-ph.CO]].
221. K. Freese, G. Montefalcone and B. Shams Es Haghi, "Dark Matter production during Warm Inflation via Freeze-In," [arXiv:2401.17371 [hep-ph]].

Results Quoted in Particle Data Group's Review of Particle Properties:

See references 1, 33, 48, 142 and 147.

Book

1. *The Cosmic Cocktail: Three Parts Dark Matter*
   Katherine Freese
   Princeton University Press, published June 2014.
   Translated into Japanese, Chinese, Swedish, Finnish.
   Released in paperback in June 2016.

Conference Proceedings

1. Neutrino Astrophysics, D.N. Schramm and K. Freese, J.R. Wilson Festschrift, University of Illinois, October 1982
2. Cosmological Constraints on Neutrinos and other 'Inos' and the Missing Light Problem, D.N. Schramm and K. Freese, Third Moriond Conference in Astrophysics, La Plagne, France, March 1983
3. Monopoles in pulsar PSR 1929+10, K. Freese, Monopole '83 Conference, University of Michigan, October 1983
4. Covariant Schrödinger Formalism and Application to Accelerated Observers, K. Freese, Marcel Grossman Meeting in General Relativity, Rome, Italy, June 1985
5. Fundamental Physics and Dark Matter, K. Freese, Santa Cruz Workshop on Galaxy Formation, Santa Cruz, California, July 1986
6. Detecting "Missing Mass" Candidates with the Superheated Superconducting Detector, A.K. Drukier, K. Freese, and D.N. Spergel, Conference on Applied Superconductivity, Baltimore, Maryland, September 1986
7. Cosmology with Decaying Vacuum Energy, K. Freese, J. Frieman, F. Adams, and E. Mottola, Meeting of the American Chemical Society, New Orleans, LA, Sept. 1987
8. Halo Antiprotons and Gamma Rays from Cold Dark Matter Annihilation, J. Ellis, R.A. Flores, K. Freese, S. Ritz, D. Seckel, and J. Silk, Particle Astrophysics Workshop, Berkeley, CA, Dec. 1988
9. Spectral Distortions of the Cosmic Microwave Background, F.C. Adams, K. Freese, J. Levin, and J.C. McDowell, Particle Astrophysics Workshop, Berkeley, CA, Dec. 1988
10. Astrophysical Dark Matter: Candidates from Particle Physics and Detection Possibilities, Katherine Freese, Weak Interactions in Nuclei (WEIN) Conference, Montreal, Canada, May 1989

11. Natural Inflation, Katherine Freese, Texas/ESO-CERN Symposium, Brighton, England, December 1990
12. Indirect Detection of Dark Matter, Katherine Freese, Texas/ESO-CERN Symposium, Brighton, England, December 1990
13. Unnatural and Natural Inflation, Katherine Freese, PASCOS Meeting, Northeastern University, March 1991
14. The MAD Era: A Possible New Resolution to the Horizon Problem, Janna Levin and Katherine Freese, APS Meeting, Division of Particles and Fields, Fermilab, November 1992
15. An Improved Parker Bound on the Flux of Magnetic Monopoles, Gregory Tarlé, Fred C. Adams, Marco Fatuzzo, Katherine Freese, Michael S. Turner and Richard Watkins, *in Proc. of the 23rd Int. Cosmic Ray Conf.*, (Calgary, 1993), **4**, 597 (1993).
16. Natural Inflation, Katherine Freese, Yamada Conference XXXVII: Evolution of the Universe and its Observational Quest, Tokyo, Japan, June 1993
17. The Horizon, Flatness, and Monopole Problems in Cosmology, Katherine Freese, Coral Gables Meeting, Miami, FLA, January 1994
18. Theoretical Status of Inflation, Katherine Freese, Coral Gables Meeting, Miami, FL, January 1995
19. Low Mass Stars and Baryonic Dark Matter, Katherine Freese, Meeting on 'Aspects of Dark Matter in Astro- and Particle Physics', Heidelberg, Germany, Sept. 1996
20. New Higgsino Dark Matter Candidate Motivated by Collider Data, Katherine Freese, Meeting on 'Aspects of Dark Matter in Astro- and Particle Physics', Heidelberg, Germany, Sept. 1996
21. "Observational Status of the Texture Large-Scale Structure Formation Model", Hideyuki Umeda and Katherine Freese, Proceedings for IAU Regional Meeting, Pusan, Korea,Sept. 1996
22. "What are Machos? Limits on Stellar Objects as the Dark Matter of our Halo", K. Freese, B. Fields, and D. Graff, International Workshop on 'Aspects of Dark Matter in Astro- and Particle Physics', Heidelberg, Germany, July 1998
23. "Limits on Stellar Objects as the Dark Matter of Our Halo: Nonbaryonic Dark Matter Seems to be Required," K. Freese, Nineteenth Texas Symposium on Relativistic Astrophysics and Cosmology, Paris, France, December 1998
24. "Death of Stellar Baryonic Dark Matter," K. Freese, B. Fields, and D. Graff, First Stars Conference, Munich, Germany, August 1999, astro-ph/0002058.
25. "Effects of CP Violation in Neutralino Scattering and Annihilation," P. Gondolo and K Freese, TAUP99 Meeting, Paris, France, September 1999, hep-ph/0001071.
26. "Death of Stellar Baryonic Dark Matter Candidates," K. Freese, B. Fields, and D. Graff, Meeting on Sources and Detection of Dark Matter in the Universe, Marina del Rey, CA, February 2000.
27. "Death of Baryonic Dark Matter," K. Freese, B. Fields, and D. Graff, Third International Workshop on the Identification of Dark Matter, York, England, Sept. 2000.
28. "Hagedorn Inflation," Meeting on Extra Dimensions, Paris, FR, May 2001
29. "Generalized Cardassian Expansion: A Model in which the Universe is Flat, Matter Dominated, and Accelerating," Meeting on Sources and Detection of Dark Matter and Dark Energy in the Universe, Marina del Rey, CA, February 2002.
30. "The positron excess and supersymmetric dark matter," Edward A. Baltz, Joakim Edsjo, Katherine Freese, and Paolo Gondolo, Proceedings of the 4th International Workshop on Identification of Dark Matter (idm2002), York, England, 2-6 September, 2002.

31. "Cardassian Expansion: Dark Energy from Modified Friedmann Equations", Proceedings of the 6th UCLA Symposium on Sources and Detection of Dark Matter and Dark Energy in the Universe, February 18-20 , 2004, Marina del Rey, California, New Astronomy Reviews 49 (2005) 103.
32. "The Dark Side of the Universe", conference proceeding for Low Temperature Detectors LTD-11 Workshop in Tokyo (2005), Nuclear Inst. and Methods in Physics Research, A, **559** (2006) 337.
33. "Dark Matter in the First Stars: A New Phase of Stellar Evolution", Proceedings for The First Stars Conference in Santa Fe, NM, July 2007
34. "Annual Modulation in the Presence of Streams", C. Savage, K. Freese, and P. Gondolo, Proceedings of the 7th UCLA Symposium on Sources and Detection of Dark Matter and Dark Energy in the Universe, Proceedings of the 7th UCLA Symposium on Sources and Detection of Dark Matter and Dark Energy in the Universe, Santa Monica, CA 2006, Nuclear Physics B - Proceedings Supplements, **173** (2007) 91.
35. " The Phantom Bounce: A New Proposal for an Oscillating Cosmology", Katherine Freese, Matthew G. Brown, William H. Kinney, conference proceedings for "The Origin of Time's Arrow" workshop at the NYAS, October 2007, arXiv:0802.2583 [astro-ph]
36. "Natural Inflation: The Status after WMAP 3-year data", Katherine Freese, Christopher Savage, William H. Kinney,to appear in the proceedings of International Workshop: From Quantum to Cosmos: Fundamental Physics Research in Space, Washington, District of Columbia, 22-24 May 2006. e-Print: arXiv:0802.0227 [hep-ph].
37. "Dark Stars: Dark Matter in the First Stars leads to a New Phase of Stellar Evolution," K. Freese, D. Spolyar, A. Aguirre, P. Bodenheimer, P. Gondolo, J.A. Sellwood, Naoki Yoshida, e-Print: arXiv:0808.0472 [astro-ph], Conference Proceeding for IAU Symposium 255: Low-Metallicity Star Formation: From the First Stars to Dwarf Galaxies
38. "Review of Observational Evidence for Dark Matter in the Universe and in upcoming searches for Dark Stars," K. Freese, Conference Proceeding for "Dark Matter and Dark Energy" in Lyon, France, July 2008, arXiv:0812.4005 [astro-ph].
39. "Dark Stars: the First Stars in the Universe may be powered by Dark Matter Heating," K. Freese, P. Bodenheimer, P. Gondolo and D. Spolyar, arXiv:0812.4844 [astro-ph], Eighth UCLA Symposium: Sources and Detection of Dark Matter and Dark Energy in the Universe, proceedings, Feb. 2008. AIP Conf.Proc.1166:33-38,2009.
40. "Dark Stars: Dód och Återuppståndelse,"D. Spolyar, K. Freese, P. Gondolo, A. Aguirre, P. Bodenheimer, J. A. Sellwood and N. Yoshida, arXiv:0901.4574 [astro-ph.CO], conference proceeding for "Identification of Dark Matter" (IDM 2008), Sweden, August 2008.
41. "Dark Stars: Begynnelsen," P. Gondolo, K. Freese, D. Spolyar, A. Aguirre, P. Bodenheimer, J. A. Sellwood and N. Yoshida, arXiv:0901.4578 [astro-ph.CO], conference proceeding for "Identification of Dark Matter" (IDM 2008), Sweden, August 2008.
42. "Is the Carter-Israel conjecture correct?" Cosimo Bambi, Katherine Freese, Rohta Takahashi, e-Print: arXiv:0908.3238 [astro-ph.HE]
43. "Supermassive Dark Stars: Detectable in JWST and HST." Katherine Freese, Eduardo Ruiz , Monica Valluri, Cosmin Ilie, Douglas Spolyar, and Peter Bodenheimer, talk presented at First Stars and Galaxies Conference at UT Austin in March 2010, AIP Conf.Proc.1294:45-51,2010. e-Print: arXiv:1006.5246 [astro-ph.CO]
44. "Signatures of Dark Star Remnants in the Galactic Halo." Pearl Sandick, Juerg Diemand, Katherine Freese, and Douglas Spolyar, e-Print: arXiv:1012.0068 [astro-ph.CO], Prepared for IDM 2010: 8th International Workshop on Identification of Dark Matter 2010, Montpellier, France, 26-30 Jul 2010.Published in PoS IDM2010:086,2011.

45. "Searches for Dark Matter in the Universe: a Review," Review talk for the XXVII Texas Symposium on Relativistic Astrophysics in Dallas in December 2013. The proceedings are posted here: http://nsm.utdallas.edu/texas2013/proceedings/1/4/g/Freese.pdf
46. "Cosmology after Fifty Years of Texas Meetings," Summary talk for the XXVII Texas Symposium on Relativistic Astrophysics in Dallas in December 2013. The proceedings are posted here: http://nsm.utdallas.edu/texas2013/proceedings/5/2/
47. "The unification of physics: the quest for a theory of everything," S. Paulson, M. Gleiser, K. Freese and M. Tegmark, Annals N. Y. Acad. Sci. **1361**, 18 (2015).
48. "Status of Dark Matter in the Universe," K. Freese, Proceedings of 14th Marcel Grossman Meeting, MG14, University of Rome "La Sapienza", Rome, July 2015, arXiv:1701:01840, Int.J.Mod.Phys. D26 (2017) no.06, 1730012
49. E. C. Shaw, P. A. R. Ade, S. Akers, M. Amiri, J. E. Austermann, J. A. Beall, D. T. Becker, S. J. Benton, A. S. Bergman and J. J. Bock, *et al.* "Design and pre-flight performance of SPIDER 280 GHz receivers," Proc. SPIE Int. Soc. Opt. Eng. **11453**, 114532F (2020) doi:10.1117/12.2562941 [arXiv:2012.12407 [astro-ph.IM]].

Invited Talks –

Invited Talks: Conferences and Workshops

1. Monopole '83 Conference
   University of Michigan, October 1983
   "Monopoles in pulsar PSR 1929+10"
2. Marcel Grossman Meeting in General Relativity
   University of Rome, June 1985
   "Covariant Schrodinger Formalism and Application to Accelerated Observers"
3. Aspen Conference on Dark Matter
   Aspen, August 1985
   "Dark Matter: Constraints and Detection Possibilities"
4. Aspen Winter Physics Conference
   Aspen, January 1986
   "Detecting Cold Dark Matter"
5. Santa Cruz Workshop on Galaxy Formation
   Santa Cruz, July 1986
   "Fundamental Physics and Dark Matter"
6. Particle Astrophysics Workshop
   Berkeley, CA, Dec. 1988
   "Halo Antiprotons and Gamma Rays from Cold Dark Matter Annihilation"
7. Particle Astrophysics Workshop
   Berkeley, CA, Dec. 1988
   "Spectral Distortions of the Cosmic Microwave Background"
8. Weak Interactions in Nuclei (WEIN) Conference
   Montreal, Canada, May 1989
   "Astrophysical Dark Matter: Candidates from Particle Physics and Detection Possibilities"
9. ESO-CERN 4/Texas Relativistic Astrophysics Conference
   Brighton, England, Dec. 1990
   "Indirect Dark Matter Detection"

10. ESO-CERN 4/Texas Relativistic Astrophysics Conference
    Brighton, England, Dec. 1990
    "Natural Inflation"
11. Conference on Recent Advances in Physical Cosmology
    Aspen, CO, January 1991
    "Exotic Dark Matter"
12. PASCOS Meeting
    Boston, MA, March 1991
    "Natural Inflation"
13. Conference on Phase Transitions in Cosmology
    Santa Barbara, CA, April 1992
    "More on Natural Inflation"
14. Coral Gables Meeting on Unified Symmetries
    Miami, Florida, January 1993
    "The Horizon, Flatness, and Monopole Problems in Cosmology"
15. Yamada Conference XXXVII: Evolution of the Universe and its Observational Quest
    Tokyo, Japan, June 1993
    "Natural Inflation"
16. Coral Gables Meeting on Unified Symmetries
    Miami, Florida, June 1994
    "Natural Inflation"
17. Particle Astrophysics Meeting
    Snowmass, CO, July 1994
    "Theoretical Status of Inflation"
18. AAPT Meeting
    Orlando, FL, January 1995
    "Suggestions for Improving the Chances for Success for Women in Physics at the Collegiate to Faculty Level"
19. Inflationary Cosmology Meeting
    Aspen, CO, August 1995
    "Inflationary Models"
20. Inflation Meeting
    Aspen, CO, August 1995
    "On Baryogenesis and Inflation"
21. Aspects of Dark Matter in Astro and Particle Physics
    Heidelberg, Germany, September 1996
    "Low Mass Stars and Baryonic Halo Dark Matter"
22. Aspects of Dark Matter in Astro and Particle Physics
    Heidelberg, Germany, September 1996
    "A New Higgsino Dark Matter Candidate"
23. Eighteenth Texas Symposium on Relativistic Astrophysics and Cosmology
    Chicago, IL, December 1996
    "Red Dwarfs, Brown Dwarfs, and White Dwarfs as the Baryonic Matter in the Halo of Our Galaxy"
24. Aspen Winter Meeting on Astrophysics
    Aspen, CO, January 1997
    "Is the Baryonic Dark Matter in Our Galaxy made of Red Dwarfs, White Dwarfs, or Brown Dwarfs?"

25. The Third International Workshop on Gravitational Microlensing Surveys
    Notre Dame, IN, March 1997
    "Red Dwarfs, Brown Dwarfs, and White Dwarfs as the Baryonic Matter in the Halo of our Galaxy"
26. Cosmo-97: The First International Workshop on Particle Physics and the Early Universe
    Ambleside, England, September 1997
    "Limits on Baryonic Dark Matter in the Galactic Halo: Red Dwarfs, Brown Dwarfs, and White Dwarfs"
27. Coral Gables Meeting on Unified Symmetries
    Miami, FL, December 1997
    "Machos viewed from a Cosmological Perspective"
28. Fourth International Workshop on Gravitational Microlensing Surveys
    Paris, France, January 1998
    "Machos viewed from a Cosmological Perspective: Mass Budget and other Issues"
29. XXXIIInd Rencontres de Moriond: Fundamental Parameters in Cosmology
    Les Arcs, France, January 1998
    "What are Machos?"
30. International Workshop on Aspects of Dark Matter in Astro- and Particle Physics
    Heidelberg, Germany, July 1998
    "What are Machos? Limits on Stellar Objects as the Dark Matter of our Halo"
31. Nineteenth Texas Symposium on Relativistic Astrophysics and Cosmology
    Paris, France, December 1998
    "What are Machos?"
32. Aspen Winter Meeting on Astrophysics
    Aspen, CO, January 1999
    "What are Machos?"
33. MPA/ESO First Stars Conference
    Munich, Germany, July 1999
    "Status of Stellar Dark Matter: Nonbaryonic Dark Matter seems to be Required"
34. COSMO-99
    Trieste, Italy, Sept. 1999
    "Status of Baryonic Dark Matter"
35. German American Academic Council Meeting
    Schloss Ringberg, Tegernsee, Germany, October 1999
    "Death of Baryonic Dark Matter"
36. Sources and Detection of Dark Matter in the Universe
    Marina del Rey, CA, Feb. 2000
    "Death of Baryonic Dark Matter"
37. Third International Workshop on the Identification of Dark Matter
    York, England, September 2000
    "Death of Baryonic Dark Matter"
38. Workshop on Extra Dimensions and Cosmology
    Paris, France, May 2001
    "Two New Solutions to the Cosmological Horizon Problem"
39. M-Theory and Cosmology
    Cambridge, England, August 2001
    "Two New Solutions to the Cosmological Horizon Problem in the Context of Extra Dimensions"

40. Workshop on the Detection and Identification of Dark Matter
    Marina del Rey, CA, Feb. 2002
    The Cardassian Universe: A Model in which the Universe is Flat, Matter Dominated, and Accelerating
41. Workshop on Extra Dimensions, Michigan Center for Theoretical Physics
    Ann Arbor, MI, April 2002
    The Cardassian Universe: A Model in which the Universe is Flat, Matter Dominated, and Accelerating
42. The New Cosmology Confronts Observation: CMB, Dark Matter, Dark Energy, and Braneworlds
    Santa Barbara, CA, August 2002
    Hagedorn Inflation
43. String Cosmology Workshop
    Aspen, CO, Sept. 2002
    Hagedorn Inflation
44. String Cosmology Workshop
    Aspen, CO, Sept. 2002
    The Cardassian Universe: A Model in which the Universe is Flat, Matter Dominated, and Accelerating
45. Aspen Winter Meeting: Large Scale Structure of the Universe
    Aspen, CO, Jan. 2004
    Effects of the Sagittarius stream on Dark Matter Detection
46. 6th UCLA Symposium on Sources and Detection of Dark Matter and Dark Energy in the Universe
    Santa Monica, CA, Feb. 2004
    Cardassian Expansion: Dark Energy from Modified Friedmann Equations
47. The Dark Side Workshop
    Michigan Center for Theoretical Physics, May 2004
    New Physics as an Explanation of Suppressed Large Scale Power in the Cosmic Microwave Background
48. Cosmic Acceleration: Dark Energy or New Gravitational Physics
    Aspen, CO, August 2004
    Cardassian Expansion: Dark Energy from Modified Friedmann Equations
49. COSMO-04, International Workshop on Particle Physics and the Early Universe
    Toronto, Canada, Sept. 2004
    Effects of the Sagittarius Stream on Dark Matter Detection
50. Nonlinear Dynamics in Astronomy and Physics Conference
    Univ. of Florida, Nov. 2004
    Cardassian Expansion as Explanation of Dark Energy in the Universe
51. String Cosmology Workshop
    Perimeter Institute, Waterloo, Canada, March 2005
    Chain Inflation
52. Low Temperature Detectors-11 Conference
    Tokyo, Japan, August 2005
    Dark Matter in the Universe
53. COSMO-05, International Workshop on Particle Physics and the Early Universe
    Bonn, Germany, Sept. 2005
    Naturalness in Inflation in 2005

54. Crafoord Symposium
    Stokholm, Sweden, Sept. 2005
    Dark Matter in the Universe
55. PI/APC Workshop on Cosmological Frontiers in Fundamental Physics
    Perimeter Institute, Waterloo, Canada, October 2005
    Member of Panel for Discussion of String Cosmology
56. New Views of the Universe: Kavli Institute Inaugural Symposium in Honor of David Schramm
    Chicago, IL, December 2005
    Dark Matter in the Universe
57. 7th UCLA Symposium on Sources and Detection of Dark Matter and Dark Energy in the Universe
    Santa Monica, LA, Feb. 2006
    Solving the Cosmological Constant Problem
58. SUSY 2006:14th International Conference on Supersymmetry and the Unification of Fundamental Interactions
    Irvine, CA, June 2006
    Natural Inflation after WMAP
59. COSMO 2006: International Workshop on Particle Physics and the Early Universe
    Lake Tahoe, CA, September 2006
    Natural Inflation after WMAP
60. Astroparticle and Cosmology Workshop
    Galileo Galilei Institute, Florence, Italy, October 2006
    Inflation after WMAP
61. Institute for Nuclear and Particle Astrophysics and Cosmology meeting
    Berkeley, CA, May 2007
    Dark Matter in the First Stars: a New Phase of Stellar Evolution
62. Origins of Dark Energy Conference
    Origins Institute, Hamilton, Ontario, CA, May 2007
    Devaluation: A Dynamical Solution to the Cosmological Constant Problem
63. The Dark Side of the Universe 2007
    University of Minnesota, Minneapolis, MN, June 2007
    Dark Matter in Stars: a New Phase of Stellar Evolution
64. Star Formation: Then and Now, Conference
    Kavli Institute for Theoretical Physics, Santa Barbara, CA, Aug. 2007
    Dark Matter in the First Stars: a New Phase of Stellar Evolution
65. The Origin of Time's Arrow
    Conference sponsored by the New York Academy of Sciences, Oct. 2007
    The Phantom Bounce: A New Proposal for an Oscillating Cosmology
66. Eighth UCLA Symposium: Sources and Detection of Dark Matter and Dark Energy in the Universe
    Santa Monica, CA, Feb. 2008
    Dark Stars: A New Phase of Stellar Evolution
67. International Astronomical Union Symposium 255: Low Metallicity Star Formation from the First Stars to Dwarf Galaxies
    Rapallo, Italy, June 2008
    Dark Stars: A New Phase of Stellar Evolution due to Dark Matter Heating in the First Stars

68. Dark Energy and Dark Matter Conference
    Lyons, France, July 2008
    Observational Evidence for Dark Matter: A Review
69. COSMO-08 Conference
    Madison,WI, August 2008
    Dark Stars
70. Aspen Winter Meeting on Dark Matter
    Aspen, CO, January 2009
    Dark Stars
71. Aspen Winter Meeting on Magnetars
    Aspen, CO, February, 2009
    Dark Stars
72. PPC2009: Third International Workshop on the Interconnection between particle physics and Cosmology
    Oklahoma, May 2009
    Dark Stars
73. TeV Particle Astrophysics 2009
    Kavli/SLAC, July 2009
    Dark Stars
74. Center for Particle Cosmology at the Univ. of Pennsylvania Inaugural Workshop
    Philadelphia, PA, December 2009
    Dark matter and Dark Stars
75. Ninth UCLA Symposium on Sources and Detection of Dark Matter and Dark Energy in the Universe.
    Santa Monica, CA, February 24 - 26, 2010
    Dark Matter Searches: A Review
76. The First Stars and Galaxies: Challenges for the Next Decade
    Austin, Texas, March 8-11, 2010.
    Supermassive Dark Stars
77. The First Stars and Galaxies: Challenges for the Next Decade
    Austin, Texas, March 8-11, 2010.
    Dark Matter Experiments: A Review
78. Giant Magellan Telescope Conference
    Texas A&M, College Station, Texas, March 2011
    Dark Stars
79. Physics of the Universe Conference
    Los Angeles/Caltech, CA, December 2010
    Dark Stars
80. Inflation Conference
    Texas A&M, College Station, Texas, March 2011
    Chain Inflation
81. DEUS Conference, Dark Cosmology Center
    Copenhagen, Denmark, August 2011
    Summary Talk of the Conference
82. COSMO Conference
    Porto, Portugal, August 2011
    Dark Matter Theory: a Review

83. Pre-Planckian Inflation Conference
    Minneapolis, MN, October 2011
    Chain Inflation
84. Inflationary Cosmology Workshop
    Aspen, CO, February 2012
    Chain Inflation
85. Tenth Symposium on Sources and Detection of Dark Matter and Dark Energy in the Universe
    Marina del Rey, CA, February 2012
    Dark Stars
86. Silver Jubilee Dark Matter Meeting
    Pacific National Laboratory, Richland, WA, June 2012
    Panel on The Foundations of Dark Matter Searches
87. Silver Jubilee Dark Matter Meeting
    Pacific National Laboratory, Richland, WA, June 2012
    Dark Matter Detectors using DNA
88. Silver Jubilee Dark Matter Meeting
    Pacific National Laboratory, Richland, WA, June 2012
    Dark Stars
89. Science Writers 2012 Meeting
    North Carolina Research Triangle, Rayleigh, NC, October 2012
    Dark Matter: Presentation for Science Writers
90. Science Writers 2012 Meeting
    North Carolina Research Triangle, Rayleigh, NC, October 2012
    Dark Stars: Presentation for Science Writers
91. Physics of the Universe Summit
    Caltech, January 2013
    Dark Matter Detectors using DNA
92. Hunting for Dark Matter Conference
    KITP Santa Barbara, May 2013
    Dark Matter Detectors using DNA
93. Carolina International Symposium on Neutrino Physics
    University of South Carolina, May 2013
    Dark Matter Detectors using DNA
94. 2013 Texas Symposium on Relativistic Astrophysics
    Dallas, TX, December 2013
    Review of Dark Matter Detection
95. 2013 Texas Symposium on Relativistic Astrophysics
    Dallas, TX, December 2013
    Summary Talk for the Conference
96. Aspen Winter Meeting on LHC and Dark Matter
    Aspen Center for Physics, Jan. 2014
    Dark Matter Detectors using DNA
97. Eleventh Symposium on Sources and Detection of Dark Matter and Dark Energy in the Universe
    UCLA, CA, March 2014
    Inflation after the Planck Satellite

98. Workshop on Bacteria Meet Physics
    Aspen Center for Physics, June 2014
    Dark Matter Detectors using DNA
99. COSMO-2014 Conference
    Chicago, IL, August 2014
    Novel Ideas for Dark Matter Detectors using DNA and Nano-explosives
100. International Committee for Future Accelerators (ICFA)
     Beijing, China, October 2014
     Particle Astrophysics & Cosmology
101. Plenary Talk: "Overview of WIMP Dark Matter"
     COSMO-2015 Conference
     Warsaw, Poland, Sept. 15, 2015
102. Panel: "The Early Universe" with panelists Neil Turok, Roger Penrose, Paul Steinhardt, Slava Muhkhanov
     CMB 50, Princeton University, to celebrate 50 years of Cosmic Microwave Background Physics
     June 12, 2015
103. Plenary Talk: "Dark Matter in the Universe"
     Marcel Grossman Meeting, Rome, Italy, July 17, 2015
104. Plenary Talk: "Review of Dark Matter"
     Current Themes in High Energy Physics and Cosmology Conference
     Neils Bohr Institute, Copenhagen, August 21, 2015
105. Plenary Talk: "Inflationary Cosmology in Light of Cosmic Microwave Background Data"
     UCLA Dark Matter 2016: Sources and Detection of Dark Matter in the Universe,
     Los Angeles, CA, February 2016
106. Plenary Talk: "Dark Stars"
     Identification of Dark Matter 2016 (IDM 2016)
     Sheffield, England, July 2016
107. "Dark Stars: Dark Matter Annihilation can Power the First Stars in the Universe,"
     From the LHC to Dark Matter,
     Aspen, CO, March 2017
108. "Dark Stars: Dark Matter Annihilation can Power the First Stars in the Universe,"
     Olivefest conference in honor of Keith Olive's 60th birthday,
     Minneapolis, MN, May 2017
109. "Dark Stars: Dark Matter Annihilation can Power the First Stars in the Universe,"
     Dark Matters conference in honor of Joe Silk's 75th birthday,
     Paris, France, December 2017
110. Plenary Talk: "Dark Stars,"
     UCLA Dark Matter Conference 2018
     Los Angeles, CA, February 2018
111. Lilienfeld Award Lecture "Dark Matter in the Universe
     American Physical Society Meeting
     Denver, CO, April 2019
112. Reconnect 2020: 1st Remote Conference on New Concepts in Particle Theory, "Dark Stars and Dark Matter Phenomenology"
     online via Durham University, May 27, 2020
     https://conference.ippp.dur.ac.uk/event/906/contributions/4875/

113. The Fourth Zeldovich Virtual Meeting, September 2020
"Thoughts on What Dark Matter is (and what it isn't)"
http://www.icranet.org/images/stories/Meetings/ZM4/program.pdf
114. COSMO 2021
"Chain Early Dark Energy"
online, Univ. of Illinois, July 5, 2021
115. Turkish Physical Society 37th International Physics Congress
"Dark Stars: Dark Matter Annihilation can Power the First Stars"
online, Bodrum, Turkey, September 1, 2021
116. BCVSSPIN 2022
Concluding Summary Talk: "What's New and Exciting in Cosmology"
online, January 15, 2022
117. UCLA Dark Matter 2023
"Has JWST Discovered Dark Stars?"
March 29-April 1, 2023
118. Hidden Neutrinos Symposium
"Dark Matter and Dark Stars"
Columbia, SC, May 18-20, 2023
119. Beyond the Standard Model from Colliders to the Early Universe
Panel, A Crisis in Particle Physics?
"What is the Dark Matter?
Chicago, IL, May 27-30, 2023
120. Case Western Reserve Conference in honor of Bryan Lynn "Dark Stars"
Cleveland, OH, October 2023

Invited Talks: Colloquia

1. Physics/Astronomy Colloquium
UCLA, October 1984
"Phase Transitions in Cosmology"
2. Physics/Astronomy Colloquium
Rockefeller University, February 1985
"Cosmology and Particle Physics"
3. Institute for Theoretical Physics Colloquium
Santa Barbara, California, October 1985
"Detecting Cold Dark Matter Candidates"
4. Astronomy Colloquium
University of California, Santa Cruz, December 1985
"Constraints on and Detection of Cold Dark Matter"
5. Astronomy Colloquium
University of California, Berkeley, December 1985
"GeV Mass Dark Matter: Constraints and Detection Possibilities"
6. Physics Colloquium
Rochester University, New York, December 1985
"Cold Dark Matter"
7. Astronomy/Physics Colloquium
UC San Diego, December 1986
"Fundamental Physics and The Missing Mass"

8. Astrophysics Colloquium
   M.I.T., April 1989
   "Fundamental Physics and Dark Matter"
9. Astrophysics Colloquium
   M.I.T., February 1990
   "The Quark/Hadron Phase Transition: Seaweed in the Early Universe"
10. Astrophysics Colloquium
    Univ. of Massachusetts, Amherst, October 1990
    "New Directions for the Inflationary Universe"
11. Physics Colloquium
    University of Michigan, October 1990
    "New Ideas for the Inflationary Universe"
12. Physics Colloquium
    University of Wisconsin, Madison, November 1990
    "New Directions for the Inflationary Universe"
13. Physics Colloquium
    Oakland University, April 1992
    "New Ideas for the Inflationary Universe"
14. Astronomy Colloquium
    University of Hawaii, December 1992
    "The Horizon, Flatness, and Monopole Problems in Cosmology"
15. Physics Colloquium
    McMaster University, Hamilton, Ontario, Canada, November 1993
    "The Inflationary Universe After COBE"
16. Physics Colloquium
    Purdue University, Indiana, December 1994
    "Inflationary Cosmology: from Theory to Observation and Back"
17. Physics Colloquium
    Boston University, Boston, MA, November 1995
    "Inflationary Cosmology: from Theory to Observation and Back"
18. Physics/Astrornomy Colloquium
    University of Miami, Miami, FL, November 1995
    "Inflationary Cosmology"
19. Physics Colloquium
    Ludwig Maximilian's Universitæt, Munich, Germany, December 1995
    "Testing Inflationary Cosmology"
20. Physics Colloquium
    University of Michigan, November 1996
    "Inflationary Cosmology: from Theory to Observation and Back"
21. Physics/Astronomy Colloquium
    Wayne State University, December 1996
    "Inflationary Cosmology: from Theory to Observation and Back"
22. Physics Colloquium
    Michigan State University, January 1998
    "The Dark Matter of the Universe"
23. Physics Colloquium
    Princeton University, February 1998
    "Inflationary Cosmology: from Theory to Observation and Back"

24. Physics/Astronomy Colloquium
    University of Toledo, April 1998
    "Inflationary Cosmology: from Theory to Observation and Back"
25. Physics/Astronomy Colloquium
    University of Miami, April 1998
    "The Dark Matter of the Universe"
26. Institute Colloquium
    Max Planck Institut für Physik, Munich, Germany, August 1998
    "Status of Baryonic Dark Matter"
27. Physics Colloquium
    University of Massachusetts, Amherst, October 1998
    "Inflationary Cosmology: from Theory to Observation and Back"
28. Physics/Astronomy Colloquium
    William and Mary, Williamsburg, VA, November 1998
    "Testing Inflationary Cosmology"
29. Institute Colloquium
    Max Planck Institut für Physik, München, Germany, November 1999
    "Death of Baryonic Dark Matter"
30. Astronomy Colloquium
    Ohio State University, Columbus, OH, March 2000
    "What is the Dark Matter in the Halo of our Galaxy?
31. Physics Colloquium, in Celebration of Marie Curie Month
    University of Michigan, Ann Arbor, MI, October 2000
    "Dark Matter and Dark Energy in Cosmology"
32. Physics Colloquium
    University of New Hampshire, Durham, NH, October 2000
    "Dark Matter and WIMPs"
33. Physics Colloquium
    University of Arizona, Tucson, AZ, January, 2001
    "Cosmology at the Turn of the Millenium
34. Physics/Astronomy Colloquium
    Oakland University, Detroit, MI, March 2001
    "Cosmology at the Turn of the Millenium"
35. Physics Colloquium
    University of Wisconsin, Madison, WI, March 2001
    "Dark Matter and Dark Energy in Cosmology"
36. Physics Colloquium, in honor of Sigma Xi Awardee Ceremony
    Central Michigan University, Michigan, April 2003
    "The Dark Side of the Universe"
37. Physics/Astronomy Colloquium, University of Buffalo
    Buffalo, NY, April 2004
    "The Dark Side of the Universe"
38. Physics Colloquium, Michigan State University
    East Lansing, MI, November 2004
    "The Dark Side of the Universe"
39. 100 Years Beyond Einstein Theme Semester Colloquium, Univ. of MI
    Ann Arbor, MI, December 2005
    "The Expanding Universe and Big Bang Cosmology"

40. Physics/Astronomy Colloquium
    University of Utah, March 2006
    "Inflationary Cosmology: from Theory to Observation and Back"
41. Physics Colloquium
    University of California, Berkeley, March 2007
    "Inflationary Cosmology: from Theory to Observation and Back"
42. Physics Colloquium
    Temple University, January 2008
    "Cosmology in this Millenium"
43. Institute for Theoretical Physics and Astronomy Colloquium
    Heidelberg, Germany, July 2008
    "Dark Stars: A New Phase of Stellar Evolution
44. Physics Colloquium
    Columbia University, October 2008
    "Dark Matter"
45. Physics Colloquium
    University of Florida, Feb. 2009
    "Dark Matter in the Universe"
46. Physics/Astronomy Colloquium
    Yale University, March 2009
    "Dark Matter"
47. Physics/Astronomy Colloquium
    Southern Methodist University, May 2009
    "Dark Matter"
48. Physics/Astronomy Colloquium
    University of Maryland, October 2009
    "Dark Matter in the Universe
49. Physics/Astronomy Colloquium
    University of North Carolina, Chapel Hill, Feb. 2010
    "Dark Matter in the Universe"
50. Astronomy Colloquium
    NOAO/University of Arizona, March 2010
    "Dark Stars"
51. Initiative for the Theoretical Sciences Colloquium
    CUNY Graduate Center, 365 Fifth Avenue, NY, NY, April 2010
    "The Dark Side of the Universe"
52. Physics/Astronomy Colloquium
    Vanderbilt University, April 2010
    "Dark Matter in the Universe"
53. Faye Ajzenberg-Selove Physics Colloquium
    University of Wisconsin, Madison, April 2010
    "Dark Matter in the Universe"
54. Astronomy Colloquium
    University of Texas, Austin, January 2011
    "What is Dark Matter?"
55. Physics Colloquium
    Caltech, Pasadena, CA, April 2012
    "Dark Matter in the Universe"

56. Physics Colloquium
    Institut d'Astrophysique, Paris, FR, September 2012
    "Dark Matter in the Universe"
57. Oskar Klein Center Colloquium
    Oskar Klein Center for Cosmoparticle Physics, Stockholm, Sweden, September 2012
    "Dark Matter in the Universe and the ssDNA Tracker"
58. Theoretical Physics Colloquium
    CERN, Geneva, Switzerland, October 2012
    "Dark Stars: Dark Matter Annihilation can power the First Stars"
59. CERN Colloquium
    CERN, Geneva, Switzerland, October 2012
    "Dark Matter in the Universe"
60. JPL Colloquium
    Jet Propulsion Laboratory, Caltech, Pasadena, CA, May 2013
    "Inflation after the Planck Satellite"
61. Michigan Center for Theoretical Physics Colloquium
    Ann Arbor, MI, April 2014
    Inflation after BICEP2
62. Physics Colloquium
    Stockholm University, November 2014
    The Dark Side of the Universe
63. Aalto University Physical Sciences Colloquium
    Aalto, Finland, February 2015
    Dark Matter in the Universe
64. Helsinki University Physics Colloquium
    Helsinki, Finland, February 2015
    The Dark Side of the Universe
65. Physics Colloquium
    University of Mainz, Germany, February 2015
    Dark Matter in the Universe
66. Physics Colloquium
    Harvard University, Cambridge, MA, March 2015
    Dark Matter in the Universe
67. Physics Colloquium
    "Inflationary Cosmology in light of Cosmic Microwave Background Data"
    Neils Bohr Institute Academy, Copenhagen, Denmark
    Oct. 2, 2015
68. Physics Colloquium
    Northwestern University, Chicago, IL, April 15, 2016
    The Dark Side of the Universe
69. Physics Colloquium
    CCNY, New York, April 20 2016
    Dark Matter in the Universe
70. Physics Colloquium
    Boston University, Boston, MA, May 28, 2016
    The Dark Side of the Universe

71. Physics Colloquium
University of South Carolina, February 2017
Dark Stars
72. Physics Colloquium
Florida Atlantic University, Boca Raton, FL, March 2017
Dark Matter in the Universe
73. Physics Colloquium
University of Wisconsin, March 31 2017
Dark Matter in the Universe
74. Physics Colloquium
Texas A&M, April 13, 2017
Dark Matter in the Universe
75. Physics Colloquium
Georgetown University, May 8 2017
Dark Matter in the Universe
76. Physics Colloquium
University of Texas, Austin, November 2017
Dark Matter in the Universe
77. Physics Colloquium
University of Michigan, January 2018
Dark Matter in the Universe
78. Physics Colloquium
University of Minnesota, Feb. 2018
Dark Matter in the Universe
79. Physics Colloquium
University of Valencia, September 2018
Dark Matter in the Universe
80. Oskar Klein Centre Colloquium
Stockholm University, June 2, 2020
What Dark Matter Is — and what it isn't
81. Physics and Astronomy Colloquium
Space Telescope Science Institute/Johns Hopkins University, September 30, 2020
Dark Matter in the Universe
82. Physics Colloquium
IRMP Institut de Recherche en Mathmatique et en Physique, Universite catholique de Louvain, Brussels, Belgium, October 14, 2020
Dark Matter in the Universe
83. Physics Colloquium
University of Toronto, October 22, 2020
What Dark Matter is (and what it isn't)
84. Physics Colloquium
Tufts University, February 19, 2021
Dark Matter in the Universe
85. Astrophysics Colloquium
Harvard Center for Astrophysics, March 11, 2021
Dark Matter in the Universe

86. Distinguished Lecture Series
McDonnell Center for the Space Sciences, Washington Univ,. St. Louis, March 24, 2021
Dark Matter in the Universe
87. Colloquium
Argonne National Labs, April 9. 2021
Dark Matter in the Universe
88. Physics Colloquium
South Dakota School of Mines, October 25, 2021
Dark Matter in the Universe
89. Physics Colloquium
University of Illinois, Urbana, Champaign, April 13, 2022
"Dark Matter in the Universe"
90. Colloquium at Institute for Fundamental Physics of the Universe
Trieste, Italy, October 21, 2022
"Dark Matter in the Universe"
91. Colloquium for 10-year anniversary of KSETA
Karlsruhe Institute of Technology, Germany, October 28, 2022
"Dark Matter in the Universe"
92. Physics Colloquium
Baylor, January 25, 2023
"Dark Matter in the Universe"
93. Physics Colloquium
University of North Carolina, February 27, 2023
"Dark Matter in the Universe"
94. Physics Colloquium
University of Virginia, April 21, 2023
"Dark Matter in the Universe"
95. Physics Colloquium
University of Texas, Arlington, November, 2023
"Dark Matter in the Universe"
96. The Robert Resnick Colloquium Rensselaer Polytechnic Institute, November 15, 2023 "Dark matter in the Universe"

Research Seminars

1. Astrophysics Seminar
Fermi National Accelerator Laboratory, February 1983
"Cosmological Constraints on Neutrino Masses"
2. Enrico Fermi Institute Seminar
University of Chicago, May 1983
"Monopole-Catalyzed Nucleon Decay: Neutron Stars and White Dwarfs"
3. Theoretical Physics Seminar
Fermi National Accelerator Laboratory, December 1983
"Monopole-Catalyzed Nucleon Decay in Neutron Stars"
4. Theoretical Physics Seminar
Los Alamos National Laboratory, February 1984
"Do Monopoles Keep White Dwarfs Hot?"

5. High Energy Physics Seminar
   University of Michigan, March 1984
   "Monopoles in Neutron Stars and White Dwarfs"
6. High Energy Physics Seminar
   UCLA, October 1984
   "Monopoles and Astrophysics"
7. Theoretical Physics Seminar
   Rockefeller University, January 1985
   "Covariant Schrödinger Formalism and Application to the Hawking Effect"
8. Early Universe Seminar
   Harvard Center for Astrophysics, March 1985
   "Accelerated Observers and the Hawking Effect"
9. Theoretical Physics Seminar
   MIT, March 1985
   "Schrödinger Wave Functional Formalism and the Hawking Effect"
10. Early Universe Seminar
    Harvard Center for Astrophysics, September 1985
    "GeV Mass Dark Matter"
11. Physics Department Seminar
    Santa Barbara, California, October 1985
    "Schrödinger Picture and the Hawking Effect"
12. Solar Neutrino Conference
    Santa Barbara, April 1987
    "Neutrino Decays and Supernova 1987A"
13. High Energy Physics Seminar
    ITP, Santa Barbara, June 1987
    "Baryon Number Violation via Instanton and Sphaleron Configurations"
14. Early Universe Seminar
    Harvard Center for Astrophysics, April 1989
    "Astrophysical Signatures of Cold Dark Matter"
15. Early Universe Seminar
    Harvard Center for Astrophysics, January 1990
    "Hadron Bubble Evolution: Voyage into the Quark Sea"
16. Center for Theoretical Physics Seminar
    M.I.T., February 1990
    "Hadron Bubble Instability at the Quark/Hadron Transition"
17. Workshop on Inflation and Exotic Cosmic Structure Formation
    University of British Columbia, Vancouver, May 1990
    "Fine-Tuning in Inflationary Models"
18. High-Energy Physics Seminar
    University of Pennsylvania, November 1990
    "Topics in Inflation"
19. Theoretical Seminar
    Fermilab, February 1991
    "Natural Inflation"
20. Early Universe Seminar
    Harvard/Smithsonian Center for Astrophysics, March 1991
    "Natural and Unnatural Inflation"

21. Center for Particle Astrophysics Seminar
    Berkeley, CA, March 1991
    "Natural Inflation"
22. Center for Particle Astrophysics Seminar
    Berkeley, CA, March 1991
    "Having a Family in a Physics Career"
23. Theoretical Particle Physics Seminar
    Princeton University, April 1991
    "Unnatural and Natural Inflation"
24. Great Lakes Cosmology Conference
    University of Michigan, April 1993
    "Horizons in Cosmology'
25. Cosmic Ray Institute
    Tokyo, Japan, June 1993
    "The Horizon Problem in Cosmology"
26. Physics Department, Kyoto University
    Kyoto, Japan, June 1993
    "The Horizon Problem in Cosmology"
27. Canadian Institute for Theoretical Astrophysics
    Toronto, Canada, November 1993
    "Natural Inflation"
28. University of Heidelberg
    Heidelberg, Germany, December 1993
    "Natural Inflation"
29. Second Great Lakes Cosmology Conference
    Yerkes Observatory, Wisconsin, May 1994
    "Inflation: from Theory to Observations and Back"
30. Coral Gables Meeting on Unified Symmetries
    Miami, Florida, February 1995
    "Theoretical Status of Inflation"
31. Theoretical Physics Seminar
    Boston University, Boston, MA, November 1995
    "Theoretical Status of Inflation"
32. Coral Gables Meeting on Unified Symmetries
    Miami, Florida, January 1996
    "Testing Inflationary Cosmology"
33. Theoretical Physics Seminar
    University of Florida, Gainesville, FL, Nov. 1996
    "Theoretical Status of Inflationary Cosmology"
34. Coral Gables Meeting on Unified Symmetries
    Miami, Florida, January 1997
    "Limits on Baryonic Dark Matter: Red Dwarfs, Brown Dwarfs, and White Dwarfs in our Galactic Halo"
35. High Energy Physics/Astrophysics Seminar
    University of Michigan, March 1997
    "Is the Halo of our Galaxy made of Baryons?"

36. Astrophysics Seminar
    Notre Dame University, April 1998
    "What are Machos?"
37. Cosmology Seminar
    CERN, Geneva, Switz., May 1999
    "Status of Baryonic Dark Matter"
38. Astroparticle Physics Sonderforschungsbereich Workshop
    Ringberg Castle, Tegernsee, Germany, October 1999
    "Death of Baryonic Dark Matter"
39. Particle Physics Seminar
    Saclay, France, November 1999
    "Death of Baryonic Dark Matter"
40. Astroparticle Physics Seminar
    Case Western University, Cleveland, OH, Feb. 2000
    "Dark Matter in the Halo of our Galaxy"
41. Harvard/MIT/BU Joint Theory Seminar
    Boston, MA, March 2000
    "Death of Stellar Dark Matter: Nonbaryonic Dark Matter seems to be Required"
42. Particle Theory Seminar
    University of Florida, Gainesville, FL, March 2000
    "What is the Dark Matter in the Halo of our Galaxy?"
43. Astrophysics Workshop
    Aspen Center for Physics, Aspen, CO, January 2001
    "Dark Matter"
44. Theory Seminar
    University of Pennsylvania, April 2001
    "Dark Matter"
45. Theory Seminar
    Syracuse University, Oct. 2001
    "New Solutions to the Horizon Problem in Braneworlds"
46. ISCAP (Institute for Strings, Cosmology, and Particles) Seminar
    Columbia University, Feb. 2002
    "Cardassian Expansion: A Model in Which the Universe is Flat, Matter Dominated, and Accelerating"
47. Astronomy Talk
    Columbia University, March 2002
    "Cardassian Expansion: A Model for an Accelerating Universe"
48. Astrophysics Seminar
    Fermilab, Batavia, IL, April 2002
    "Cardassian Expansion: A Model in Which the Universe is Flat, Matter Dominated, and Accelerating"
49. Astrophysics Seminar
    New York University, May 2002
    The Cardassian Universe: A Model in which the Universe is Flat, Matter Dominated,and Accelerating
50. Kavli Institute for Theoretical Physics Seminar
    Santa Barbara, CA, December 2002
    Introduction to Cosmology for Condensed Matter Physicists

51. Relativity Seminar
    Princeton University, March 2003
    Cardassian Expansion: Dark Energy from Modified Friedmann Equations
52. Theory Seminar
    Perimeter Institute, Waterloo, Ontario, Canada, Oct. 2003
    Cardassian Expansion: Dark Energy from Modified Friedmann Equations
53. Astrophysics Seminar
    Canadian Institute for Theoretical Astrophysics, Toronto, Canada, Oct. 2003
    Cardassian Expansion: Dark Energy from Modified Friedmann Equations
54. Astrophysics/High Energy Physics Seminar
    University of Michigan, Nov. 2003
    Cardassian Expansion: Dark Energy from Modified Friedmann Equations
55. Astrophysics Seminar
    University of Notre Dame, Nov. 2003
    Cardassian Expansion: Dark Energy from Modified Friedmann Equations
56. Theory Seminar, Physics Dept.
    University of Florida, December 2004
    Cardassian Expansion: Dark Energy from Modified Friedmann Equations
57. Theory Seminar, Physics Dept.
    Harvard University, February 2005
    Chain Inflation
58. Particle Theory Seminar
    Stanford Linear Accelerator, April 2005
    Cardassian Expansion: Dark Energy from Modified Friedmann Equations
59. Astrophysics Seminar
    University of Utah, November 2006
    Chain Inflation
60. Particle Theory Seminar
    SLAC, April 2006
    Natural Inflation after WMAP
61. Theory Seminar
    Imperial College, London, England, June 2006
    Inflation after WMAP
62. Miller Institute Seminar
    University of CA, Berkeley, CA, September 2006
    The Dark Side of the Universe
63. Astrophysics/High Energy Physics Seminar
    University of Michigan, October 2006
    Inflation after WMAP
64. Particle Theory Seminar
    University of California, Berkeley, Feb. 2007
    Naturalness in Inflation
65. CosmoClub Seminar
    University of California, Santa Cruz, March 2007
    Naturalness in Inflation
66. Theory Seminar
    Lawrence Berkeley Labs, Berkeley, CA, May 2007
    Dark Stars

67. Perimeter Institute/CITA Joint Astrophysics Talk
    Perimeter Institute, Waterloo, CA, October 2007
    Dark Stars: A new Phase of Stellar Evolution
68. University of Minnesota Theory Seminar
    University of Minnesota, Minneapolis, MN, December 2008
    Dark Stars
69. Theory Seminar
    University of Florida, Feb. 2009
    Dark Stars: Dark Matter Heating can power the first stars
70. Theory Seminar
    Case Western Reserve, March 2009
    Dark Stars
71. Theory Seminar
    University of Texas, May 2009
    Dark Stars
72. Theory Seminar
    Vanderbilt Univ., April 2010
    Dark Stars
73. Theory Seminar
    University of Utah, November 2011
    Dark Stars
74. TAPIR Seminar
    Astronomy Dept, Caltech, Pasadena, CA April 2012
    Dark Stars
75. Astrophysics Seminar
    Carnegie Observatories, Pasadena, CA June 2012
    Dark Stars
76. Seminar on Biology and Physics
    Rockefeller University, NY, NY September 2012
    Novel Approach to Dark Matter Detectors using DNA
77. Particle Astrophysics Seminar
    Center for Particle Astrophysics, Paris, FR October 2012
    Novel Approach to Dark Matter Detectors using DNA
78. Astrophysics Seminar
    Princeton University, July 2013 *Natural Inflation after Planck*
79. Dark Matter Seminar
    Princeton University, July 2013 *Dark Matter Detectors using DNA*
80. Institute for Strings, Cosmology and Particle Physics Seminar
    Columbia University, NY, April 2014
    Inflation after Planck and BICEP2
81. Oskar Klein Center
    Stockholm University, October 2014
    Inflation in 2014
82. King's College, London, England
    April 10, 2015
    Natural Inflation after the Planck Satellite

83. Perimeter Institute
    May 2017
    Dark Stars
84. University of Texas, Austin
    November 2017
    Inflationary Cosmology in Light of Cosmic Microwave Background Measurements
85. University of Minnesota
    February 2018
    Inflationary Cosmology in Light of Recent Data and Theoretical Developments
86. Central European Institute for Cosmology and Fundamental Physics, Prague, CZ
    October 2018
    Inflationary Cosmology in Light of Recent Data and Theoretical Developments
87. University of Texas
    April 1, 2021
    Chain Inflation and Early Dark Energy
88. University of Pennsylvania
    April 2022 *Chain Inflation and Early Dark Energy*

Conferences Organized:

1. First Great Lakes Cosmology Conference
   Ann Arbor, MI, May 1993
2. Coral Gables Meeting on Unified Symmetries
   Miami, Florida, January 1994
3. Dark Matter Conference
   Berkeley, March 1994
4. Focal Week on Women in Physics
   Aspen Center for Physics, July 1994
5. Coral Gables Meeting on Unified Symmetries
   Miami, Florida, February 1995
6. The Inflationary Universe: from Theory to Observation and Back (three week workshop)
   Aspen Center for Physics, August 1995
7. Coral Gables Meeting on Unified Symmetries
   Miami, Florida, January 1996
8. Microlensing Workshop (two weeks)
   Aspen Center for Physics, May-June 1997
9. David N. Schramm Memorial Symposium: Inner Space/ Outer Space II
   Fermilab, May 1999
10. The Effects of Sun on Climate
    Tucson, Arizona, March 2000
11. Strings 2000
    Ann Arbor, MI, May 2000
12. Third International Workshop on the Identification of Dark Matter
    York, England, September 2000
13. "2001: A Spacetime Odyssey," the Inaugural Conference of the Michigan Center for Theoretical Physics
    Ann Arbor, MI, May 2001

14. Cosmic Microwave Background/Dark Matter/Dark Energy
    Institute for Theoretical Physics, Santa Barbara, fall 2002
15. COSMO 2002 International Workshop on Particle Physics and the Early Universe
    Chicago, IL, Sept. 2002
16. Fourth International Workshop on the Identification of Dark Matter
    York, England, Sept. 2002
17. The New Cosmology Confronts Observation: CMB, Dark Matter, Dark Energy, and Braneworlds
    Kavli Institute for Theoretical Physics, Santa Barbara, Aug.-Dec. 2002
18. Great Lakes Cosmology Workshop
    University of Michigan, Ann Arbor, MI, May 2003
19. Chair, Organizing Committee, Workshop on "The Dark Side"
    University of Michigan, Ann Arbor, MI, May 2004
20. International Advisory Committee, Fifth International Workshop on the Identification of Dark Matter
    York, England, Sept. 2004
21. Convener, COSMO-04 International Workshop on Particle Physics and the Early Universe
    Toronto, Canada, Sept. 2004
22. Convener, the "String Cosmology Gong Show"
    Perimeter Institute, Waterloo, Canada, March 2005
23. Member, International Organizing Committee, 7th UCLA Symposium on Sources and Detection of Dark Matter and Dark Energy in the Universe
    Santa Monica, LA, Feb. 2006
24. Organizer, MCTP workshop on Inflation after WMAP
    Ann Arbor, MI, May 2006
25. Member, Scientific Advisory Committee, IDM 2006, 6th International Workshop on the Identification of Dark Matter Dark Energy in the Universe
    Rhodes, Greece, Sept. 2007
26. Member, International Organizing Committee, 8th UCLA Symposium on Sources and Detection of Dark Matter and Dark Energy in the Universe
    Santa Monica, CA, Feb. 2008
27. Chair, Organizing Committee for MCTP Dark Side workshop
    Ann Arbor, MI, May/June 2008
28. Member, Advisory Committee for IDM2008 - Identification of Dark Matter 2008
    Stockholm, Sweden, August 2008
29. Chair, Organizing Committee
    The Dark Side II Workshop (3 week workshop)
    Michigan Center for Theoretical Physics, Ann Arbor, May-June 2008
30. Member, International Organizing Committee, 9th UCLA Symposium on Sources and Detection of Dark Matter and Dark Energy in the Universe
    Santa Monica, CA, Feb. 2010
31. Chair, Organizing Committee
    Dark Stars Workshop
    Michigan Center for Theoretical Physics, Ann Arbor, October 2009
32. Member, Advisory Committee for IDM2010 - Identification of Dark Matter 2010
    Montpelier, France, July 2010
33. Member, Advisory Committee for 12th International Conference on Topics in Astroparticle and Underground Physics, TAUP 2011
    Munich, Germany, Sept. 2011

34. International organizer, "Dark Matter and New Physics", Kavli Institute for Theoretical Physics China (KITPC); also DSU 2011
    Beijing, China, Sept. - Nov. 2011.
35. Member, International Organizing Committee, 10 th UCLA Symposium on Sources and Detection of Dark Matter and Dark Energy in the Universe in Marina del Rey, CA, Feb. 2012
36. Member, Advisory Committee for Silver Jubilee of Dark Matter Direct Detection Conference at PNNL, Richland, WA, June 2012
37. Member, Advisory Committee for IDM2012, 'Identification of dark matter', in Chicago in July 2012.
38. Organizer with Dragan Huterer, Cosmology after Planck Workshop, MCTP, Ann Arbor, MI, October 2013
39. Member, International Organizing Committee, 11th UCLA Symposium on Sources and Detection of Dark Matter and Dark Energy in the Universe, UCLA, CA, Feb. 2014
40. Member, International Organizing Committee, COSMO 2014, University of Chicago, August 2014
41. Member, International Organizing Committee, CosmoCruise 2015, At the Edge of Discovery, Mediterranean Sea, Sept. 2015
42. Member, International Organizing Committee, Texas Symposium 2015, Geneva, Switzerland, December 2015
43. Chief Organizer, 2015: The Spacetime Odyssey Continues, Nordita, Stockholm, Sweden, June 2015
44. Organizer, Hawking Radiation Conference (major announcement made by Stephen Hawking), Nordita, Stockholm, Sweden, August 2015
45. Organizer, Theia Meeting, Nordita, Stockholm, Sweden, November 2015
46. Member, International Organizing Committee, 12th UCLA Symposium on Sources and Detection of Dark Matter and Dark Energy in the Universe, UCLA, CA, Feb. 2016
47. Chief Organizer (with D. Huterer), COSMO 2016, University of Michigan, August 2016
48. Organizer, Dark matter in the Age of GAIA Data, Nordita, Stockholm, Sweden, October 2016
49. Organizer, Axions, Nordita, Stockholm, Sweden, December 2016
50. Organizer, Advances in Theoretical Cosmology in Light of Data, Nordita, Stockholm, Sweden, one-month-long program, July 2017
51. Member, International Organizing Committee, Texas Symposium 2017, Capetown, South Africa, December 2017
52. Member, International Organizing Committee, 13th UCLA Symposium on Sources and Detection of Dark Matter and Dark Energy in the Universe, UCLA, CA, Feb. 2018
53. Organizer, Lambda, Nordita, Stockholm, Sweden, one-month-long program, August 2018
54. Chief Organizer, Vera Rubin Fest, Georgetown University, Washington, D.C., June 2019
55. Member, International Organizing Committee, 14th UCLA Symposium on Sources and Detection of Dark Matter and Dark Energy in the Universe, UCLA, CA, March 2023
56. Member, Internationaln Organizing Committee, Cosmology 2023 in Miramare, Trieste, Italy, August/September 2023

Graduate Students and Postdocs:

1. Former graduate student, Janna Levin (PhD 1994, MIT) is Prof of Physics at Barnard/Columbia University.

2. Former graduate student, Jay Jubas (PhD 1994, MIT) moved to Lincoln Labs at MIT and is currently Senior Partner at McKinsey & Company.
3. Former postdoctoral associate, Hume Feldman, subsequently took a postdoc in the Physics Department of Princeton University. Presently he is Professor at Kansas University.
4. Former postdoctoral associate, Ira Rothstein, is Professor of Physics at Carnegie Mellon University.
5. Former graduate student, Hideyuki Umeda, PhD 1998, is a group leader and Professor of Astronomy, University of Tokyo.
6. Former graduate student, David Graff, PhD 1999, took a postdoctoral position funded by the French Government via the Bourse Chateaubriand Fellowship; he worked with the EROS group in Saclay. Currently he is running a startup in Baltimore, MD.
7. Although not officially her advisor, I supervised the work of Applied Physics Student Beth Weinberg, PhD 2001, who worked on wavelet analysis of ozone data for her thesis. She subsequently obtained a position with Lincoln Labs at MIT, and then Environmental Research Institute of Michigan in Ann Arbor, currently General Dynamics Co.
8. Former graduate student Matt Lewis, PhD 2003, became Principal Scientist, Physics Division, General Dynamics Advanced Information Systems, General Dynamics Corporation. Currently he leads Michigan Aerospace Company in Ann Arbor, MI.
9. Former student Mira Franke, PhD 2003, is now Asst. Prof. at Raritan Reserve in New Jersey
10. Former postdoc Thomas Flacke is Assistant Professor at Korea Advanced Institute of Science and Technology
11. Former postdoc Tony Gherghetta is Prof of Physics at University of Minnesota.
12. Former postdoc Daniel Chung is Professor of Physics at the University of Wisconsin.
13. Former MCTP postdoctoral fellow Dejan Stojkovic is Professor of Physics at SUNY University at Buffalo.
14. Former postdoc Kenji Kadota is Assistant Professor at the Center for Theoretical Physics of the Universe, South Korea.
15. Former student Cosmin Ilie is Physics Professor at Colgate Univ.
16. Former postdoctoral fellow Tanja Rindler-Daller is Physics Lecturer at University of Vienna.
17. Former postdoctoral fellow Nausheen Shah is Assistant Prof of Physics at Wayne State University.
18. Former graduate student Alejandro Lopez was at Fermilab on a DoE Fellowship, and is now at a big data firm Apteligent in San Francisco.
19. Former postdoctoral fellow Florian Kuhnel is Research Associate at Ludwig Maximilians University in Munich.
20. My former postdoctoral fellow Martina Gerbino has a permanent position as INFN Professor at University of Ferrara, Italy.
21. My former postdoctoral fellow Jon Gudmundsson became a tenured senior scientist (permanent position) at Stockholm University and is now Assistant Professor at University of Iceland.
22. My former postdoctoral fellow Luca Visinelli had a postdoctoral position at GRAPPA in Amsterdam, is Marie Curie Fellow, and is Associate Professor at Shanghai Jiao Tong University (SJTU).
23. My former postdoctoral fellow Patrick Stengel moved to SISSA in Trieste as a postdoctoral fellow and is now at INFN Ferrara.
24. My former PhD student Adri Duivenvoorden (PhD 2019) has a postdoctoral position at Princeton Univ. in fall 2019 for 3 years followed by 2 years at the Simons Center for Computational Astrophysics in New York.

25. My former graduate student Sebastian Baum (PhD 2019) has a postdoctoral position at Stanford Univ.
26. My former graduate student Sunny Vagnozzi (PhD 2019) took a postdoctoral position as Kavli/Newton Fellow at Cambridge Univ. and now has a permanent position at University of Trento in Italy.
27. Former postdoctoral fellows Sofia Sivertsson and Pablo Fernandez are in industry in Stockholm
28. Former postdoctoral fellow Steffen Hagstotz is now a postdoctoral fellow at Ludwig Maximilans Universitat in Munich
29. Former postdoctoral fellow Khyati Malhan is now a postdoctoral fellow at Max Planck in Heidelberg, Germany
30. Former graduate student Youjia Wu from Univ of Michigan is now working at Bosch in China.
31. Former postdoctoral fellow Tom Edwards is now a postdoctoral fellow with Marc Kamionkowski at Johns Hopkins
32. Currently I am working with graduate students Joshua Ziegler and Gab Montefalcone at UT Austin; and Aliki Litsa and Sunniva Jacobsen at Stockholm University; and with postdoctoral fellows Ben Wallisch, Barmak Shams, Martin Winkler, and Vivian Sabla.

University Service:

2022–: Director, Weinberg Institute for Theoretical Physics
2022–: Director, Texas Center for Cosmology and Astroparticle Physics (TCCAP)
2021–: Chief Organizer, Weinberg Memorial Lecture (every other year,
first speaker Frank Wilczek, second speaker James Peebles)
2021-2023: Member, Physics Promotions and Tenure Committee, UT Austin
2020-2023: Member, Physics Dept. Nominations for Awards Committee, UT Austin
2021-2022: Chair, Physics Department Faculty Search Committee in Cosmology, UT Austin
2021-2022: Member, College of Natural Sciences Dean Search Committee, UT Austin
2019-2020: Member, Council for TEXAS Impact, UT Austin
https://president.utexas.edu/council-texas-impact
2015-2019: Member, University of Michigan Physics Department Faculty Search Committee
2013–2019 Ta-You Wu /Ford Foundation/Baer Distinguished Lectures
Speakers included Kip Thorne, Sandy Faber, Susan Coppersmith, David Spergel
2019: Undergraduate Awards Committee
2013-14 and 2016-2018: Life After Graduate School Seminar Committee
2005 -14: Associate Director, Michigan Center for Theoretical Physics
2013-14: Faculty advisor to the Society for Women in Physics (SWIP)
2011-12: Faculty Awards Committee
2010: Faculty Search Committee
2010: Long Term Planning Committee for Physics Dept.
2010: Editorial Board Committee for Physics Dept.
2010: Honors Thesis Committee and Williams award
current: Faculty Advisor for women graduate students in physics
2009: Chair, Duan promotion committee
2008-2009: Chair of Physics Dept. Colloquium Committee
2005 – 2008: Member, University Rackham Executive Board for Graduate Affairs
2001–2006: Member, ADVANCE Steering Committee,
Institute for Research on Women and Gender

2005 - 2006: Member, Faculty Search Committee in Physics Dept.
2003-2007: Member, University Faculty Advisory Committee on Financial Affairs
2003-2004: Member, Gender in Science and Engineering Committee for the
University of MI (chaired by Dean McDonald)
2004: Member, Terwilliger Award Committee
2004: Member, Search Committee for Associate Vice President for Research
2000-2003: Member of the Executive Committee, Michigan Center for Theoretical Physics
2001-2006: Member, University Faculty Advisory Committee on Multicultural University
2002-2003: Member, Williams Award Committee
2002-2003: Member, Physics Web Pages Committee
2000-2001: Member, Faculty Search Committee
1999-2002: Member of University Faculty Advisory Committee to University General Counsel
1999-2002: Member, University Library Committee
2000-2003, 1999, 1995, 1994: Physics Dept. Women Students' Advisory Committee
1998-1999: Search Committee, Vice President for Research of University of Michigan
1996-1999: Member of University Senate
1998-1999: Marshal in the Honors Convocation program
1996-1998: Member of University Library Committee
1996-1998: Organizer of Martin Luther King Day events for Physics Dept.
1993-1996: Member, Astronomy Department Search Committee
1993-1994: Physics Faculty Search Committee for astrophysics position
1993: Chairman of Colloquium Committee
1993, 1990: Physics Graduate Admissions Committee
1992: Colloquium Committee
1991: Organizer of Astrophysics/High Energy Physics Seminar

Television:

1. Discovery Science TV, "How the Universe Works Season Eight Episode 2: First Contact" airdate of January 16th, 2020 on Science Channel
2. "NOVA Wonders: What's the Universe Made Of?" airdate of Wednesday, May 30th 2018 on PBS
3. BBC Crowd Science, "Why does Dark Matter Matter?" February 12, 2018 television https://www.bbc.co.uk/programmes/p05xwzt6
4. Discovery Science TV, "How the Universe Works Season Six Episode 1: Are Black Holes Real?" January 9th, 2018 on Science Channel
5. Discovery Science TV, "How the Universe Works Season Five Episode 8: The Dark Matter Enigma", aired on Jan. 31, 2017, 10 pm Eastern/ 9pm Central on the Science Channel.
6. Detroit Public Television, "An Eye for Science" as part of "An Uncommon Education: Celebrating 200 Years of the University of Michigan," December 4, 2017 at www.dptv.org/umich http://www.pbs.org/video/dptv-documentaries-eye-science/ http://record.umich.edu/articles/u-m-special-dptv-highlight-universitys-bicentennial
7. "Searching for the Dark Matter Particle," Freese on BBC's "The Genius Behind" broadcast 12/5/2016 on the BBC Worldwide channel http://www.bbc.com/future/story/20161202-the-search-for-the-weird-stuff-that-makes-up-the-universe

8. Discovery Science TV, "How the Universe Works Season Five Episode 4, Black Holes: The Secret Origin", aired on Feb. 6, 2016, 10pm Eastern/ 9pm Central on the Science Channel.
9. TedX Vienna, "The Dark Side of the Universe," October 21, 2016
10. Freese on Part 8 of Swedish TV show "Vetenskapsstudion" (Science Studio). 11/9/2016. http://www.svtplay.se/video/11165417/vetenskapsstudion/vetenskapsstudion-sasong-1-avsnitt-8
11. Swedish TV Kunskapskanalen, "Dark Matter," aired November 19, 2016
12. "Shedding Light on Dark Stuff: The Making of a Theoretical Physicist"
    http://tvo.org/video/programs/the-agenda-with-steve-paikin/shedding-light-on-dark-stuff
    The Agenda with Steve Paikin
    Canadian Public Television TV Ontario, March 4, 2016
13. Television Panel: "Looking to the Stars: the New Space Age"
    http://talks.crosstalks.tv/looking-to-the-stars-the-new-space-age-1
    Crosstalks TV with A. Goobar and astronaut C. Fuglesang, Sept. 30, 2015
14. BBC TV. "Horizon: Dancing in the Dark - the end of Physics"
    aired in the UK on Tuesday 17th March, 2015, at 9pm on BBC 2.
15. Through the Wormhole with Morgan Freeman on the Science Channel,
    Season 5, Episode: "Is There a Shadow Universe?" Aired July 2014.
16. Through the Wormhole with Morgan Freeman on the Science Channel,
    Season 3, Episode: "Is Nothing really Something?" Aired July 2012.

Radio, Audio, Video, Podcast, Reddit (starting with the most recent)

1. NPR, Interview on Dark Stars, August 2023 (Texas Standard, interview by David Brown), https://www.texasstandard.org/stories/james-webb-telescope-dark-stars/
2. Youth Podcast with Ananya Anand, Women in STEM: exploration beyond the surface, June 2023
3. YouTube Channel Ricardo Lopes, The Dissenter, Interview, April 2022
    https://www.youtube.com/watch?v=sXs8eoXg-rM
4. "Into the Impossible," Interview with Brian Keating, "Katie Freese: What is the Cosmic Cocktail? Three Parts Dark Matter!"
    https://www.youtube.com/watch?v=6Hp0lBRf7WQ
5. Radio Interview "Why does Dark Matter Matter?"
    on The University of Cambridge's The Naked Scientist, May 12, 2019, podcast on
    https://www.thenakedscientists.com/podcasts/naked-scientists-podcast/why-does-dark-matter-matter
6. BBC Worldservice Radio Programme on Dark Matter, February 9, 2018, interview by Graigagh Jackson
7. "Beyond the Big Bang," Philosophy Talk Radio (based out of San Francisco), August 13, 2016
8. "We are the international group of theoretical physicists"
    (with 10 other physicists at Hawking Radiation Conference at Nordita)
    Reddit.com, August 31, 2015
9. "Shedding Light on Dark Stuff: The Making of a Theoretical Physicist" Freese on Canada's TV Ontario. 6/8/2016.
    http://tvo.org/video/programs/the-agenda-with-steve-paikin/shedding-light-on-dark-stuff

10. Radio Interview: "One Theory to Rule them all"
    The University of Cambridge The Naked Scientists, interview with Graihagh Jackson
    http://www.thenakedscientists.com/HTML/interviews/interview/1001415/
    August 24, 2015
11. Radio Interview: "The End of Darkness"
    The University of Cambridge The Naked Scientists, interview in BBC London with Graihagh Jackson
    http://www.thenakedscientists.com/HTML/interviews/interview/1001303/
    http://www.thenakedscientists.com/HTML/podcasts/naked-scientists/show/20150602/
    June 2, 2015
12. Science Cafe radio show for BBC Radio Wales
    May 26, 2015
13. Radio Interview on Sverige Radio: "Dark Stars: Freese talks to Karen Gyllenklev on P3 Institutet"
    http://sverigesradio.se/sida/artikel.aspx?programid=4131&artikel=6162892
    Stockholm, May 23, 2015
14. Radio Interview: BBC Woman's Hour, presenter Jenni Murray
    "A Woman's Life in Cosmology"
    http://www.bbc.co.uk/programmes/b05qk1d8
    recorded in London, April 17, 2015
15. Radio Interview: The Forum BBC World Service
    "Magnetism in the Universe"
    http://www.bbc.co.uk/programmes/p02p1h0b
    recorded in London, April 8, 2015
    Broadcast April 18-21, 2015
16. Radio interview with Shelley Irwin on NPR Grand Rapids. 5/20/2014
17. Coast to Coast Radio Show, Adventures in Cosmology. 7/15/2014
    http://www.coasttocoastam.com/show/2014/07/15
    http://www.coasttocoastam.com/guest/freese-katherine/68276
18. Big Think Interview
    NY, NY, March 2010
    http://bigthink.com/katiefreese
19. Quantum to Cosmos, member of two panels on TVO (TV Ontario)
    Perimeter Institute, Waterloo, CA, October 2009
    http://www.youtube.com/watch?v=0bcY5g1m26M
20. Quirks and Quarks, Canadian Broadcast Company Radio Show
    Toronto, CA, October 2009
21. BBC Radio, Feb. 15 2008
    http://www.bbc.co.uk/worldservice/programmes/science_in_action.shtml
    I was interviewed regarding my work on Dark Stars.
22. Radio: BBC World Service, 2004
    I was interviewed about my work on dark matter and the Sagittarius stream
    Contact person: Roland Pease roland.pease@bbc.co.uk

Public Speaking and other Lectures (starting with the most recent)

1. Distinguished Lecture, "The Cosmic Cocktail: Three Parts Dark Matter," Univ. of Michigan Medical School Division of Hematology and Oncology Annual Dinner, April 2022

2. Public Lecture, "The Cosmic Cocktail: Three Parts Dark Matter," Town and Gown, Austin, TX, March 31, 2022
3. Public Lecture, "Dark Matter in the Universe," Advanced Studies Gateway at FRIB Michigan State, February 27, 2022
4. World Science Festival Brisbane, Panel on Dark Matter in the Universe, recorded Feb. 10, 2022
5. Dublin Institute for Advanced Science, Ireland, Samhain agus Science Festival, The Dark Side of the Universe, October 26, 2021
6. Inanc Mechatronics Club, Turkey, The Dark Side of the Universe, October 23, 2021
7. LAMP University of Texas, Austin, Dark Matter in the Universe, October 19, 2021
8. Heinz R. Pagels Public Lecture, Aspen, Colorado, Dark Matter in the Universe, July 5. 2021 https://www.youtube.com/watch?v=-53LhwAOurk
9. Washington University, St. Louis, Public Lecture: The Dark Side of the Universe, March 25, 2020
10. Texas Science Festival, "Solving the Universe's Big Questions," March 16, 2021
11. Westport Astronomical Society Lecture, "Dark Matter in the Universe", online, August 18, 2020
12. Team Matria Interview (audience was young girls interested in STEM), "My life in Physics," online, August 8, 2020
13. Princeton University Alumni Lecture, "Dark Matter in the Universe," online, June 2020
14. American Physical Society sponsored lecture at Colgate University in honor of 2019 Lilienfeld Prize, "Dark Matter in the Universe," Hamilton, NY, October 8, 2019
15. TRISEP (Perimeter Institute, SNOLAB, Triumf) Public Lecture to 600 people, "The Dark Side of the Universe," at TELUS World of Science, Vancouver, CA, July 22, 2019 https://www.trisep.ca
16. American Physical Society April Meeting, "The Dark Matter of the Universe," Denver, CO, April 13, 2019
    https://www.aps.org/meetings/april/lecture.cfm
17. Women in Science Society SDSU Presents: STEMToo, San Diego State University, San Diego, CA, May 1, 2019
18. Fundacio Ramon Areces and Facultad de Fisica, "The Cosmic Cocktail: Three Parts Dark Matter", Valencia, Spain, September 27, 2018
19. Oskar Klein Centre Public Lecture, "Dark Matter and our Universe,"
    Kungliga Musikhogskolan Valhallavagen, Stockholm, Sweden, Sept. 11, 2018
20. University of Pennsylvania Community Astronomy Night at David RIttenhouse Laboratory
    "The Early Universe," panel with Dunkley and Keating, June 19, 2018
21. Kavli Prize Lecture to kick off Meeting of American Astronomical Society, "Dark Matter in the Universe," June 2017
22. TedX Vienna, "The Dark Side of the Universe," October 21, 2016
23. Foundations of Modern Physics Lecture, "Dark Matter in the Universe," April 9, 2017, University of Michigan, https://sites.google.com/site/umfomp/workshops/2017-workshop-1
24. Public Lecture at the Theoretical Cosmology and 2016 New England Gravity and Cosmology Workshop at Brown University
    https://www.brown.edu/conference/cosmology-gravity-fields/katherine-freese
    September 16, 2016
25. Public Lecture: "The Dark Side of the Universe," at the Dark Side of the Universe Conference Bergen, Norway, July 2016

26. Public Lecture: "The Dark Side of the Universe," at the International Dark Matter Conference (IDM) 2016
    Sheffield, England, July 20, 2016
27. World Science University Lecture: "The Dark Side of the Universe," at the World Science Festival
    NY, NY, June 2, 2016
28. Panel: "Salon: Dark Matter," at the World Science Festival
    NY, NY, June 3, 2016
29. Panel: "Shaking up the Dark Universe: The Dark Horses of Dark Matter" at the World Science Festival, moderated by John Hockenberry
    http://livestream.com/WorldScienceFestival/events/5415878
    NY, NY, June 2, 2016
30. Perimeter Institute Public Lecture Series, "The Dark Side of the Universe," March 2, 2016, introduced by Canadian Minister of Science K. Duncan.
    http://www.perimeterinstitute.ca/videos/katherine-freese-dark-side-universe
31. Saturday Morning Physics Public Lecture, University of Michigan,"The Dark Side of the Universe," March, 2016.
32. Society of Physics Students Lecture, "The Dark Side of the Universe"
    University of Michigan, Feb. 4, 2016
33. Public Lecture: "The Dark Side of the Universe." In honor of Dr. Frank Avignone III for 50 years of teaching at the University of South Carolina, Nov. 19, 2015
34. "Astroparticle Physics in 2042"
    AstroChicago 123 Conference at the University of Chicago in honor of new Physics Building Nov. 18, 2015
35. "The Dark Side of the Universe"
    Lise Meitner Days, Stockholm, Sweden, Oct. 23, 2015
36. Panel Discussion: "Is modern physics crossing the boundaries of science?"
    Panel with Bousso, Enqvist, Maldacena, and Barr
    COSMO-2015 Conference, Warsaw, Sept. 17, 2015
37. Public Lecture: The Dark Side of the Universe
    The Hay Festival, Hay-on-Wye, Wales, UK, May 26, 2015
38. East Hampton Library Authors Fair, East Hampton, NY, August 11, 2015
39. Public Panel: "Cosmic Club" with panelist Javier Martin-Torres hosted by Karin Gyllenklev
    Gothenburg Science Festival, Gothenburg, Sweden, April 18, 2015
40. Public Lecture: "The Dark Side of the Universe"
    Oxford, UK, April 16, 2015
41. Public Lecture: "The Dark Side of the Universe"
    Edinburgh International Science Festival
    Edinburgh, Scotland, UK, April 15, 2015
42. Public Lecture: "The Dark Side of the Universe"
    Royal Astronomical Society, London, April 8, 2015
43. "Dark Matter Matters"
    Nobel Museum
    Stockholm, Sweden, February 2015.
44. "The Ultimate Theory of Everything"
    A Panel at the New York Academy of Sciences with M. Gleiser and M. Tegmark
    NY, NY, December 2014. https://www.youtube.com/watch?v=ndYeWMHymRs

45. "The Cosmic Cocktail"
    Schoolcraft College, Livonia, MI, November 2014.
46. "Skeptics Society with Michael Shermer"
    Caltech, Pasadena, CA, Sept 7, 2014.
47. "The Cosmic Cocktail" with Katherine Freese
    Houston Museum of Natural History, Houston, TX, Sept 3, 2014.
48. Café Scientifique
    Carnegie Science Center, Pittsburgh, PA, Sept 1, 2014.
49. AJC Decatur Book Festival
    Decatur, GA, August 29-31.
50. Science And Story Café: Meet The Authors
    World Science Festival, May 31, 2014.
51. "The Cosmic Cocktail" with Katherine Freese
    Town Hall in Seattle, WA, May 20, 2014.
52. "The Cosmic Cocktail" with Katherine Freese,
    Adler Planetarium in Chicago, IL, May 15, 2014.
53. Speaker at "Space, STEM & The Stars"
    Dearborn, MI, May 13, 2014.
54. Frontiers Lecture: The Cosmic Cocktail with Katherine Freese
    Hayden Planetarium in New York, NY, May 12, 2014.
55. Physicist Katherine Freese presents "The Cosmic Cocktail"
    Spectrum in New York, NY, May 11, 2014.
56. Matter as You Have Never Seen It: Mick Rossi's Anti-Matter with a Touch of Dark Matter
    Spectrum in New York, NY, May 9, 2014.
57. "The Cosmic Cocktail" with Katherine Freese
    California Academy of Sciences in San Francisco, CA May 5, 2014.
58. World of Science Festival, NY, NY, June 2011
    Panel on "The Mystery of Dark Matter"
    Moderator: David Kestenbaum
    Panelists: Katherine Freese, Elena Aprile, Glennys Farrar, Tali Figueroa, Jocelyn Monroe, and Priyamvada Natarajan
59. World of Science Festival, NY, NY, June 2011
    Panel on "The Dark Side of the Universe"
    Moderator: John Hockenberry
    Panelists: Katherine Freese, Elena Aprile, Glennys Farrar, Michael Turner, Saul Perlmutter, and Brian Greene
60. Isaac Asimov Memorial Debate on "The Theory of Everything"
    Hayden Planetarium
    Moderator Neal deGrasse Tyson
    Participants: Katherine Freese, Brian Greene, Janna Levin, and James Gates
    The Museum for Natural History, NY, NY, March 2011
61. "Origins: the University, Earth, and Life" Symposium
    Ann Arbor, MI, January 2006
    "From the Big Bang through the First Million Years"
62. Isaac Asimov Memorial Debate on "The Dark Side"
    Hayden Planetarium
    Moderator: Neal Tyson

Participants: Katherine Freese, Brian Greene, Robert Kirschner, and Tony Tyson
The Museum for Natural History, NY, NY, April 2004

63. University Commons Public Lecture
Ann Arbor, MI, March 2004
"Dark Matter and Dark Energy in the Universe
64. Saturday Morning Physics Lectures (two lectures)
University of Michigan, April 2003
"Dark Matter and Dark Energy in the Universe"
65. Panel on Cosmology with Drs. Ed Witten, David Spergel, Dan Eisenstein, and Eric Wilcots
Princeton University, June 2002
Cosmology
66. Cranbrook Science Institute Lecture
Birmingham, MI, April 2002
Cosmology for the New Millenium

Podcasts

1. Pod Academy with Craig Barfoot, The Cosmic Cocktail: Three Parts Dark Matter, 10/10/2014
http://podacademy.org/bookpods/cosmic-cocktail-three-parts-dark-matter/
2. Talk Nerdy with Cara SantaMaria, 9/8/2014, Episode 28– Katherine Freese
http://carasantamaria.com/podcast/katherine-freese
3. Virtually Speaking Science hosted by Jennifer Oulette. 8/14/2014,
Jennifer Oullette hosts Katherine Freese – Dark Matter and Dark Energy.
http://www.blogtalkradio.com/virtually-speaking-science/2014/08/14/jennifer-ouellette-hosts-katherine-freese-dark-matter-dark-energy
4. Science Insider with David Freeman: Dr. Katherine Freese. 8/11/2014.
http://podcasts.am1020whdd.com/ am1020wh/shows/play.php?id=28202
5. Freese on American Physical Society's Physics Central. 7/2/2014.
Dark Stars and Cosmic Cocktails
http://physicsbuzz.physicscentral.com/2014/07/podcast-dark-stars-and-cosmic-cocktails.html
6. Katherine Freese on Quirks and Quarks with Bob McDonald on CBC Radio. 6/14/2014
http://www.cbc.ca/radio/quirks
7. Podcast of Freese's talk at The Hayden Planetarium hosted by Neil deGrasse Tyson. 5/15/2014
http://www.amnh.org/explore/news-blogs/podcasts/frontiers-lecture-the-cosmic-cocktail
8. The Groks Science Show, 6/8/2014, The Cosmic Cocktail (podcast available on PRX and iTunes)
https://beta.prx.org/stories/121835
9. "Why does Dark Matter Matter?" on The University of Cambridge's The Naked Scientist, May 12, 2019, podcast on
https://www.thenakedscientists.com/podcasts/naked-scientists-podcast/why-does-dark-matter-matter
10. Guest on Soapy Rao Show in July 2022
Spotify: https://tinyurl.com/49ea96ts
Google Podcast: https://tinyurl.com/enpkddc4
YouTube: https://youtu.be/8j0W58XjdhU

Press Coverage of My Work:

2024 (March 6): The Economist, “Physicists are Reimagining Dark Matter.”
https://www.economist.com/science-and-technology/2024/03/06/physicists-are-reimagining-dark-matter
2023 (November 1): Cover Article of New Scientist: “The Second Big Bang”
article about my paper “The Dark Big Bang”
2023 (Sept 23:): Cover Article of New Scientist, “Dark Star”
article about my work on Dark Stars
2023: PBS Space Time, Youtube, “Did JWST Discover Dark Matter Stars?”
https://www.youtube.com/watch?v=zUhOL38346Y
2023: Scientific American, “The Most Surprising Discoveries in Physics,”
https://www.scientificamerican.com/article/the-most-surprising-discoveries-in-physics/
2023: French National Geographic,
Des astrophysiciens pensent avoir repr des ”toiles noires” pour la premire fois — National Geographic
https://www.nationalgeographic.fr/espace/decouverte-astronomie-des-astrophysiciens-pensent-avoir-repere-d
2023: Institute of Art and Ideas (IAI)Festival London 2023,
“There were two Big Bangs,” article by Freese and Winkler,
https://iai.tv/articles/katherine-freese-martin-winkler-there-were-two-big-bangs-auid-2545?
2023: Princeton Alumni Weekly, Newsmakers Q&A: Physicist Katherine Freese 77 on the Dark Big Bang
https://paw.princeton.edu/article/newsmakers-qa-physicist-katherine-freese-77-dark-big-bang
2023: Youtube by Anton Petrov, ”James Webb Galaxies could be something exotic instead,”
https://www.youtube.com/watch?v=07ZLW6ygaHg
2023: Youtube by Dr. Becky, “Has JWST found supermassive DARK MATTER stars?”
Has JWST found supermassive DARK MATTER stars?
2023: Spektrum.de (German), “Dunkle Sterne mit James Webb Teleskop Entdeckt?”
https://www.spektrum.de/news/dunkle-sterne-entdeckung-mit-dem-james-webb-teleskop/2161383
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Teaching Experience: Freese has taught undergraduate and graduate courses at all levels, including Graduate Cosmology, Quantum Mechanics, Relativity, Mechanics (Upper Level), Statistical and Thermal Physics, Freshman Physics, Freshman Seminar on the Early Universe, Nuclear Physics, Particle Physics and Cosmology for Undergraduates, and Graduate Electromagnetism.