

Curriculum Vitae: M. Coleman Miller

Date of Birth: 6 July 1968
Place of Birth: Detroit, MI
Citizenship: USA

The University of Maryland
Department of Astronomy
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Research Interests

Theoretical Astrophysics	Computer Simulations and Modeling
Physics of Dense Matter	Physics in Strong Magnetic Fields
General Relativity	Gravitational Radiation
Plasma Physics	Gravitational Lensing

Education

1984 - 1990 California Institute of Technology, Pasadena, California
Department: Physics, with Computer Science minor
Thesis Topic: Radiation Transfer in Very Strong Magnetic Fields
Degrees: M.S. (1986), Ph.D. (1990) (Advisor: E. S. Phinney)
National Science Foundation Graduate Fellow, 1984-1987

1980 - 1984 Hillsdale College, Hillsdale, Michigan
Major fields: Mathematics and Physics
Degree: B.S., Summa Cum Laude (1984)

Research Experience

2009 - 2020 Professor of Astronomy, University of Maryland
Radboud Excellence Professor, Radboud University, Nijmegen, Netherlands

2017 - 2019 Chair, Maryland Astronomy Center for Theory and Computation

2015 - 2019 Astronomy Director, Joint Space-Science Institute

2013 - 2014 Director, Joint Space-Science Institute

2004 - 2009 Associate Professor of Astronomy, University of Maryland

2004 - 2006 Chair, Maryland Astronomy Center for Theory and Computation

1999 - 2004 Assistant Professor of Astronomy, University of Maryland

1997 - 1999 Member of the AXAF Science Center, Chicago beta test site

1994 - 1997 Compton Gamma-Ray Observatory Fellow, University of Chicago

1993 - 1999 Research Scientist, University of Chicago
Constructed the first detailed model of kilohertz QPOs of neutron star low-mass X-ray binaries, investigated gravitational lensing of gamma-ray bursts and galaxies, and performed various studies of accreting black holes and neutron stars.

1993 Visiting Scientist, Nordita, Copenhagen
Examined effects of radiation forces on accretion onto unmagnetized neutron stars in full general relativity

1990 - 1993 Postdoctoral Research Associate, University of Illinois at Urbana-Champaign
Studied electrodynamics and particle acceleration around accretion-powered neutron stars, investigated thermal emission from isolated neutron stars, and examined methods for the determination of the magnetic inclination angles of pulsars

1985 - 1990 Research Assistant, California Institute of Technology
Developed and extended computer programs to calculate atomic data in very strong magnetic fields, used this data to investigate radiation transfer in the atmospheres of neutron stars with strong magnetic fields, and studied particle orbits around rotating and nonrotating black holes

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1984 Capacity Planning Analyst, Burroughs Corp., Detroit, Michigan
Designed computer performance reporting and analysis programs

Teaching and Outreach Experience

2021 Instructor, Karpacz School of Theoretical Physics, Karpacz, Poland (virtual)
2019 Instructor, masterclass on neutron stars, Nordita, Stockholm, Sweden
2017 Distinguished Faculty Teaching Prize in the Department of Astronomy, University of Maryland
2017 Instructor, Kavli summer school on gravitational wave astronomy at the Niels Bohr Institute, Copenhagen, Denmark
2016 Instructor, winter school on gravitational wave astronomy at UFABC, São Paulo, Brazil
2015 Instructor, summer school on gravitational wave astronomy at the Indian Institute of Science, Bengaluru, India
2014 Instructor, “Look & Listen” winter school (gave lectures on gravitational waves), Playa del Carmen, Mexico
2012 Consultant for the Maryland Dance Ensemble performance “Gravity”
2005, 2006 Astrophysics instructor for University of Texas at Brownsville summer school on gravitational radiation
2004 Instructor, summer school on “Hot Points in Astrophysics and Cosmology”, Dubna, Russia
2004 Dean’s Award for Excellence in Teaching, College of Computer, Mathematical, and Physical Sciences, University of Maryland
2000 Scriptwriter, Adler Planetarium, Chicago, Illinois
Head writer for the planetarium show “Black Holes: Into the Dark Abyss”, which debuted in the Fall of 2000
1999 - Assistant professor (1999–2004), associate professor (2004–2009), and full professor (2009–), University of Maryland
Courses include graduate stellar structure and evolution (spring 2000 and spring 2002), graduate high energy astrophysics (fall 2000, spring 2007, spring 2009, spring 2017, and fall 2022), introductory astronomy for non-majors (spring 2001, fall 2001, spring 2005, fall 2006, and fall 2011), graduate radiative processes (fall 2002, fall 2013, fall 2014, fall 2015, fall 2016, and fall 2021), undergraduate theoretical astrophysics (spring 2003), introductory astronomy for majors (fall 2003, continued spring 2004; fall 2017, continued spring 2018; fall 2018, continued spring 2019; fall 2020, continued spring 2021), undergraduate cosmology for majors (fall 2007), high energy astrophysics for undergraduate majors (spring 2008), life in the universe (fall 2008 and fall 2009), problem solving in astrophysics (spring 2010), honors class on black holes (spring 2010, spring 2011, and spring 2012), honors class on life in the universe (spring 2014, spring 2015, and spring 2016), graduate course on practical astrostatistics (spring 2018), undergraduate course on practical astrostatistics (spring 2019), black holes for undergraduate non-majors (spring 2022).

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- 1999 - Graduate thesis advisor or co-advisor at the University of Maryland for Jamie Cohen, Megan DeCesar, Alex Dittmann, Mike Gill, Kayhan Gültekin (now an assistant professor at the University of Michigan), Isiah Holt, Vanessa Lauburg, Dheeraj Pasham, Corbin Taylor, Yvette Thackeray, and John Vanlandingham. Graduate thesis committee member for an additional 77 students. Postdoctoral advisor for Sudip Bhattacharyya (now a professor at the Tata Institute of Fundamental Research Mumbai, India) and Stratos Boutloukos, and co-advisor for postdoctoral researchers Bruno Giacomazzo (now a professor at the University of Trento) and Sean O’Neill. Undergraduate thesis advisor or co-advisor for Ryan Abrahams, Shreya Anand, Ernesto Benitez, Mia Bovill, Dylan Britt, Laura Dunlap, Ben Flaggs, Katie Futrowsky, Jacob Golomb, Bryan Holler, Ben Johanson, Ashley King, Kalman Knizhnik, Scott Lawrence, Jennifer Liang, Brian Prager, Shawn Rosofsky, Joseph Weller, and Logan Wood.
- 1999 - Public speaker
22 talks at the University of Maryland Open House on topics including black holes, neutron stars, cosmology, and life in the universe. More than 40 additional talks to school groups from kindergarten to AP physics classes, as well as to astronomical societies
- 1995 - 1999 Lecturer, Adler Planetarium
Delivered series of lectures on black holes and neutron stars, and series of lectures on the cosmological distance scale, in the Adler Adult Lecture Series. Also taught general relativity and black hole theory to gifted high school students.
- 1996 - 1998 Consultant, Adler Planetarium
Helped develop scientific content for “Seeing the Invisible Universe”, the Fall 1996 planetarium sky show describing recent discoveries in X-ray and gamma-ray astronomy, and consulted on exhibit development and presentations
- 1995 Internet instructor, DuSable High School, Chicago, Illinois
Introduced high school students and teachers to Unix and the World Wide Web

Prizes and Awards

Co-Awardee of the 2022 Bruno Rossi Prize, with the NICER team

Professional Societies

International Astronomical Union
American Astronomical Society
American Physical Society

Accepted Proposals

- 2020 Principal Investigator on the proposal “Optimizing Mass, Radius, and Equation of State Information from NICER Data”, NASA Astrophysics Data Analysis Program
- 2017 Co-Investigator on the proposal “The Central Role of Compact Star Clusters in the Early Universe”, NASA Astrophysics Theory Program
- 2016 Co-Investigator on the proposal “Unifying Spectral and Timing Studies of Relativistic Reflection in Active Galactic Nuclei”, NASA Astrophysical Data Analysis Program
- 2016 Principal Investigator on the proposal “Gravitational Waves and Neutron Star Oscillations”, Fundação de Amparo à Pesquisa do Estado de São Paulo
- 2013 Co-Investigator on the proposal “The Multiscale Physics of Massive Black Hole Formation, Growth and Feedback”, Theoretical and Computational Astrophysics Network
- 2012 Simons sabbatical fellowship, for the study of electromagnetic counterparts to super-massive black hole binary mergers

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- 2010 Principal Investigator on the proposal “Exploration of Extreme Mass Ratio Inspirals with a Tree Code” to the NASA Astrophysics Theory Program
- 2007 Principal Investigator on the proposal “Development of a Tree Code for Extreme Mass Ratio Inspirals” to the NASA Astrophysics Theory Program
- 2007 Principal Investigator on the proposal “Probing Extreme Physics Through Analysis of Neutron Star Surface Emission” to the National Science Foundation Stellar Astronomy and Astrophysics program
- 2007 Co-Investigator on the proposal “Intermediate-Mass Black Holes in Globular Clusters: Key Photometric Fingerprints” to the Hubble Theory program
- 2006 Co-Investigator on the proposal “In Search of Black Hole Spin” to the National Science Foundation Stellar Astronomy and Astrophysics program
- 2003 Co-Investigator on the proposal “Ultra-Luminous X-ray Sources in the Barred Spiral Galaxy NGC 1672”, using the XMM-Newton spacecraft
- 2003 Principal Investigator on the proposal “Dynamics of Black Holes in Dense Stellar Regions”, to the NASA Astrophysics Theory Program
- 2001 Principal Investigator on the proposal “Understanding High-Density Matter Through Analysis of X-ray Bursts”, to the National Science Foundation Stellar Astronomy and Astrophysics program

Professional Activities

- 2018–2021 Councilor, Division of Astrophysics, American Physical Society
- 2018-2021 Member, Executive Committee, Division of Astrophysics, American Physical Society
- 2018 Reviewer, Narodowe Centrum Nauki (Polish National Science Centre)
- 2017 Member, Einstein/Hubble/Sagan Prize Committees, American Astronomical Society
Reviewer, Established Program to Stimulate Competitive Research (EPSCoR)
Reviewer for New York University Abu Dhabi
Member, Pierce and Warner Prize Committees, American Astronomical Society
- 2016 Part of committee to review the Institute for Mathematics, Astrophysics and Particle
Physics at Radboud University (Nijmegen, the Netherlands)
Member, Pierce and Warner Prize Committees, American Astronomical Society
Chair, advisory board for the West Virginia Center for Gravitational Waves and Cos-
mology (to 2018)
- 2015 Reviewer, United States-Israel Binational Foundation
Member, Bethe Prize Committee, American Physical Society
Reviewer, NASA Postdoctoral Program
- 2014 Member, Bethe Prize Committee, American Physical Society
Reviewer, Established Program to Stimulate Competitive Research (EPSCoR)
Organizer, session for 2014 COSPAR meeting
- 2013 Organizer, relativistic astrophysics session for the 10th Amaldi Conference on Gravitational
Waves
Science advisor for the KITP workshop A Universe of Black Holes
- 2012 Reviewer for NASA Postdoctoral Program
Reviewer for the Netherlands Organisation for Scientific Research
Reviewer for NSF Centers for Research Excellence in Science and Technology Program
Member of Executive Committee, Division of Astrophysics, American Physical Society
(to 2014)
- 2011 Reviewer for Swiss National Science Foundation
Reviewer for Deutsche Forschungsgemeinschaft program
Member, NSF Centers of Research Excellence in Science and Technology review panel
Member, NSF Astronomy and Astrophysics Postdoctoral Fellowship panel
Scientific organizing committee, conference on single and double massive black holes in
galaxies, Ann Arbor, MI, 22-25 August 2011
- 2010 Member, INCITE review panel
Chair, LIGO Program Advisory Committee (to 2014)
Chair, Chandra proposal review, June 2010
- 2009 Co-Organizer, “Matter and Electromagnetic Fields in Strong Gravity”, College Park,
Maryland, 24-28 August 2009
- 2008 Member, Rossi X-ray Timing Explorer panel
Member of scientific organizing committee for dense matter session at July 2008
COSPAR meeting in Montreal
- 2006 Exec. Comm. member of the High Energy Astrophysics division of the AAS (to 2009)
Member, LIGO Program Advisory Committee (to 2009)
External reviewer for the PPARC program

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- 2005 Member, NSF review panel for LIGO
Member of scientific organizing committee, “Sixth LISA International Symposium”,
Goddard Space Flight Center
- 2004 Member, Chandra X-ray Observatory review panel
Member of scientific organizing committee, “Making Waves with Intermediate-Mass
Black Holes”, Penn State University
- 2003 Reviewer for the United States-Israel Binational Science Foundation
Session chair and member of scientific organizing committee, meeting on astrophysical
sources of gravitational radiation
Member, NSF review panel for the Advanced LIGO concept
Member, Chandra X-ray Observatory review panel
Session chair, 10th Marcel Grossman meeting on general relativity
Member of scientific organizing committee, “Globular Clusters and Gravitational
Waves”, Penn State University
Member of scientific organizing committee, Second Gravitational Wave Phenomenology
Workshop, Penn State University
- 2000 Panel chair, RXTE proposal review
Session chair, 2000 Maryland October Astrophysics Conference
Reviewer for the Cooperative Grants Program of the U.S. Civilian Research and Devel-
opment Foundation
- 1999 External reviewer for the Scholarly Studies Program of the Harvard-Smithsonian CfA
Member, Astro-E proposal review panel
- 1997 Member, Compton Gamma-Ray Observatory proposal review panel
- 1992– Member of multiple theory proposal review panels for National Science Foundation (in-
cluding the Stellar Astronomy and Astrophysics Program and the Gravitational Physics
program) and NASA (including the Astrophysics Theory Program)
- 1992– Reviewer of more than 200 articles submitted to ApJ, MNRAS, Phys. Rev. Letters,
Phys. Rev. D., Nature, Science, Astronomy & Astrophysics, and several other journals
- 1992– Reviewer of books and book proposals for various publishers including Princeton Uni-
versity Press and Oxford University Press

Presentations

1. “Neutron Stars and Nuclear Physics”, invited talk to the Physical Review, 1 December 2022
2. “Measuring Neutron Stars”, colloquium, symposium in honor of Mal Ruderman, Columbia, 31 October 2022
3. “Electromagnetic Observations of Neutron Stars”, invited talk, The Future of Neutron Rich Matter, Amherst, MA, 13 October 2022
4. “Measurements of Neutron Stars and Clues to the Nature of Dense Matter”, invited talk, Brazilian Physical Society Spring Meeting, Natal, Brazil, 26 September 2022
5. “Tidal disruptions and EMRIs from tidal separation of binaries”, invited talk, TDEs and EMRIs dynamics, Como, Italy, 6 September 2022
6. “NICER Measurements and Implications for Dense Matter”, invited talk, CSQCD, Banff, Canada, 5 August 2022
7. “X-ray Measurements of Neutron Star Masses and Radii”, invited talk, IAU general assembly, Busan, South Korea, 5 August 2022
8. “Learning about dense matter from gravitational waves”, invited talk, PAX22 meeting, MIT, 2 August 2022
9. “Learning about dense matter from NICER observations”, invited talk, European Centre for Theoretical Studies workshop on “Neutron stars as multi-messenger laboratories for dense matter”, 21 June 2022
10. “Clues to the properties of dense matter using NICER observations”, physics colloquium, University of Illinois, 9 February 2022
11. “Learning About Dense Matter from Astronomical Observations”, seminar, nuclear theory group, University of Maryland, 9 December 2021
12. “Taking the Measure of Neutron Stars with NICER”, colloquium, California State University at Long Beach, 18 October 2021
13. “A NICER Path to Neutron Star Radii”, colloquium, University of Chicago, 13 October 2021
14. “NICER and Neutron Star Radii”, invited talk, Modern Physics of Compact Stars, 27 September 2021
15. “Neutron Star Measurements with NICER”, invited talk, International Symposium on Nuclear Symmetry Energy, 23 September 2021
16. “What Have We Learned About Dense Matter from NICER?”, seminar, Astrophysical and Cosmological Relativity division of the Albert Einstein Institute, Potsdam, Germany, 22 September 2021
17. “Implications of Neutron Star Radius Measurements Using NICER”, astrophysics seminar, Los Alamos National Laboratory, 2 September 2021
18. “NICER Constraints on the Nuclear Equation of State”, invited talk, “Exploring Extreme Matter in the Era of Multimessenger Astronomy: from the Cosmos to Quarks”, Aspen Center for Physics, 13 July 2021
19. “Measuring the Radii of Neutron Stars”, colloquium, Aspen Center for Physics, 1 July 2021
20. “NICER Measurements of the $2.1 M_{\odot}$ pulsar J0740+6620”, invited talk, European Centre for Theoretical Studies workshop on “Neutron stars as multi-messenger laboratories for dense matter”, 15 June 2021
21. “Learning about neutron stars with NASA’s NICER mission”, IAG-USP Astronomy seminar, University of São Paulo, 12 May 2021
22. “NICER Measurements of Pulsars PSR J0030+0451 and PSR J0740+6620”, S@INT seminar, Institute for Nuclear Theory, University of Washington, 22 April 2021
23. “NICER Constraints on the Neutron Star Equation of State”, invited talk, American Physical Society meeting, 17 April 2021
24. “NICER, Gravitational Waves, and Neutron Stars”, nuclear theory seminar, Arizona State University, 23 September 2020
25. “Learning About Dense Matter from Neutron Stars”, nuclear theory seminar, University of Minnesota Twin Cities, 22 September 2020

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26. “Learning About Dense Matter Using NICER”, invited talk, Compact Stars and Quantum Chromodynamics meeting, 17 August 2020
27. “What Can We Learn From Gravitational-Wave Observations?”, invited talk, European Astronomical Society meeting, 3 July 2020
28. “The Insides of Neutron Stars”, astrophysics seminar, Center for Computational Astrophysics, Flatiron Institute, 16 April 2020
29. “A NICER Measurement of a Neutron Star”, astronomy colloquium, Radboud University, 10 March 2020
30. “Extremal Principles in Physics”, astronomy theory seminar, Radboud University, 19 February 2020
31. “A NICER View of a Neutron Star”, astronomy colloquium, University of Maryland, 29 January 2020
32. “Neutron Star Mass and Radius from X-ray Observations: the Next Five Years”, invited talk, Dense Matter & Neutron Star Mergers, Institute for Nuclear Theory, University of Washington, 16 December 2019
33. “A NICER View of a Neutron Star”, strong gravity seminar, Perimeter Institute, 12 December 2019
34. “Multiscale Applications of Gravitational-Wave Physics”, astronomy seminar, University of Michigan, 26 November 2019
35. “Exploring the Interiors of Neutron Stars”, physics colloquium, University of Guelph, 12 November 2019
36. “Unveiling the Interiors of Neutron Stars”, nuclear physics seminar, Ohio University, 29 October 2019
37. “What We Do and Do Not Know About Neutron Star Cores”, strong gravity seminar, Perimeter Institute, 25 September 2019
38. “Gravity in Astrophysics”, invited talk, Precision Gravity: from the LHC to LISA, Munich Institute for Astrophysics and Particle Physics, Garching, Germany, 5 September 2019
39. “Astrophysical Context of BH-BH Coalescences”, invited talk, Precision Gravity: from the LHC to LISA, Munich Institute for Astrophysics and Particle Physics, Garching, Germany, 27 August 2019
40. “Spilling the Guts of Neutron Stars”, invited talk, Nordita, Stockholm, Sweden, 16 August 2019
41. “What your competitor’s BBH model can’t do”, invited talk, The New Era of Gravitational-Wave Physics and Astrophysics, Kavli Institute of Theoretical Physics, 10 July 2019
42. “Constraining the High-Density Equation of State with Astronomical Observations”, invited talk, Merging Visions, Kavli Institute of Theoretical Physics, 26 June 2019
43. “Understanding the Interiors of Neutron Stars”, KIPAC astronomy colloquium, Stanford University, 23 May 2019
44. “Peering Inside Neutron Stars”, astronomy colloquium, University of Maryland, 1 May 2019
45. “What can Gravitational Waves Tell Us About the Assembly of Supermassive Black Holes?”, invited talk, American Astronomical Society meeting, Seattle, Washington, 7 January 2019
46. “LISA in the Extreme”, physics colloquium, Montana State University, 2 November 2018
47. “Frontiers in Black Hole Astrophysics”, invited review, Unsolved Problems in Astrophysics and Cosmology, Budapest, Hungary, 2 July 2018
48. “Extreme and Intermediate-mass Black Hole Inspirals”, invited talk, 21st Capra meeting, Golm, Germany, 28 June 2018
49. “What can NS Mergers Tell Us About Dense Matter?”, invited talk, Compact Stars and QCD, New York, NY, 13 June 2018
50. “Arguments For and Against Intermediate-Mass Black Holes”, invited talk, APS April Meeting, Columbus, Ohio, 17 April 2018
51. “Could Dark Matter Consist of Primordial Black Holes?”, physics seminar, University of São Paulo, São Paulo, Brazil, 21 March 2018
52. “Neutron Stars Going Bump in the Night”, cosmology seminar, Johns Hopkins University, 16 November 2017
53. “When Neutron Stars Collide”, astrophysics theory seminar, University of Florida, 25 October 2017

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54. “Why Should We Care About Double Neutron Star Mergers?”, invited talk, Joint Space-Science Institute symposium on neutron star gravitational wave detection, University of Maryland, 16 October 2017
55. “Brainstorming: Key Questions and Challenges”, invited review talk, And then there was Light: Electromagnetic Signatures of Stellar Mass Binary Black Hole Mergers, Leiden, Netherlands, 4 September 2017
56. “Putting a Spin on Stellar-Mass Black Holes”, astronomy seminar, Penn State, 1 September 2017
57. “Basics of Magnetic Accretion”, invited talk, High Energy Astrophysics Division meeting, Sun Valley, Idaho, 24 August 2017
58. “Systematics in Mass and Radius Measurements Using NICER data”, invited talk, eXtreme Matter meets eXtreme Gravity, Bozeman, Montana, 18 August 2017
59. “Neutron Star Measurements Using X-rays and Gravitational Waves”, colloquium, Instituto Nacional de Pesquisas Espaciais, São José dos Campos, Brazil, 9 August 2017
60. “Astrophysical Implications of LIGO’s Gravitational Wave Detections”, invited talk, The Physics of Extreme-Gravity Stars, Nordita, Stockholm, Sweden, 21 June 2017
61. “NICER overview and Status”, invited talk, Nuclear Astrophysics in the Gravitational Wave Era, Trento, Italy, 13 June 2017
62. “Neutron Star Measurements Using X-rays and Gravitational Waves”, invited talk, Nuclear Astrophysics in the Gravitational Wave Era, Trento, Italy, 13 June 2017
63. “Black Holes and Revelations: Gravitational Wave Detections”, physics colloquium, University of Iceland, Reykjavik, Iceland, 29 May 2017
64. “The Wave of the Future”, astronomy colloquium, University of São Paulo, 22 March 2017
65. “How to Tell When You’ve Busted CDM”, physics colloquium, MIT, 18 October 2016
66. “CDM vs. Perceived Structure”, astronomy seminar, Johns Hopkins University, 10 October 2016
67. “Future X-ray and Gravitational Wave Measurements of Neutron Star Masses and Radii”, invited talk, workshop on laboratory and astronomical observations of dense matter, Institute for Nuclear Theory, University of Washington, Seattle, 18 July 2016
68. “An Upper Bound on Neutron Star Masses from Models of Short Gamma-Ray Bursts”, contributed talk, 21st International Conference on General Relativity and Gravitation, Columbia University, 11 July 2016
69. “Implications of the Gravitational Wave Event GW151226”, invited talk, Dense Stellar Environments as a Probe of Astrophysics and General Relativity, Benasque, Spain, 15 June 2016
70. “Dynamical Formation of Double Black Hole Binaries”, invited talk, Dense Stellar Environments as a Probe of Astrophysics and General Relativity, Benasque, Spain, 9 June 2016
71. “Systematic Errors in Neutron Star Radius Measurements”, invited talk, Neutron Stars in the Multi-Messenger Era, Ohio University, 25 May 2016
72. “The Wave of the Future”, physics colloquium, University of Maryland, Baltimore County, 27 April 2016
73. “A New Method for Finding Point Sources in High-energy Neutrino Data”, ITC lunchtime seminar, Harvard, 21 April 2016
74. “GW, short γ -ray bursts, and constraints on NS matter”, ITC colloquium, Harvard, 21 April 2016
75. “The Prospects and Challenges of Measuring NS Masses and Radii Using Waveform Modeling”, invited talk, Accretion onto Magnetized Neutron Stars, Nordita, Stockholm, Sweden, 23 March 2016
76. “The Era of Gravitational-Wave Astronomy”, astronomy seminar, University of Michigan, 18 March 2016
77. “Short GRBs and the Maximum Mass of Neutron Stars”, astronomy colloquium, University of Michigan, 17 March 2016
78. “The Implications of GW150914”, physics seminar, Hillsdale College, 14 March 2016
79. “Neutron Star Upper Mass Limits from GRBs and GWs”, physics colloquium, Texas Tech University, 25 February 2016
80. “Standard Channels for Binary Formation”, invited talk, Rapid-Fire Workshop on Compact Binary Mergers, Columbia University, 20 February 2016

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81. “The Discovery of Gravitational Waves: GW at GW”, physics seminar, George Washington University, 16 February 2016
82. “Learning about Neutron Star Matter from X-rays and Gravitational Waves”, invited talk, The Many Faces of Neutron Stars, Garching, Germany, 14 September 2015
83. “Systematics and Statistics for NICER Determination of Neutron Star Masses and radii”, invited talk, Extreme Gravity Workshop, Bozeman, Montana, 20 August 2015
84. “The Challenges of Determining Neutron Star Masses and Radii”, invited talk, The Neutron Star Radius and All That Jazz, Montreal, Canada, 2 July 2015
85. “Constraints on the Dense Matter EOS from Burst Oscillations”, invited talk, Forty Years of X-ray Bursts, Madrid, Spain, 18 June 2015
86. “Neutron Star Upper Mass limits from GRBs and GWs”, contributed talk, What Comes Next for LIGO?, Silver Spring, MD, 7 May 2015
87. “Measurements, Causes, and Effects of Black Hole Spin”, invited talk, Compact Objects as Astrophysical and Gravitational Probes, Leiden, Netherlands, 5 February 2015
88. “Gravitational Wave Detection of Massive Stellar BH Binaries”, invited talk, Aspen meeting on black holes in dense star clusters, Aspen, CO, 22 January 2015
89. “Determining Neutron Star Masses and Radii using NICER Energy-Resolved Waveform Data”, contributed talk, AAS meeting, Seattle, 6 January 2015
90. “Black Hole Astrophysics”, invited talk, GR@99, Bad Honnef, Germany, 18 September 2014
91. “Challenges in Measuring Neutron Star Radii”, colloquium, Tuorla Observatory, University of Turku, Finland, 12 August 2014
92. “Alignment of Supermassive Black Hole Binary Orbits and Spins”, invited talk, COSPAR meeting, Moscow, Russia, 6 August 2014
93. “Challenges in Measuring Neutron Star Radii”, invited talk, workshop on Binary Neutron Star Coalescence as a Fundamental Physics Laboratory, Seattle, Washington, 15 July 2014
94. “Supermassive Black Hole Binaries: The Case for Aligned Spins”, invited talk, workshop on Unsolved Problems in Astrophysics and Cosmology, Budapest, Hungary, 5 July 2014
95. “Physics with Gravitational Wave Detections”, invited talk, Aspen workshop on ultracompact binaries, Aspen, Colorado, 13 June 2014
96. “Gravitational Waves and the Joint Space-Science Institute”, presentation to congressional staffers, University of Maryland, 17 April 2014
97. “Lemming Black Holes”, astronomy colloquium, McGill University, 15 April 2014
98. “Theoretical Ideas for the Formation and Feeding of IMBHs”, invited talk, ULXs and their Implications for our View of the Universe, Leiden, the Netherlands, 2 April 2014
99. “Lemming Black Holes”, astronomy colloquium, Radboud University, Nijmegen, the Netherlands, 1 April 2014
100. “Mass-Radius Constraints for NS from Pulse Profile Modeling”, invited talk, Joint Space-Science Institute minisymposium, Goddard Space Flight Center, 27 March 2014
101. “Ways to Measure Neutron Star Radii”, invited presentation, workshop on the structure and signals of neutron stars, Florence, Italy, 19 March 2014
102. “Neutron Stars and Very Dense Matter”, seminar, Case Western Reserve University, 5 March 2014
103. “Lemming Black Holes”, colloquium, Case Western Reserve University, 5 March 2014
104. “Measuring the Radii of Neutron Star X-ray Bursters with NICER”, invited talk, American Astronomical Society meeting, Washington, DC, 8 January 2014
105. “Formation of Black Hole Seeds by Core Collapse”, invited talk, Astro-GR@Atlanta, Atlanta, Georgia, 18 November 2013
106. “Current Challenges in the Astrophysics of Neutron Stars and Black Holes”, Rowan University physics colloquium, 27 September 2013

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107. “Neutron Stars and Their Planets”, Goddard Space Flight Center Astrophysics Colloquium, 27 August 2013
108. “The Universe of Black Holes that will be Revealed with Gravitational Waves”, Blackboard Lunch talk, Kavli Institute of Theoretical Physics, 19 August 2013
109. “Alignment of the Spins of Supermassive Black Hole Binaries”, invited talk, A Universe of Black Holes, Kavli Institute of Theoretical Physics, 16 August 2013
110. “Systematics in Measurements of Neutron Star Radii”, invited talk, Netherlands Institute for Space Research, Utrecht, Netherlands, 20 June 2013
111. “Intermediate-Mass Black Holes”, invited talk, Netherlands Institute for Space Research, Utrecht, Netherlands, 19 June 2013
112. “Gravitational Wave Radiation and Sources”, invited talk, Netherlands Institute for Space Research, Utrecht, Netherlands, 18 June 2013
113. “Challenges in the Measurement of Neutron Star Radii”, invited talk, Max Born Symposium, Wrocław, Poland, 15 June 2013
114. “How Well Can We Measure Neutron Star Radii?”, invited talk, University of Wrocław, Poland, 13 June 2013
115. “Electromagnetic Counterparts to High-Frequency Gravitational Wave Sources”, invited talk, Science from the First Gravitational Wave Detections, 23 May 2013, South Padre Island, Texas
116. “How Can We Measure Neutron Star Radii?”, invited seminar, Canadian Institute for Theoretical Astrophysics, 29 April 2013, Toronto, Canada
117. “The Dynamics of Galactic Nuclei”, invited review talk, Black Hole Fingerprints, 20 March 2013, Snowbird, Utah
118. “Neutron Stars and Physical Extremes”, astronomy colloquium, Universidad de Chile, 14 March 2013
119. “Hearing the Universe with Gravitational Waves”, astronomy colloquium, Pontificia Universidad Católica de Chile, 12 March 2013
120. “The Difficulties and Rewards of Neutron Star Radii”, astronomy seminar, Pontificia Universidad Católica de Chile, 11 March 2013
121. “The Near Future of Gravitational Wave Detection”, astronomy colloquium, Universidade Federal do ABC, São Paulo, Brazil, 7 March 2013
122. “Neutron Stars and the Unknowns of Dense Matter”, astronomy colloquium, Universidad Nacional de La Plata, Argentina, 5 March 2013
123. “The Universe As Heard With Gravitational Waves”, astronomy colloquium, Instituto de Astronomía y Física del Espacio, University of Buenos Aires, Argentina, 4 March 2013
124. “Planets Around Neutron Stars”, invited talk, AAS Meeting, Long Beach, CA, 10 January 2013
125. “Fermi Synergies with Advanced LIGO”, invited talk, Fermi Symposium, Monterey, CA, 30 October 2012
126. “How Accretion Disks Wiggle”, CAS seminar, Johns Hopkins University, 9 October 2012
127. “Dynamics and Intermediate-Mass Black Holes”, invited talk at the Chirps, Mergers, and Explosions workshop at the Kavli Institute for Theoretical Physics, Santa Barbara, CA, 12 September 2012
128. “Using Thermonuclear Burst Spectra to Constrain NS Masses and Radii”, invited talk, IAU General Assembly, Beijing, China, 20 August 2012
129. “Neutron Stars and the Extremes of Matter”, colloquium, Yonsei University, Seoul, South Korea, 16 August 2012
130. “The Promise of Gravitational Waves”, colloquium, Seoul National University, 14 August 2012
131. “So What Happens When We Detect GWs from CBCs?”, invited talk, Rattle and Shine conference, Kavli Institute for Theoretical Physics, 3 August 2012
132. “The Implications of Neutron Star Observations for Dense Matter”, plenary talk, CompStar meeting, Tahiti, 7 June 2012

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133. “Gravitational Wave Sources from a few Hz to a few kHz”, invited talk, Gravitational Wave Advanced Detector Workshop, Waikoloa Beach, HI, 14 May 2012
134. “The Implications of kHz QPOs”, invited talk, 16 Years of Discovery with RXTE, Goddard Space Flight Center, 30 March 2012
135. “Planets in the Extreme Environments of Neutron Stars”, invited talk, Planets around Stellar Remnants, Arecibo Observatory, Puerto Rico, 26 January 2012
136. “Lemming Black Holes”, University of California at Santa Cruz astronomy colloquium, 23 November 2011
137. “The Connection of LIGO to Astrophysics”, invited talk, Gravitational Wave Open Data Workshop, Livingston, LA, 27 October 2011
138. “Lemming Black Holes”, Howard University physics colloquium, 12 October 2011
139. “Galactic Centers: it’s a Binary’s Life”, invited talk, Astro-GR conference, Palma de Mallorca, Spain, 9 September 2011
140. “Using Thermonuclear Burst Spectra to Constrain Neutron Star Masses and Radii”, invited talk, Astrophysical Transients workshop, University of Washington, 18 July 2011
141. “Tidal Disruption of Tidally Separated Binaries”, invited seminar, Aspen workshop on low-mass and intermediate-mass black holes, Aspen, CO, 7 June 2011
142. “The Spins of Supermassive Black Holes”, invited seminar, Aspen workshop on supermassive black holes, Aspen, CO, 1 June 2011
143. “Middleweight Black Holes”, general relativity seminar, University of Maryland, 4 May 2011
144. “Probing NS EOS and Synergy with Advanced LIGO and Virgo”, invited talk, International X-ray Observatory meeting, Rome, Italy, 16 March 2011
145. “Using Millisecond Pulsars to Detect 10^{-9} to 10^{-7} Hz Gravitational Waves”, invited talk, Joint Space-Science Institute mini-symposium, College Park, MD, 25 February 2011
146. “Using Gravitational Waves to Constrain Neutron Star Structure”, general relativity seminar, Penn State, 15 February 2011
147. “New Results on the X-ray Spectra of Thermonuclear Bursts”, invited talk, HTRS meeting, Champéry, Switzerland, 9 February 2011
148. “Learning about Dense Matter from Neutron Stars”, astronomy colloquium, University of British Columbia, 10 January 2011
149. “Neutron Stars and the Extremes of Matter”, invited talk, III Challenges workshop, Campos do Jordao, Brazil, 16 December 2010
150. “Introduction to Gravitational Radiation”, invited talk, III Challenges workshop, Campos do Jordao, Brazil, 13 December 2010
151. “X-ray Burst Spectra”, invited talk, Exploring Physics with Neutron Stars, Tucson, Arizona, 19 November 2010
152. “A Possible Explanation for Puzzling Properties of X-ray Bursts”, astronomy colloquium, Caltech, 20 October 2010
153. “Dynamical processes in the production of EMRIs”, invited talk, LISA-GR meeting, Paris, France, 17 September 2010
154. “Putting a spin on supermassive black holes”, astronomy seminar, University of Melbourne, 11 August 2010
155. “What do we know about black holes?”, astronomy seminar, Monash University, Melbourne, Australia, 10 August 2010
156. “AIGO and the structure of neutron stars”, astrophysics seminar, University of Western Australia, 6 August 2010
157. “Astrophysics with gravitational waves”, IAS masterclass, University of Western Australia, 5 August 2010

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158. “Formation of stellar-mass black hole binaries”, invited talk, 460th Heraeus symposium, on black holes, Bad Honnef, Germany, 11 June 2010
159. “Learning about neutron stars with LIGO”, LIGO seminar, Caltech, 20 April 2010
160. “Probing the high-density matter of neutron stars”, ITC colloquium, Harvard, 1 April 2010
161. “Introduction to gravitational radiation”, invited talk, Advanced gravitational wave detectors and Advanced LIGO technology, Perth, Australia, 28 February 2010
162. “Astrophysical Influences on the Spins of Supermassive Black Holes”, colloquium, Naval Research Laboratory, Washington, DC, 25 February 2010
163. “Astrophysical Sources for Ground-Based Gravitational Wave Detectors”, invited talk, Advanced gravitational wave detectors and Advanced LIGO technology, Perth, Australia, 23 February 2010
164. “Prospects for gravitational wave detection”, invited talk, Probing Strong Gravity Near Black Holes, Prague, Czech Republic, 18 February 2010
165. “Extreme mass ratio inspirals”, invited talk, Stars and Singularities, Rehovot, Israel, 10 December 2009
166. “Neutron stars, high densities, and nuclear physics”, physics colloquium, Wake Forest University, 4 November 2009
167. “Observations of Black Holes”, invited talk, Shining Light on Black Holes, Ann Arbor, MI, 25 September 2009
168. “Signatures of Kicked Disks and Mass Loss”, invited talk, Matter and Electromagnetic Fields in Strong Gravity, College Park, MD, 27 August 2009
169. “Compact Binaries”, invited talk, Fujihara Seminar, Hayama, Japan, 27 May 2009
170. “Astrophysics With Few-Hz Gravitational Waves”, invited talk, GWADW meeting, Ft. Lauderdale, FL, 11 May 2009
171. “Astrophysical Influences on the Spins of Supermassive Black Holes”, invited talk, Observational Signatures of Black Hole Mergers, Space Telescope Science Institute, 1 April 2009
172. “Intermediate-Mass Black Holes”, Blackboard Lunch talk, Kavli Institute of Theoretical Physics, 23 March 2009
173. “The Spins and Eccentricities of Comparable-mass Black Hole Binaries”, TAPIR seminar, California Institute of Technology, 9 January 2009
174. “Extreme and Intermediate-Mass Ratio Inspirals”, invited talk, winter AAS meeting, Long Beach, CA, 5 January 2009
175. “Properties of Comparable-Mass Black Hole Binaries”, math seminar, Rochester Institute of Technology, 19 September 2008
176. “What Neutron Stars Can Tell Us About Cold High-Density Matter”, invited talk, meeting on the high-density equation of state in astrophysics, Argonne National Lab, 18 August 2008
177. “Astrophysics with the Laser Interferometer Space Antenna”, invited talk, COSPAR Scientific Assembly, Montreal, Canada, 16 July 2008
178. “Models of Kilohertz Quasi-Periodic Brightness Oscillations”, invited talk, COSPAR Scientific Assembly, Montreal, Canada, 13 July 2008
179. “Intermediate-Mass Black Holes”, invited talk, Seventh International LISA Symposium, Barcelona, Spain, 20 June 2008
180. “How to Make a Stellar-Mass Black Hole Merge”, invited colloquium, University of Amsterdam, Amsterdam, Netherlands, 13 June 2008
181. “The Astrophysical Context of Black Hole Mergers”, invited talk, APS April meeting, St. Louis, Missouri, 14 April 2008
182. “Astrophysical Consequences of Black Hole Kicks”, ASD colloquium, Goddard Space Flight Center 4 March 2008
183. “The Plasma Extremes of Neutron Stars”, plasma physics seminar, University of Maryland, 28 November 2007

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184. “Gravitational Wave Observations as Probes of Dark Energy”, invited talk, dark energy workshop, University of Maryland, 15 November 2007
185. “Off the Edge: the Innermost Stable Circular Orbit around Neutron Stars”, astronomy colloquium, University of Michigan, Ann Arbor, Michigan, 13 September 2007
186. “Alignment of black holes in microquasars”, Microquasar workshop, Agios Nikolaos, Crete, Greece, 4 June 2007
187. “Getting a kick out of black hole spin alignment”, Lund Observatory seminar, Lund, Sweden, 31 May 2007
188. “Supermassive black hole alignment, merger, and spin kicks”, astrophysics colloquium, Albert Einstein Institute, Potsdam, Germany, 25 May 2007
189. “Implications of the spin distribution of LMXBs”, invited talk, workshop on neutron star populations, Green Bank, WV, 21 May 2007
190. “Intermediate-Mass Black Holes and Gravitational Radiation”, astrophysics colloquium, Institute for Advanced Study, Princeton, NJ, 6 March 2007
191. “Intermediate-Mass Black Holes”, astronomy colloquium, University of Virginia, Charlottesville, VA, 13 November 2006
192. “Massive Black Holes”, invited review talk, LISA EMRI workshop, Golm, Germany, 18 September 2006
193. “Observations of Massive Black Holes with LISA”, invited talk, LISA analysis workshop, Greenbelt, MD, 25 June 2006
194. “Compact Binaries as Sources of Gravitational Radiation”, invited talk, compact objects conference, Cefalu, Sicily, 20 June 2006
195. “Ultraluminous X-ray Sources”, invited talk, fourth Harvard Conference on astrophysics, Cambridge, MA, 18 May 2006
196. “Astrophysical Applications of Numerical Relativity”, invited talk, AANR meeting, Guanajuato, Mexico, 6 May 2006
197. “Gravitational Waves from Intermediate-Mass Black Holes”, invited talk, APS, Dallas, Texas, 24 April 2006
198. “Constraints on Alternatives to Supermassive Black Holes”, invited talk, MODEST-6a, Lund, Sweden, 15 December 2005
199. “Gravitational Wave Sources from Dense Star Clusters”, invited talk, MODEST-6, Evanston, IL, 31 August 2005
200. “QPO constraints on neutron stars”, invited talk, A Life With Stars, Amsterdam, Holland, 24 August 2005
201. “Astrophysics With LISA”, invited talk, LISA Data: Analysis, Sources, and Science, Aspen, CO, 30 May 2005
202. “Formation Mechanisms for Intermediate-Mass Black Holes”, invited talk, High Energy Phenomena of Compact Objects, Hsinchu, Taiwan, 14 March 2005
203. “Production of QPOs in Accreting Neutron Star Systems”, invited talk, COSPAR Colloquium on Spectra and Timing of Compact X-ray Binaries, Mumbai, India, 17 January 2005
204. “Why Neutron Stars Are Interesting”, physics colloquium, Georgetown University, 30 November 2004
205. “Gravitational Radiation from Inspirals of Intermediate-Mass Black Holes”, astronomy seminar, University of Pennsylvania, 20 October 2004
206. “Probing General Relativity With Mergers of Supermassive and Intermediate-Mass Black Holes”, solicited talk HEAD Meeting, New Orleans, LA, 9 Sep 2004
207. “Sources of Gravitational Radiation”, Hot Points in Astrophysics, Dubna, Russia, 11 Aug 2004
208. “Quasi-Periodic Brightness Oscillations from Accreting Neutron Stars and Black Holes”, Hot Points in Astrophysics, Dubna, Russia, 4 Aug 2004
209. “Intermediate-Mass Black Holes”, invited review talk, Making Waves With Intermediate-Mass Black Holes, Penn State University, 20 May 2004

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210. “And All the Rest (Primordial, Intermediate, and Orphan Black Holes)”, invited review talk, APS April Meeting, Denver, CO, 1 May 2004
211. “Intermediate-Mass Black Holes”, astronomy colloquium, Rutgers University, 26 March 2004
212. “Intermediate-Mass Black Holes”, talk presented to the Data Analysis Working Group of the LISA International Science Team, College Park, MD, 8 December 2003
213. “Fundamental Physics in Quasiperiodic Brightness Oscillations”, invited review talk, X-Ray Timing 2003 Meeting, Boston, MA, 5 November 2003
214. “Challenges for Models of Intermediate-Mass Black Holes”, theoretical astrophysics seminar, University of Illinois at Urbana-Champaign, 15 October 2003
215. “Searching for Gravitational Radiation Sources Using Fluctuation Analysis”, astronomy colloquium, University of Illinois at Urbana-Champaign, 14 October 2003
216. “Black Hole Binaries, Gravitational Waves, and Cockroaches”, astronomy colloquium, University of Maryland, 8 October 2003
217. “Constraints on Superdense Matter from X-ray Binaries”, invited review talk, NATO Advanced Research Workshop on Superdense QCD Matter and Compact Stars, Yerevan, Armenia, 30 September 2003
218. “Formation of Ultraluminous X-ray Sources”, invited talk, workshop on ULXs, Johns Hopkins University, Baltimore, MD, 12 September 2003
219. “Implications of Intermediate-Mass Black Holes for Gravitational Radiation”, invited talk, 10th Marcel Grossman meeting on general relativity, Rio de Janeiro, Brazil, 22 July 2003
220. “Sonic-Point and Spin Resonance Beat Frequency Model For KiloHertz QPOs”, contributed talk, Neutron Stars on Fire, Princeton, NJ, 11 May 2003
221. “Formation Scenarios for Intermediate-Mass Black Holes”, invited talk, The Astrophysics of Gravitational Wave Sources, College Park, MD, 25 April 2003
222. “Gravitational Waves from Intermediate-Mass Black Holes”, High Energy Astrophysics Division Meeting, Mt. Tremblant, Quebec, 26 March 2003
223. “Intermediate-Mass Black Holes and Gravitational Radiation”, Penn State Gravity Center colloquium, State College, PA, 3 March 2003
224. “Intermediate-Mass Black Holes and Gravitational Radiation”, invited talk, Aspen Winter Conference on Gravitational Waves, 3 February 2003
225. “Intermediate-Mass Black Holes”, Astronomy colloquium, Case Western Reserve University, Cleveland, OH, 15 January 2003
226. “Black Holes in Dense Stellar Regions”, Astronomy and Solar Physics colloquium, Goddard Space Flight Center, Greenbelt, MD, 7 November 2002
227. “Intermediate-Mass Black Holes and Gravitational Radiation”, colloquium, LIGO Science Center, 1 November 2002
228. “Black Hole Dynamics in Stellar Clusters”, astronomy seminar, Southwest Research Institute, 12 July 2002
229. “Origin and Implications of Intermediate-Mass Black Holes”, astronomy colloquium, University of Massachusetts at Amherst, 16 May 2002
230. “Intermediate-Mass Black Holes”, astrophysics seminar, Institute for Advanced Study, Princeton, New Jersey, 1 May 2002
231. “Medium-Size Black Holes”, plenary talk, April Meeting of the American Physical Society, Albuquerque, New Mexico, 20 April 2002
232. “The Neutron Star Equation of State From Fast Timing of X-ray Bursts”, XEUS Science Workshop, Munich, Germany, 12 March 2002
233. “Intermediate-Mass Black Holes”, invited review talk, Black Holes: Theory Confronts Reality, Santa Barbara, California, 25 February 2002

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234. “Gravitational Waves and X-rays from Black Holes in Dense Stellar Clusters”, invited talk, AAS Winter Meeting, Washington, D.C., 9 January 2002
235. “Origin and Implications of Intermediate-Mass Black Holes”, astronomy colloquium, University of Maryland, 31 October 2001
236. “Origin and Implications of Intermediate-Mass Black Holes”, high energy seminar, Goddard Space Flight Center, Greenbelt, MD, 9 October 2001
237. “Production of Intermediate-Mass Black Holes in Globular Clusters”, invited talk, Two Years of Science With Chandra, Washington, D.C., 7 September 2001
238. “Consequences of Accretion onto Primordial Compact Objects”, invited talk, APS meeting, Washington, D.C., 28 April 2001
239. “Neutron Star Masses”, invited review talk, Quark Matter 2001 Conference, Stony Brook, New York, 18 January 2001
240. “Strong Gravity and Dense Matter from Observations of Compact Objects”, high energy seminar, Goddard Space Flight Center, Greenbelt, MD, 28 November 2000
241. “Strong Gravity and Neutron Star X-ray Binaries”, invited talk, HEAD meeting, Honolulu, Hawaii, 9 November 2000
242. “Small-Scale Structure in Galactic Objects Deduced from X- and Gamma Ray Timing Measurements”, invited talk, IAU Symposium #205, Manchester, England, 15 August 2000
243. “Fast Oscillations, General Relativity, and Dense Matter”, Astronomy Colloquium, Pennsylvania State University, 26 April 2000
244. “Science With a Large-Area Timing Instrument”, invited talk, Rossi 2000 meeting, Goddard Space Flight Center, 24 March 2000
245. “Strong Gravity and Ultradense Matter: Implications of Kilohertz Brightness Oscillations”, Astronomy colloquium, University of Virginia, 28 September 1999
246. “Beat-Frequency Models”, invited review talk, X-ray astronomy meeting, Bologna, Italy, 6 September 1999
247. “Recent Developments in Kilohertz QPOs”, invited review talk, HEAD meeting, Charleston, SC, 12 April 1999
248. “Theoretical Interpretation of Kilohertz Brightness Oscillations”, astrophysics colloquium, University of Maryland, 17 March 1999
249. “Taking the Pulse of a Neutron Star”, astrophysics colloquium, University of Chicago, 6 January 1999
250. “Gravitational Lensing Limits on the Average Redshift of Gamma-Ray Bursts”, contributed talk, 19th Texas Symposium on Relativistic Astrophysics, Paris, France, 16 December 1998
251. “A $2.3 M_{\odot}$ Neutron Star? Results from Kilohertz Brightness Oscillations”, theory seminar, Institute of Astronomy, Cambridge, England, 9 December 1998
252. “Implications of Kilohertz Brightness Oscillations in Neutron Star Low-Mass X-ray Binaries”, invited theory seminar, Max Planck Center for Theoretical Astrophysics, Garching, Germany, 2 December 1998
253. “Evidence for a 2.3 Solar Mass Neutron Star and Implications for Dense Matter”, theory seminar, Argonne National Laboratory, Argonne, Illinois, 17 September 1998
254. “Constraints on Neutron Star Masses and Equations of State from Kilohertz QPOs”, theory seminar, Harvard-Smithsonian Center for Astrophysics, Cambridge, Massachusetts, 11 February 1998
255. “General Relativistic Effects on Gas Dynamics and Radiation Transport Near Neutron Stars”, invited talk, HEAD meeting, Estes Park, CO, 7 November 1997
256. “Neutron Star Mass and Radius Constraints from High-Frequency QPOs”, contributed talk, HEAD meeting, Estes Park, CO, 6 November 1997
257. “Constraints on Neutron Stars Implied by Kilohertz QPOs”, invited talk, BeppoSAX/RXTE Symposium, Rome, 22 October 1997
258. “Models of Kilohertz Quasi-Periodic Brightness Oscillations”, invited talk, 8th Annual October Astrophysics Conference, College Park, MD, 14 October 1997

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259. "Sonic-Point Model for Kilohertz Brightness Oscillations in LMXBs", contributed talk, American Astronomical Society meeting, Winston-Salem, NC, 11 June 1997
260. "Theoretical Interpretation of Kilohertz QPO from LMXBs", invited talk, American Physical Society general meeting, Washington, DC, 19 April 1997
261. "The Origin of Cosmic Gamma-Ray Bursts", physics seminar, University of Illinois at Urbana-Champaign, Urbana, Illinois, 17 April 1997
262. "Entering a Data-Rich Era in the Study of Soft Gamma-Ray Repeaters", relativistic astrophysics seminar, University of Illinois at Urbana-Champaign, Urbana, Illinois, 16 April 1997
263. "The Songs of Neutron Stars: High-Frequency X-ray Brightness Oscillations", astrophysics colloquium, University of Illinois at Urbana-Champaign, Urbana, Illinois, 15 April 1997
264. "Sonic-Point Model for High-Frequency QPOs in Neutron Star Low-Mass X-ray Binaries", invited talk, 18th Texas Symposium on Relativistic Astrophysics, Chicago, Illinois, 19 December 1996
265. "Models for Kilohertz Brightness Oscillations", physics seminar, Stanford University, Palo Alto, California, 5 December 1996
266. "Sonic-Point Interpretation of High-Frequency QPOs", astronomy seminar, University of California at Berkeley, Berkeley, California, 3 December 1996
267. "Implications of Kilohertz QPOs", physics seminar, University of California at San Diego, San Diego, California, 26 November 1996
268. "A Model for High-Frequency Brightness Oscillations from Neutron-Star LMXBs", astronomy seminar, Yale University, New Haven, Connecticut, 21 November 1996
269. "Constraints on Neutron Stars in LMXBs from High-Frequency QPOs", astronomy seminar, Columbia University, New York City, 20 November 1996
270. "Sonic-Point Model for Kilohertz Brightness Oscillations", astronomy colloquium, Copernicus Astronomical Center, Warsaw, Poland, 30 October 1996
271. "Optical/Near-IR Observations of the Bursting Pulsar", astronomy seminar, Copernicus Astronomical Center, Torun, Poland, 28 October 1996
272. "Interpretation of High-Frequency Quasi-Periodic Oscillations", physics seminar, Nordita, Copenhagen, 23 October 1996
273. "Constraints on Neutron Star Masses and Radii from Kilohertz Oscillations", astronomy seminar, Astronomical Institute "Anton Pannekoek", Amsterdam, 21 October 1996
274. "Soft Gamma-Ray Repeaters: Probes of a New Physical Regime?", physics seminar, Naval Research Laboratory, Washington, DC, 9 July 1996
275. "Entering a Data-Rich Era in the Study of Soft Gamma-Ray Repeaters", high energy astrophysics physics seminar, Goddard Space Flight Center, Greenbelt, Maryland, 8 July 1996
276. "Soft Gamma-Ray Repeaters: Probes of a New Physical Regime?". physics seminar, University of Illinois, Urbana, Illinois, 13 May 1996
277. "Soft Gamma-Ray Repeaters and Ultrastrong Magnetic Fields", astronomy seminar, University of Wisconsin, Madison, Wisconsin, 4 April 1996
278. "Spectral Signatures of Supercritical Magnetic Fields", physics seminar, University of North Carolina, Chapel Hill, North Carolina, 1 March 1996
279. "Soft Gamma-Ray Repeaters", astronomy seminar, North Carolina State, Raleigh, North Carolina, 29 February 1996
280. "Developments in the Study of Soft Gamma-Ray Repeaters", astrophysics colloquium, University of Chicago, Chicago, Illinois, 21 February 1996
281. "Critical Luminosities in Ultrastrong Magnetic Fields", astronomy seminar, Northwestern University, Evanston, Illinois, 12 February 1996
282. "Optical/IR Observations of the Bursting Pulsar", contributed talk, Aspen Workshop on Black-Hole X-ray Transients, Aspen, Colorado, 25 January 1996

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283. “Compton Scattering Effects in the Spectra of Soft Gamma-Ray Repeaters”, contributed talk, Third Huntsville Symposium on Gamma-Ray Bursts, Huntsville, Alabama, 27 October 1995
284. “Radiation Drag near Slowly Rotating Neutron Stars”, contributed talk, High Energy Astrophysics Division Meeting, Napa, CA, 2 November 1994
285. “Radiation Drag Near Slowly Rotating Neutron Stars”, contributed talk, Lund workshop on neutron stars, Lund, Sweden, 1 April 1993
286. “Radiation Forces Near Neutron Stars — What a Drag!”, contributed talk, Compact Objects, Nordita, Copenhagen, Denmark, 24 March 1993
287. “Gamma-Ray Production by Neutron Stars Accreting From a Disk”, contributed talk, Compton Gamma-Ray Observatory meeting, St. Louis, Missouri, 16 October 1992
288. “Thermal Emission From Isolated Neutron Stars”, contributed talk, Isolated Pulsars, Taos, New Mexico, 24 February 1992

Publications

Articles in Journals

1. “Kilohertz quasiperiodic oscillations in short gamma-ray bursts”, C. Chirenti, S. Dichiara, A. Lien, M. C. Miller, and R. Preece 2023, *Nature*, **613**, 253 (4 pages).
2. “Astrophysics with the Laser Interferometer Space Antenna”, P. Amaro-Seoane et al. 2022, *LRR*, submitted (arXiv:2203.06016).
3. “A Very Luminous Jet from the Disruption of a Star by a Massive Black Hole”, I. Andreoni et al. 2022, *Nature*, **612**, 430 (5 pages).
4. “The Radius of PSR J0740+6620 from NICER with NICER background estimates”, T. Salmi, S. Vinciguerra, D. Choudhury, T. E. Riley, A. L. Watts, R. A. Remillard, P. S. Ray, S. Bogdanov, S. Guillot, Z. Arzoumanian, C. Chirenti, A. J. Dittmann, K. C. Gendreau, W. C. G. Ho, M. C. Miller, S. M. Morsink, Z. Wadiasingh, and M. T. Wolff 2022, *ApJ*, **941**, 150 (23 pages).
5. “Electromagnetic Counterparts to Massive Black Hole Mergers”, T. Bogdanovic, M. C. Miller, and L. Blecha 2022, *LRR*, **25**, 3 (127 pages).
6. “Gravitational-Wave and X-ray Probes of the Neutron Star Equation of State”, N. Yunes, M. C. Miller, and K. Yagi 2022, *Nature Reviews Physics*, **4**, 237 (10 pages).
7. “The Uncertain Future of Massive Binaries Obscures the Origin of LIGO/Virgo Sources”, K. Belczynski, A. Romagnolo, A. Olejak, J. Klencki, D. Chattopadhyay, S. Stevenson, M. C. Miller, J.-P. Lasota, and P. A. Crowther 2022, *ApJ*, **925**, 69 (13 pages).
8. “Observing intermediate-mass black holes and the upper–stellar-mass gap with LIGO and Virgo”, A. K. Mehta, A. Buonanno, J. Gair, M. C. Miller, E. Farag, R. J. deBoer, M. Wiescher, and F. X. Timmes 2022, *ApJ*, **924**, 39 (21 pages).
9. “The Radius of PSR J0740+6620 from NICER and XMM-Newton Data”, M. C. Miller, F. K. Lamb, A. J. Dittmann, S. Bogdanov, Z. Arzoumanian, K. C. Gendreau, S. Guillot, W. C. G. Ho, J. M. Lattimer, M. Loewenstein, S. M. Morsink, P. S. Ray, M. T. Wolff, C. L. Baker, T. Cazeau, S. Manthripragada, C. B. Markwardt, T. Okajima, S. Pollard, I. Cognard, H. T. Cromartie, E. Fonseca, L. Guillemot, M. Kerr, A. Parthasarathy, T. T. Pennucci, S. Ransom, and I. Stairs 2021, *ApJ Letters*, **918**, L28 (31 pages).
10. “NICER Detection of Thermal X-ray Pulsations from the Massive Millisecond Pulsars PSR J0740+6620 and PSR J1614-2230”, M. T. Wolff, S. Guillot, S. Bogdanov, P. S. Ray, M. Kerr, Z. Arzoumanian, K. C. Gendreau, M. C. Miller, A. J. Dittmann, W. C. G. Ho, L. Guillemot, I. Cognard, G. Theureau, and K. S. Wood 2021, *ApJ Letters*, **918**, L26 (9 pages).
11. “Binary black hole mergers from hierarchical triples in open clusters”, D. Britt, B. Johanson, L. Wood, M. C. Miller, and E. Michaely 2021, *MNRAS*, **505**, 3844 (9 pages).
12. “Constraining the Neutron Star Mass–Radius Relation and Dense Matter Equation of State with NICER. III. Model Description and Verification of Parameter Estimation Codes”, S. Bogdanov, A. J. Dittmann, W. C. G. Ho, F. K. Lamb, S. Mahmoodifar, M. C. Miller, S. M. Morsink, T. E. Riley, T. E. Strohmayer, A. L. Watts, D. Choudhury, S. Guillot, A. K. Harding, P. S. Ray, Z. Wadiasingh, M. T. Wolff, C. B. Markwardt, Z. Arzoumanian, and K. C. Gendreau 2021, *ApJ*, **914**, L15 (19 pages).
13. “Golden galactic binaries for LISA: mass-transferring white dwarf black hole binaries”, L. Sberna, A. Toubiana, and M. C. Miller 2021, *ApJ*, **908**, 1 (6 pages).
14. “Investigating the I-Love-Q and w-mode Universal Relations Using Piecewise Polytropes”, E. Benitez, J. Weller, V. Guedes, C. Chirenti, and M. C. Miller 2021, *Phys. Rev. D*, **103**, 023007 (8 pages).
15. “The origin of inequality: isolated formation of a $30+10M_{\odot}$ binary black-hole merger”, A. Olejak, M. Fishbach, K. Belczynski, D. E. Holz, J.-P. Lasota, M. C. Miller, and T. Bulik 2020, *ApJ Letters*, **901**, L39 (9 pages).
16. “Beaming as an explanation of the repetition/pulse width relation in FRBs”, L. Connor, M. C. Miller, and D. W. Gardinier 2020, *MNRAS*, **497**, 3076 (7 pages).

17. “Merger rates in primordial black hole clusters without initial binaries”, V. Korol, I. Mandel, M. C. Miller, R. P. Church, and M. B. Davies 2020, *MNRAS*, **496**, 994 (7 pages).
18. “The evolutionary roads leading to low effective spins, high black hole masses, and O1/O2 rates of LIGO/Virgo binary black holes”, K. Belczynski, J. Kluncki, C. E. Fields, A. Olejak, E. Berti, G. Meynet, C. L. Fryer, D. E. Holz, R. OShaughnessy, D. A. Brown, T. Bulik, S. C. Leung, K. Nomoto, P. Madau, R. Hirschi, S. Jones, S. Mondal, M. Chruslinska, P. Drozda, D. Gerosa, Z. Doctor, M. Giersz, S. Ekstrom, C. Georgy, A. Askar, D. Wysocki, T. Natan, W. M. Farr, G. Wiktorowicz, M. C. Miller, B. Farr, and J.-P. Lasota 2020, *A&A*, **636**, A104 (40 pages).
19. “Star formation in accretion disks and SMBH growth”, A. Dittmann and M. C. Miller 2020, *MNRAS*, **493**, 3732 (12 pages).
20. “Constraining the equation of state of high-density cold matter using nuclear and astronomical measurements”, M. C. Miller, C. Chirenti, and F. K. Lamb 2020, *ApJ*, **888**, 12 (13 pages).
21. “NICER X-Ray Observations of Seven Nearby Rotation-powered Millisecond Pulsars”, S. Guillot, M. Kerr, P. S. Ray, S. Bogdanov, S. Ransom, J. S. Deneva, Z. Arzoumanian, P. Bult, D. Chakrabarty, K. C. Gendreau, W. C. G. Ho, G. K. Jaisawal, C. Malacaria, M. C. Miller, T. E. Strohmayer, M. T. Wolff, K. S. Wood, N. A. Webb, L. Guillemot, I. Cognard, and G. Theureau 2019, *ApJ Letters*, **887**, L27 (15 pages).
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