Paul Milton Ricker

Personal

Citizenship	United States
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Education

Ph. D. Physics, University of Chicago	1996
Advisor: Prof. Donald Q. Lamb, Dept. of Astronomy and Astrophysics	
Thesis: "Off-Center Collisions between Clusters of Galaxies"	
M. S. Physics, University of Chicago	1993
B. S. Physics with Distinction and with Honors in Astronomy	1991
(Minor in Mathematics), Pennsylvania State University	

Fellowships and Honors

National Center for Supercomputing Applications Faculty Fellow	2015–2016
University of Illinois Center for Advanced Study Associate	2012–2013
Presidential Early Career Award for Scientists and Engineers (PECASE)	2002
U. S. Dept. of Energy Defense Programs Early Career Award	2002
Gordon Bell Prize	2000
NASA Graduate Student Researchers Program (GSRP) Fellowship,	1994–1996
High Performance Computing and Communications Focus	
U. S. Dept. of Education GAANN Teaching Fellowship	1991–1993
Phi Beta Kappa Honor Society	1991
Sigma Pi Sigma Physics Honor Society	1991
Phi Beta Kappa (Lambda of Pennsylvania) Senior Thesis Prize	1990
Braddock Scholarship, Pennsylvania State University	1987–1991

Positions Held

Department of Astronomy, University of Illinois	
Professor	2016–present
Associate Professor	2009–2016
Assistant Professor	2002–2009
National Center for Supercomputing Applications	
Research Scientist	2002–2009

Department of Astronomy and Astrophysics and ASCI Center for
Astrophysical Thermonuclear Flashes, University of Chicago

Research Scientist	2001–2002
Research Associate	1999–2001

Department of Astronomy, University of Virginia

Research Associate	1996–1998

Enrico Fermi Institute, University of Chicago

Graduate Research Assistant	1993–1996

Department of Physics, University of Chicago

Graduate Teaching Fellow	1991–1993

Department of Astronomy and Astrophysics, Pennsylvania State University

Summer Undergraduate Research Assistant	1990, 1991

Applied Research Laboratory, Pennsylvania State University

Summer Undergraduate Research Assistant	1988, 1989

VISITING AND ADJUNCT POSITIONS

Department of Physics and Astronomy, Northwestern University

Visiting Scholar	2011, 2012

National Center for Supercomputing Applications

Center Affiliate	2009–present

Mathematics and Computer Science Division, Argonne National Laboratory

Visiting Scientist	1999–2003

Department of Chemistry, Physics, and Astronomy, Indiana University Northwest

Associate Professor	1996

PROFESSIONAL SOCIETIES

American Astronomical Society
Division: High-Energy Astrophysics

International Astronomical Union
Division G, Commission 42: Close Binary Stars

Division D, Commission 44: Space and High Energy Astrophysics
Division J, Commission 47: Cosmology

American Physical Society
Divisions: Astrophysics, Computational Physics, Plasma Physics
Section: Prairie; Topical Group: Plasma Astrophysics

Society for Industrial and Applied Mathematics
Activity Group: Computational Science and Engineering

Sigma Xi

COLLABORATIONS

Dark Energy Survey (DES) (full member)
Working Groups: Simulations, Clusters

Large Synoptic Survey Telescope (LSST) Dark Energy Science Collaboration (DESC) (full member)
Working Groups: Cosmological Simulations, Clusters

Laser Interferometer Gravitational Wave Observatory (LIGO) Scientific Collaboration (LSC) (member)
2016–2019

GRANTS AS PRINCIPAL INVESTIGATOR

NCSA Faculty Fellows Program
Faculty Fellows award, $24,866   2015–2016

American Astronomical Society
International Travel Grant, $1303   2013
International Travel Grant, $1572   2012
International Travel Grant, $1885   2010

National Aeronautics and Space Administration
Chandra Cycle 16: "The Survival of Hot Galactic Coronae in Groups   2015–2018
and Clusters," TM5-16008X (cost PI), $77,632
Fermi Cycle 3: "Simulating Cosmic Rays in the Large Magellanic   2010–2012
Cloud," NNX10AO78G, $89,927

National Science Foundation

Division of Astronomical Sciences: "Investigations of the Common Envelope Phase of Binary Star Evolution," AST 14-13367, $350,865 — 2014–2020

Office of Cyberinfrastructure: "Multicore Optimization of an Astrophysical Simulation Code using Performance Annotations," 0804982, $85,001 — 2008–2009

Department of Energy

Argonne National Laboratory: "Optimizing FLASH for Exascale Supernova Simulations," $83,845 — 2018–2019

Lawrence Berkeley National Laboratory: "Active Galactic Nucleus Subgrid Model in Cosmological Simulations," $25,000 — 2017

Los Alamos National Laboratory, Institute for Geophysics and Planetary Physics (IGPP): "Cosmological Hydrodynamics with Adaptive Mesh Refinement," 1414, $102,000 — 2004–2007

Lawrence Livermore National Laboratory: "Presidential Early Career Award for Scientists and Engineers," LLL B532720, $250,000 — 2003–2009

FELLOWSHIPS AS PRINCIPAL INVESTIGATOR OR ADVISOR

Department of Energy Stewardship Science Graduate Fellowship
A. Miguel Holgado — 2016–2020

University of Illinois Dissertation Completion Fellowship
Rukmani Vijayaraghavan — 2014–2015

University of Illinois Computational Science and Engineering Fellowship
Gary Foreman — 2012–2014
Kuo-Chuan Pan — 2010–2012

NASA Earth and Space Sciences Graduate Fellowship
Hsiang-Yi (Karen) Yang — 2008–2011

Department of Energy Computational Sciences Graduate Fellowship
Paul M. Sutter — 2007–2011

GRANTS AS CO-INVESTIGATOR

National Aeronautics and Space Administration
Fermi Cycle 5: "Cosmic Ray Acceleration in the Magellanic Clouds," PI: You-Hua Chu, $98,000 — 2012–2013

Fermi Cycle 4: "Acceleration of Cosmic Rays in the Large Magellanic Cloud," PI: You-Hua Chu, $97,438 — 2011–2012

XMM AO-5: "A Systematic Study of Fossil Groups," PI: Christopher Miller, NNX06AG57G, $99,066	2006–2007
Earth and Space Sciences Project: "Development of an Interoperability-Based Environment for Adaptive Meshes (IBEAM) with Application to Radiation-Hydrodynamic Models of Gamma-Ray Bursts," PI: Paul Saylor, CAN-00-OES-026, $1,800,000	2001–2004
Chandra AO-2: "Merger Shocks in Clusters of Galaxies," PI: Craig Sarazin, CXC GO1-2123X, $59,885	2001–2002
XMM AO-1: "Merger Shocks in Clusters of Galaxies," PI: Craig Sarazin, NAG5-10075, $38,700	2000–2002
Chandra AO-1: "Subcluster Mergers, Radio Relics, and the Cooling Flow in Abell 85," PI: Craig Sarazin, CXC GO0-1173X, $47,480	2000–2001

Department of Energy

Los Alamos National Laboratory, Laboratory Directed Research and Development - Directed Research (LDRD-DR) Program: "Dark Energy and the Cosmic Web," PI: Katrin Heitmann, 20070005DR, $3,900,000	2007–2010

COMPUTING ALLOCATIONS AS PRINCIPAL INVESTIGATOR

National Aeronautics and Space Administration

"The Survival of Hot Galactic Coronae in Groups and Clusters" (SMD-15-5693, SMD-15-6614, SMD-16-7792) NAS Pleiades SGI ICE system (5,792,048 core-hours)	2015–2018
"Simulating Cosmic Rays in the Large Magellanic Cloud" (SMD-11-2730, SMD-12-3432, SMD-13-4644) NAS Pleiades SGI ICE system (8,355,840 core-hours)	2011–2014
"Sources of Mass-Observable Scatter in Galaxy Cluster X-Ray Surveys" (SMD-09-1290) NAS Pleiades SGI ICE system (3,109,333 core-hours) NCCS Discover Linux cluster (998,400 core-hours)	2009–2011

National Geospatial Intelligence Agency

"Effects of Active Galaxy Feedback in Galaxy Clusters" NCSA Blue Waters (640,000 node-hours)	2019–2020

National Science Foundation

"Numerical Simulations of Common Envelope Evolution" (TG-AST040024) TACC Dell Poweredge C8220 (3,467,948 service units) TACC Dell/Intel Knights Landing System (288,414 node-hours)	2016–2019

"Effects of Active Galaxy Feedback on the Evolution of Galaxy Clusters" NCSA Blue Waters (1,065,000 node-hours)	2015–17,19
"Numerical Simulations of Energetic Flows in Galaxy Clusters and Binary Star Systems" (TG-AST040024) TACC Sun Constellation Cluster (2,532,000 service units) NICS Cray XT5 (14,526,000 service units) TACC Dell Poweredge C8220 (2,332,889 service units)	2011–2015
"Hydrodynamics of Close Binary Star Systems" (TG-AST040024) TACC Sun Constellation Cluster (1,000,000 service units) NICS Cray XT5 (4,300,000 service units)	2009–2011
"Studies in Common Envelope Evolution" (TG-AST040034N) TACC Sun Constellation Cluster (250,000 service units)	2008
"Effects of Nongravitational Physics on the Structure and Evolution of Galaxy Clusters" (MCA05S029) NCSA SGI Altix (274,000 service units) NCSA Xeon Linux cluster (650,000 service units) NCSA Intel 64 Linux cluster (576,000 service units)	2005–2008
"Adaptive-Mesh Simulations of Large-Scale Structure Formation" (AST030003) NCSA Origin 2000 (64,000 service units) NCSA IA-32 cluster (10,000 service units) NCSA Xeon Linux cluster (62,000 service units)	2003–2004
"Merger-Driven Turbulence in Clusters of Galaxies" (UVA207) San Diego Cray T3E (40,000 service units)	1999–2000
"Cooling Flow Evolution in Clusters of Galaxies" (AST970002P/UVA207) PSC Cray T3E (33,500 service units) Texas Cray T3E (9,000 service units) San Diego Cray T3E (11,000 service units)	1997–1999

Department of Energy

"Testing Active Galaxies as a Magnetic Field Source in Clusters of Galaxies" (AST019) NCCS Cray XT4/XT5 (6,550,000 service units)	2009–2011
"Petascale Optimization of an Astrophysical Simulation Code" ALCF Surveyor BlueGene/P (100,000 service units)	2009–2011
"Galaxy Cluster Radio Halos over Cosmic Time" (AST010) NCCS Cray XT3/XT4 (500,000 service units)	2007

COURSES TAUGHT

University of Illinois at Urbana-Champaign

ASTR 100, "Perspectives in Astronomy" (undergraduate)	2003

ASTR 210, "Introduction to Astrophysics" (undergraduate)	2014, 15
ASTR 310, "Computing in Astronomy" (undergraduate)	2019, 20
ASTR 350, "Introduction to Cosmology" (undergraduate)	2005, 07, 08, 09*, 10, 14
ASTR 404, "Stellar Astrophysics" (undergraduate)	2009, 10, 16, 17*
ASTR 496/596CAC, "Computational Astrophysics and Cosmology" (graduate/undergraduate)	2003*, 06, 10
ASTR 496/596PCA, "Python for Computational Astrophysics" (graduate/undergraduate)	2011
ASTR 502, "Astrophysical Dynamics" (graduate)	2011, 13, 15
ASTR 504, "Theoretical Stellar Physics" (graduate)	2018
ASTR 510, "Computational Astrophysics" (graduate)	2012, 16, 19

Indiana University Northwest

AST 200, "Introduction to Cosmology" (undergraduate)	1996

*On UIUC List of Teachers Ranked as Excellent by Their Students.

Public and Professional Service

Discipline

Scientific Organizing Committee, Midwest Workshop on Supernovae and Transients	2019
External Collaboration Review Committee, Dark Energy Survey Collaboration (chair 2018–)	2017–
Institutional Representative for UIUC/NCSA, Dark Energy Survey Collaboration	2016–
Scientific Organizing Committee, Type Ia Supernovae: Progenitors, Explosions, and Cosmology conference	2014
Chair, Local Organizing Committee, Spring 2014 Dark Energy Survey Collaboration Meeting	2013–2014
Meeting Steering Committee, Dark Energy Survey collaboration meetings	2006–
Scientific Organizing Committee, SciDAC 2011 Conference	2011
Editorial board, Computational Science and Discovery	2009–2014
NSF peer review panels	2010, 12, 15, 18
NASA peer review panels	2003, 06, 08, 14
DOE ASCR peer review panels	2015, 16, 17 (chair)
Referee for Developmental Allocation computer time proposals to NCSA	2004–2009

Peer reviewer for Astrophysical Journal, Astrophysical Journal Letters, Monthly Notices of the Royal Astronomical Society, Astronomy & Astrophysics, Physics of Fluids, Nature, Computing in Science and Engineering, Journal of Computational Physics, Computer Physics Communications	2001–
Co-developer and FLASH1 code architect, ASCI FLASH hydrodynamics code	1999–
NCSA cyberinfrastructure software development: Teuthis simulation management tool	2002–2008
Co-author of Snowmass 2013 white paper: "Snowmass Computing Frontier: Computing for the Cosmic Frontier, Astrophysics, and Cosmology" Connolly, A., et al. (arXiv:1311.2841)	2013
Co-author of two Dark Energy Task Force white papers: "Dark Energy Studies: Challenges to Computational Cosmology" Annis, J., et al. (astro-ph/0510194) "An X-ray Galaxy Cluster Survey for Investigations of Dark Energy." Haiman, Z., et al. (astro-ph/0507013)	2005

University of Illinois

Executive Committee, College of Liberal Arts and Sciences	2018–2020
Blue Waters Allocation Committee	2013–2018
Organizing Committee, Imaging without Boundaries Conference	2010
Faculty Appeals Committee, College of Liberal Arts and Sciences	2010–2012
Steering Committee, Computational Science and Engineering Program	2009–

Department of Astronomy, University of Illinois

Executive Committee	2011–13, 15–17, 17–19
Faculty Search Committee (hired Neal Dalal)	2010–2011
Chair, Lecturer Search Committee	2016
Survey Science Fellowship Committee	2019
Chair, Department Computing Committee	2010–
Qualifying/Proficiency Examination Committee	2004, 05, 09, 11, 16
Graduate Program Director	2006–08, 10, 15–16, 17–
Undergraduate Academic Advisor	2004–2018

Public outreach

Public talk: "An Astrophotographer's Journey" Champaign-Urbana Astronomical Society	2019
Astronomy on Tap: "Siblings Who Share: Interacting Binary Stars," Urbana, IL	2017
Illinois Astronomy/LAS Eclipse Event, Goreville, IL	2017

"Ask an Astronomer" outreach sessions (7)   2016–
    UIAS monthly Observatory Open House, University of Illinois
Public talk: "Supernovae"   2016
    Observatory Open House, University of Illinois
PI and developer, Illinois Astrophysical Dynamics Demos (iADD) site 2014–
    (http://iadd.astro.illinois.edu)
Public talk: "The Bullet Cluster 1E0657-56"   2007
    University of Illinois Astronomical Society
Public talk: "The Formation of the Largest Objects in the Universe"   2004
    CTA Saturday Honors Astrophysics Lecture, University of Illinois
Public talk: "Simulating the Evolution of Clusters of Galaxies"   2003
    University of Illinois Astronomical Society

PUBLICATIONS

Refereed journal articles

Li, C.-J., Kerzendorf, W. E., Chu, Y.-H., Chen, T.-W., Do, T., Gruendl, R. A., Holmes, A., Ishioka, R., Leibundgut, B., Pan, K.-C., **Ricker, P. M.**, Weisz, D. "Search for Surviving Companions of Progenitors of Young LMC Type Ia Supernova Remnants." 2019, ApJ, 886, 99

Holgado, A. M. and **Ricker, P. M.** "Gravitational Waves from Supernova Mass Loss and Natal Kicks in Close Binaries." 2019, MNRAS, 490, 5560

Holgado, A. M. and **Ricker, P. M.** "Gravitational Radiation from Close Binaries with Time-Varying Masses." 2019, ApJ, 882, 39

Holgado, A. M., Sesana, A., Sandrinelli, A., Covino, S., Treves, A., Liu, X., and **Ricker, P. M.** "Pulsar Timing Constraints on the Fermi Massive Black-Hole Binary Blazar Population." 2018, MNRAS, 481, L74

Abbott, T. M. C. et al. (DES Collaboration) "Dark Energy Survey Year 1 Results: Cosmological Constraints from Galaxy Clustering and Weak Lensing." 2018, PRD, 98, 043526

García-Segura, G., **Ricker, P. M.**, and Taam, R. E. "Common Envelope Shaping of Planetary Nebulae." 2018, ApJ, 860, 19

Abbott, T. M. C. et al. (DES Collaboration) "The Dark Energy Survey Data Release 1." 2018, ApJS, 239, 18

Mao, Y., Kovacs, E., Heitmann, K., Uram, T. D., Benson, A. J., Campbell, D., Cora, S. A., DeRose, J., Di Matteo, T., Habib, S., Hearin, A. P., Kalmbach, J. B., Krughoff, K. S., Lanusse, F., Lukić, Z., Mandelbaum, R., Newman, J. A., Padilla, N., Paillas, E., Pope, A., **Ricker, P. M.**, Ruiz, A. N., Tenneti, A., Vega-Martínez, C.,

Wechsler, R. H., Zhou, R., and Zu, Y. "DESCQA: An Automated Validation Framework for Synthetic Sky Catalogs." 2018, ApJS, 234, 36

Holgado, A. M., **Ricker, P. M.**, and Huerta, E. A. "Gravitational Waves from Accreting Neutron Stars Undergoing Common-Envelope Inspiral." 2018, ApJ, 857, 1

Vijayaraghavan, R. and **Ricker, P. M.** "The Co-Evolution of a Magnetized Intracluster Medium and Hot Galactic Coronae: Magnetic Field Amplification and Turbulence Generation." 2017, ApJ, 841, 38

Litke, K. C., Chu, Y.-H., Holmes, A., Santucci, R., Blindauer, T., Gruendl, R. A., Li, C.-J., Pan, K.-C., **Ricker, P. M.**, and Weisz, D. R. "Nature of the Diffuse Source and Its Central Point-Like Source in SNR 0509-67.5." 2017, ApJ, 837, 111

Li, C.-J., Chu, Y.-H., Gruendl, R. A., Weisz, D., Pan, K.-C., Points, S. D., **Ricker, P. M.**, Smith, R. C., and Walter, F. M. "Physical Structures of the Type Ia Supernova Remnant N103B." 2017, ApJ, 836, 1

Gammie, C. F., Liao, W.-T., and **Ricker, P. M.** "A Hot Big Bang Theory: Magnetic Fields and the Early Evolution of the Protolunar Disk." 2016, ApJ, 828, 58

Foreman, G., Chu, Y.-H., Gruendl, R., Hughes, A., Fields, B., and **Ricker, P.** "Cross Validation for Spatial Modeling of Fermi Gamma Rays: The Small Magellanic Cloud." 2016, ApJ, submitted

Chamberlain, R. T., Dalal, N., Hearin, A., and **Ricker, P. M.** "Probing Satellite Quenching with Galaxy Clustering." 2015, MNRAS, 451, 1496

Foreman, G., Chu, Y.-H., Gruendl, R., Hughes, A., Fields, B., and **Ricker, P.** "Spatial and Spectral Modeling of the Gamma-Ray Distribution in the Large Magellanic Cloud." 2015, ApJ, 808, 44

Pan, K.-C., **Ricker, P. M.**, and Taam, R. E. "Simulations of the Symbiotic Recurrent Nova V407 Cyg. I. Accretion and Shock Evolution." 2015, ApJ, 806, 27

Vijayaraghavan, R. and **Ricker, P. M.** "Ram Pressure Stripping of Hot Coronal Gas from Group and Cluster Galaxies and the Detectability of Surviving X-ray Coronae." 2015, MNRAS, 449, 2312

Vijayaraghavan, R., Gallagher, J. S., and **Ricker, P. M.** "The Dynamical Origin of Early-Type Dwarfs in Galaxy Clusters: A Theoretical Investigation." 2015, MNRAS, 447, 3623

Pan, K.-C., **Ricker, P. M.**, and Taam, R. E. "Search for Surviving Companions in Type Ia Supernova Remnants." 2014, ApJ, 792, 71

Dubey, A., Antypas, K., Calder, A. C., Daley, C., Fryxell, B., Gallagher, J. B., Lamb, D. Q., Lee, D., Olson, K., Reid, L. B., Rich, P., **Ricker, P. M.**, Riley, K. M., Rosner, R., Siegel, A., Taylor, N. T., Weide, K., Timmes, F. X., Vladimirova, N.,

and ZuHone, J. "Evolution of FLASH, a Multiphysics Scientific Simulation Code for High Performance Computing." 2014, Intl. J. High Perf. Comp., 28, 225

Vijayaraghavan, R. and **Ricker, P. M.** "Pre-Processing and Post-Processing in Group-Cluster Mergers." 2013, MNRAS, 435, 2713

Knebe, A., Pearce, F. R., Lux, H., Ascasibar, Y., Casado, J., Elahi, P., Behroozi, P., Diemand, J., Dolag, K., Dominguez-Tenreiro, R., Falck, B., Gottlöber, S., Han, J., Klypin, A., Lukić, Z., Maciejewski, M., McBride, C. K., Merchán, M. E., Corbett-Moran, C., Muldrew, S. I., Neyrinck, M., Onions, J., Quilis, V., Planelles, S., Potter, D., Rasera, Y., **Ricker, P. M.**, Ruiz, A. N., Roy, F., Sgró, M. A., Springel, V., Stadel, J., Sutter, P. M., Tweed, D., and Zemp, M. "Structure Finding in Cosmological Simulations: The State of Affairs." 2013, MNRAS, 435, 1618

Pan, K.-C., **Ricker, P. M.**, and Taam, R. E. "Evolution of Post-Impact Remnant Helium Stars in Type Ia Supernova Remnants within the Single-Degenerate Scenario." 2013, ApJ, 773, 49

Yang, H.-Y., Sutter, P. M., and **Ricker, P. M.** "Theoretical Uncertainties of AGN Subgrid Models in Predictions of Galaxy Cluster Observable Properties." 2012, MNRAS, 427, 1614

Yang, H.-Y., Ruszkowski, M., **Ricker, P. M.**, Zweibel, E., and Lee, D. "The Fermi Bubbles: Supersonic AGN Jets with Anisotropic Cosmic Ray Diffusion." 2012, ApJ, 761, 185

Pan, K.-C., **Ricker, P. M.**, and Taam, R. E. "Evolution of Post-Impact Companion Stars in SNIa Remnants within the Single-Degenerate Scenario." 2012, ApJ, 760, 21

Sutter, P. M. and **Ricker, P. M.** "A First Estimate of Radio Halo Statistics from Large-Scale Cosmological Simulation." 2012, ApJ, 759, 92

Dubey, A., Daley, C., ZuHone, J., **Ricker, P. M.**, Weide, K., and Graziani, C. "Imposing a Lagrangian Particle Framework on an Eulerian Hydrodynamics Infrastructure in FLASH." 2012, ApJS, 201, 27

Pan, K.-C., **Ricker, P. M.**, and Taam, R. E. "Impact of Type Ia Supernova Ejecta on Binary Companions in the Single-Degenerate Scenario." 2012, ApJ, 750, 151

Ricker, P. M. and Taam, R. E. "An AMR Study of the Common Envelope Phase of Binary Evolution." 2012, ApJ, 746, 74

Sutter, P. M., Yang, H.-Y., **Ricker, P. M.**, Foreman, G., and Pugmire, D. "An Examination of Magnetized Outflows from Active Galactic Nuclei in Galaxy Clusters." 2012, MNRAS, 419, 2293

Knebe, A., Knollmann, S. R., Muldrew, S. I., Pearce, F. R., Aragon-Calvo, M. A., Ascasibar, Y., Behroozi, P. S., Ceverino, D., Colombi, S., Diemand, J., Dolag, K., Falck, B. L., Fasel, P., Gardner, J., Gottlöber, S., Hsu, C.-H., Iannuzzi, F., Klypin,

A., Lukić, Z., Maciejewski, M., McBride, C., Neyrinck, M. C., Planelles, S., Potter, D., Quilis, V., Rasera, Y., Read, J. I., **Ricker, P. M.**, Roy, F., Springel, V., Stadel, J., Stinson, G., Sutter, P. M., Turchaninov, V., Tweed, D., Yepes, G., and Zemp, M. "Haloes Gone MAD: The Halo-Finder Comparison Project." 2011, MNRAS, 415, 2293

Taam, R. E. and **Ricker, P. M.** "Common Envelope Evolution." 2010, New Astr. Rev., 54, 65

Yang, H.-Y., Bhattacharya, S., and **Ricker, P. M.** "The Impact of Cluster Structure and Dynamical State on Scatter in the Sunyaev-Zel'dovich Flux-Mass Relation." 2010, ApJ, 725, 1124

Sutter, P. M. and **Ricker, P. M.** "Examining Subgrid Models of Supermassive Black Holes in Cosmological Simulation." 2010, ApJ, 723, 1308

Pan, K. C., **Ricker, P. M.**, and Taam, R. E. "Impact of Type Ia Supernova Ejecta on a Helium-Star Binary Companion." 2010, ApJ, 715, 78

ZuHone, J. A., **Ricker, P. M.**, Lamb, D. Q., and Yang, H.-Y. "A Line-of-Sight Galaxy Cluster Collision: Simulated X-Ray Observations." 2009, ApJ, 699, 1004

Yang, H.-Y., **Ricker, P. M.**, and Sutter, P. M. "The Influence of Concentration and Dynamical State on Scatter in the Galaxy Cluster Mass-Temperature Relation." 2009, ApJ, 699, 315

ZuHone, J. A., Lamb, D. Q., and **Ricker, P. M.** "Rings of Dark Matter in Collisions between Clusters of Galaxies." 2009, ApJ, 696, 694

Sutter, P. M. and **Ricker, P. M.** "Detecting Dark Matter-Dark Energy Coupling with the Halo Mass Function." 2008, ApJ, 687, 7

Heitmann, K., Lukić, Z., Fasel, P., Habib, S., Warren, M. S., White, M., Ahrens, J., Ankeny, L., Armstrong, R., O'Shea, B., **Ricker, P. M.**, Springel, V., Stadel, J., and Trac, H. "The Cosmic Code Comparison Project." 2008, Comp. Sci. Disc., 1, 015003

Voevodkin, A., Miller, C. J., Borozdin, K., Heitmann, K., Habib, S., **Ricker, P.**, and Nichol, R. C. "X-Ray Observations of Optically Selected Giant Elliptical-Dominated Galaxy Groups." 2008, ApJ, 684, 204

Wik, D. R., Sarazin, C. L., **Ricker, P. M.**, and Randall, S. W. "The Effect of Galaxy Cluster Mergers on Cosmological Parameter Estimation from Surveys of the Sunyaev-Zel'dovich Effect." 2008, ApJ, 680, 17

Ricker, P. M. "A Direct Multigrid Poisson Solver for Oct-Tree Adaptive Meshes." 2008, ApJS, 176, 293

Sutter, P. M. and **Ricker, P. M.** "Structure and Evolution of Zel'dovich Pancakes as Probes of Dark Energy Models." 2008, ApJ, 674, 1

Ricker, P. M. and Taam, R. E. "The Interaction of Stellar Objects within a Common Envelope." 2008, ApJ, 672, L41

Lukić, Z., Heitmann, K., Habib, S., Bashinsky, S., and **Ricker, P. M.** "The Halo Mass Function: High Redshift Evolution and Universality." 2007, ApJ, 671, 1160

Heitmann, K., Lukić, Z., Habib, S., and **Ricker, P. M.** "Capturing Halos at High Redshifts." 2006, ApJ, 642, L85

Heitmann, K., **Ricker, P. M.**, Warren, M. S., and Habib, S. "Robustness of Cosmological Simulations I: Large Scale Structure." 2005, ApJS, 160, 28

Brown, E. F., Calder, A. C., Plewa, T., **Ricker, P. M.**, Robinson, K., and Gallagher, J. B. "Type Ia Supernovae: Simulations and Nucleosynthesis." 2005, Nuc. Phys. A, 758, 451

Gardini, A. and **Ricker, P. M.** "Simulations of Hot Bubbles in the ICM." 2004, MPLA, 19, 2317

Calder, A., Dursi, J., Fryxell, B., Plewa, T., Weirs, G., DuPont, T., Robey, H., Kane, J., Remington, B., Timmes, F., Dimonte, G., Hayes, J., Zingale, M., Drake, P., **Ricker, P.**, Stone, J., and Olson, K. "Validating Astrophysical Simulation Codes." 2004, CiSE, 6, 10

Dimonte, G., Youngs, D. L., Dimits, A., Weber, S., Marinak, M., Wunsch, S., Garasi, C., Robinson, A., Andrews, M. J., Ramaprabhu, P., Calder, A. C., Fryxell, B., Biello, J., Dursi, L., MacNeice, P., Olson, K., **Ricker, P.**, Rosner, R., Timmes, F., Tufo, H., Young, Y.-N., and Zingale, M. "A Comparative Study of the Turbulent Rayleigh-Taylor Instability using High-Resolution Three-Dimensional Numerical Simulations: The Alpha-Group Collaboration." 2004, Phys. Fluids, 16, 1668

Alexakis, A., Calder, A. C., Heger, A., Brown, E. F., Dursi, L. J., Truran, J. W., Rosner, R., Lamb, D. Q., Timmes, F. X., Fryxell, B., Zingale, M., **Ricker, P. M.**, and Olson, K. "On Heavy Element Enrichment in Classical Novae." 2004, ApJ, 602, 931

Robinson, K., Dursi, L. J., **Ricker, P. M.**, Rosner, R., Linde, T., Zingale, M., Calder, A. C., Fryxell, B., Truran, J. W., Caceres, A., Olson, K., Riley, K., Siegel, A., and Vladimirova, N. "Morphology of Rising Hydrodynamic and Magnetohydrodynamic Bubbles from Numerical Simulations." 2004, ApJ, 601, 621

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Fryxell, B., Zingale, M., Timmes, F. X., Lamb, D. Q., Olson, K., Calder, A. C., Dursi, L. J., **Ricker, P.**, and Rosner, R. "Helium Detonations on Neutron Stars." 2000, in Proc. 10th Workshop on "Nuclear Astrophysics," W. Hillebrandt and E. Müller, eds. (Garching b. München, Germany: MPA/P12), 38

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Invited colloquia and conference talks

"Recombination Energy and Common Envelope Ejection." Talk, Common Envelope Evolution Workshop (invited), Center for Computational Astrophysics, Flatiron Institute, May 2019, New York, NY

"Double Core Evolution MCMLXXVIII – MMXVIII." Invited talk, Ron Taam Fest, October 2018, Taipei, Taiwan

"Common Envelope Evolution of Massive Stars." Invited talk, 8th East Asia Numerical Astrophysics Meeting, October 2018, Tainan, Taiwan

"Common Envelope Evolution of Massive Stars." Talk, IAU Symposium 346, August 2018, Vienna, Austria

"The Challenge of Common Envelope Evolution." Astronomy Colloquium, November 2017, University of Rochester, Rochester, NY

"Common Envelope Evolution of Massive Stars." Invited talk, ASTRONUM 2017, June 2017, Saint-Malo, France

"Common Envelope: Why It's Hard." Invited review talk, Common Envelope Evolution Meeting, Center for Computational Astrophysics, Flatiron Institute, May 2017, New York, NY

"Dealing with Grid Codes." Invited talk, The Mysteries and Inner Workings of Massive Stars, Kavli Institute for Theoretical Physics, April 2017, Santa Barbara, CA

"Common Envelope Evolution." Invited review talk, Phenomena, Physics, & Puzzles of Massive Stars and Their Explosive Outcomes, Kavli Institute for Theoretical Physics, March 2017, Santa Barbara, CA

"There Is Life after Stellar Middle Age." Computational Astrophysics Seminar, March 2017, Academia Sinica Institute for Astronomy and Astrophysics, Taipei, Taiwan

"There Is Life after Stellar Middle Age." Institute of Astronomy Colloquium, February 2017, National Tsing Hua University, Hsinchu, Taiwan

"Using Accelerator Hardware to Improve Sub-Resolution Modeling in Astrophysical Simulations." Invited talk, Fifth JLESC Workshop, June 2016, Lyon, France

"Simulations of Ram Pressure Stripping in Clusters of Galaxies." Invited talk, ASTRONUM 2016, June 2016, Monterey, CA

"Using Accelerator Hardware to Improve Sub-Resolution Modeling in Astrophysical Simulations." Faculty Fellow talk, April 2016, National Center for Supercomputing Applications, Urbana, IL

"Simulations of Galaxy Evolution in Clusters." Talk, Dark Energy Survey Collaboration Meeting, May 2015, University of Michigan, Ann Arbor, MI

"A History of Violence: Galaxies in Cluster Environments." Astrophysics colloquium, March 2015, Michigan State University, East Lansing, MI

"Strangled on Delivery: Galaxies in Cluster Environments." Invited talk, Santa Fe Cosmology Workshop, July 2014, Santa Fe, NM

"There Is Life after Stellar Middle Age." Astrophysics colloquium, March 2014, Princeton University, Princeton, NJ

"Using Accelerator Hardware to Improve Sub-Resolution Modeling." Invited talk, Exascale Computing in Astrophysics, September 2013, Ascona, Switzerland

"Diffuse Radio Emission from Galaxy Clusters." Invited talk, Santa Fe Cosmology Workshop, July 2013, Santa Fe, NM

"Radio Halo Statistics in Cosmological Simulations." Talk, SnowCLUSTER 2013 Meeting, March 2013, Snowbird Lodge, UT

"AGN Feedback and Mass-Observable Scatter in Galaxy Clusters." INPA Seminar, February 2013, Lawrence Berkeley National Laboratory, Berkeley, CA

"Revealing the Lives of Stars through Numerical Simulation." Computational Science and Engineering Seminar, January 2013, University of Illinois, Urbana, IL

"Magnetizing the Intracluster Medium with AGN Feedback." Institute of Astronomy Colloquium, November 2012, National Tsing Hua University, Hsinchu, Taiwan

"Binary Star Evolution within Common Envelopes." Computational Astrophysics Seminar, November 2012, Academia Sinica Institute for Astronomy and Astrophysics, Taipei, Taiwan

"Binary Star Evolution within Common Envelopes." Extreme Astrophysics Seminar, University of Michigan, October 2012, Ann Arbor, MI

"Magnetizing the Intracluster Medium with AGN Feedback." Physics HEP-Astro Seminar, University of Michigan, October 2012, Ann Arbor, MI

"Type Ia Supernova Progenitor Systems and Systematics Affecting Distance Measurements." Talk, IAU Symposium 289, August 2012, Beijing, China

"Effects of Dynamics and AGN Feedback on Cluster Mass-Observable Scatter." Talk, 28th IAU General Assembly, Special Session SpS2, August 2012, Beijing, China

"Cluster Galaxies: Why Are They Different?" Invited talk, Santa Fe Cosmology Workshop, July 2012, Santa Fe, NM

"Magnetizing the Intracluster Medium with AGN Feedback." Colloquium, University Observatory Munich, May 2012, Munich, Germany

"Effects of Dynamics and AGN Feedback on Cluster Mass-Observable Scatter." Talk, Institut d'Astrophysique de Paris, May 2012, Paris, France

"Effects of Dynamics and AGN Feedback on Cluster Mass-Observable Scatter." Talk, Dark Energy Survey Collaboration Meeting, May 2012, Max Planck Institute for Extraterrestrial Physics, Garching, Germany

"Magnetizing the Intracluster Medium with AGN Feedback." Astrophysics Colloquium, University of Minnesota, March 2012, Minneapolis, MN

"Simulating the Evolution of Galaxies and Clusters of Galaxies." Invited talk, Conference on Computational Physics 2011, November 2011, Gatlinburg, TN

"Effects of AGN on Galaxy Clusters." Invited talk, Santa Fe Cosmology Workshop, July 2011, Santa Fe, NM

"Magnetizing the ICM with AGN Feedback." Invited talk, Galaxy Clusters: The Crossroads of Astrophysics and Cosmology Workshop, Kavli Institute for Theoretical Physics, April 2011, Santa Barbara, CA

"Visualizing Data from Astrophysical Simulations." Invited talk, Imaging without Boundaries Workshop, Beckman Institute, October 2010, Urbana, IL

"The Impact of Cluster Physics on Scatter in Cluster Scaling Relations." Invited talk, Physics of the Intracluster Medium Workshop, August 2010, Ann Arbor, MI

"Galaxy Clusters as Cosmological Probes." Astronomy Department Colloquium, University of Illinois, August 2010, Urbana, IL

"Requirements and Science Goals for Sustained Petascale Astrophysics." Invited talk, SciApps 2010 Workshop, August 2010, Oak Ridge, TN

"Galaxy Cluster Mergers" and "Cosmological Simulation using FLASH." Invited talks, Santa Fe Cosmology Workshop, July 2010, Santa Fe, NM

"The Impact of Type Ia Supernova Ejecta on Binary Companions." Talk, International Conference on Binaries, June 2010, Mykonos, Greece

"Petascale Challenges for Cosmological Simulation." MCS Division Seminar, Argonne National Laboratory, June 2010, Argonne, IL

"Galaxy Clusters as Cosmological Probes." HEP Division Seminar, Argonne National Laboratory, January 2010, Argonne, IL

"Visualizing Data from Astrophysical Simulations." Invited talk, Imaging at Illinois Workshop, Beckman Institute, October 2009, Urbana, IL

"Numerical Simulation in Astrophysics and Cosmology." Invited talk, CScADS Workshop on Scientific Data and Analytics for Petascale Computing, August 2009, Tahoe City, CA

"Why Simulating the Intracluster Medium Is Harder than You Think." Invited talk, Santa Fe Cosmology Workshop, July 2009, Santa Fe, NM

"Petascale Development of FLASH." Talk, Institute for Advanced Computing Applications and Technologies (IACAT) Center for Petascale Computing meeting, May 2009, University of Illinois, Urbana, IL

"Petascale Challenges for Cosmological Simulation." Invited talk, SIAM Conference on Computational Science and Engineering, Minisymposium on Extreme-Scale Computational Astrophysics, March 2009, Miami, FL

"Galaxy Cluster Mergers." CFD Seminar, January 2009, Academia Sinica Institute for Astronomy and Astrophysics, Taipei, Taiwan

"Illinois Cluster Simulation Projects." Talk, Dark Energy Survey Collaboration Meeting, November 2008, Ohio State University, Columbus, OH

"Lessons Learned: Optimization of FLASH." Invited talk, Pathways to Blue Waters: Communication-Intensive Algorithms and Applications workshop, October 2008, Urbana, IL

"Solving the Poisson Equation on Multilevel Adaptive Meshes." Talk, Frontiers of Computational Astrophysics Conference, July 2008, Ascona, Switzerland

"Galaxy Clusters: Hot, Wild, and Out of Equilibrium." Invited review talk, Santa Fe Cosmology Workshop, July 2008, Santa Fe, NM

"Petascale Development of FLASH." Talk, Institute for Advanced Computing Applications and Technologies (IACAT) Center for Petascale Computing meeting, June 2008, University of Illinois, Urbana, IL

"Galaxy Cluster Radio Halos over Cosmic Time." Invited talk, Great Lakes Cosmology Workshop 9, June 2008, Carnegie-Mellon University, Pittsburgh, PA

"Galaxy Cluster Radio Halos over Cosmic Time." Los Alamos Dark Universe Project Meeting talk, May 2008, Los Alamos National Laboratory, Los Alamos, NM

"Detecting Dark Matter-Dark Energy Coupling using the Halo Mass Function." Talk, Cosmic Web Meeting, May 2008, National Radio Astronomy Observatory, Socorro, NM

"Sources of Scatter in Galaxy Cluster Mass-Observable Relations." Talk, The Warm/Hot Universe Conference, May 2008, Columbia University, New York, NY

"Galaxy Clusters as Probes of Dark Energy." ISR Colloquium, March 2008, Los Alamos National Laboratory, Los Alamos, NM

"Sources of Scatter in Cluster Mass-Observable Relations." ASIAA Colloquium, December 2007, Academia Sinica Institute for Astronomy and Astrophysics, Taipei, Taiwan

"Galaxy Cluster Radio Halos over Cosmic Time." TIARA Mini-Workshop on Numerical Simulations, December 2007, Academia Sinica Institute for Astronomy and Astrophysics, Taipei, Taiwan

"Overview and Status of FLASH." CFD Seminar, November 2007, Academia Sinica Institute for Astronomy and Astrophysics, Taipei, Taiwan

"Galaxy Cluster Radio Halos over Cosmic Time." Invited talk, Oak Ridge National Laboratory booth, Supercomputing 07, November 2007, Reno, NV

"Poisson Solvers in FLASH: Facts and Fiction." Review talk, Adaptive Mesh Simulations with FLASH, October 2007, Jacobs University, Bremen, Germany

"Binary Star Evolution within Common Envelopes." Theoretical Astrophysics Lunch Talk, October 2007, University of Illinois, Urbana, IL

"FLASH: Overview and Status." Invited talk, Durham Radiation Transfer Workshop, University of Durham, September 2007, Durham, UK

"Multigroup Boltzmann Transport on Adaptive Meshes using IBEAM." Talk, Durham Radiation Transfer Workshop, University of Durham, September 2007, Durham, UK

"Simulating Chandra X-Ray Observations of FLASH Adaptive-Mesh Datasets." Los Alamos Dark Universe Project Meeting talk, June 2007, Los Alamos, NM

"Sources of Scatter in Cluster Mass-Observable Relations." Invited talk, Great Lakes Cosmology Workshop 8, Ohio State University, May 2007, Columbus, OH

"Exascale Challenges Posed by Active Galaxy Feedback." Invited talk, Simulation and Modeling at the Exascale for Energy, Ecological Sustainability, and Global Security (E3SGS) Town Hall Meeting, May 2007, Oak Ridge, TN

"Scatter in Cluster Mass-Observable Relations." Los Alamos Dark Universe Project Meeting talk, March 2007, Los Alamos, NM

"Scatter in Cluster Mass-Observable Relations." Talk, Aspen Center for Physics Workshop, February 2007, Aspen, CO

"Teuthis: Simulation Management Cyberinfrastructure." Talk, Dark Energy Survey Collaboration Meeting, December 2006, University of Chicago, Chicago, IL

"Galaxy Cluster Simulations at NCSA using FLASH and Teuthis." NCSA booth talk, Supercomputing 2006, November 2006, Tampa, FL

"Using Galaxy Cluster Simulations to Study Dark Energy." Astrophysics seminar, University of Notre Dame, September 2006, South Bend, IN

"Early Halo Formation in Cosmological N-Body Simulations." Invited seminar, Program on the First Stars and Evolution of the Early Universe, June 2006, Institute for Nuclear Theory, University of Washington, Seattle, WA

"Cluster Mass-Observable Systematics via Adaptive-Mesh Simulations." Talk, Dark Energy Survey Collaboration Meeting, May 2006, Autonomous University of Barcelona, Barcelona, Spain

"Managing Astrophysical Simulations with Teuthis." Talk, NCSA Cyber Applications and Communities Directorate meeting, May 2006, University of Illinois, Urbana, IL

"Implementing Effects Due to Stellar Evolution in a Cosmological Simulation Code." NCSA booth talk, Supercomputing 2005, November 2005, Seattle, WA

"High-Performance Computing Challenges in Numerical Cosmology." Invited talk, NSF High-Performance Computing Town Hall Meeting, October 2005, Urbana, IL

"Combining Particle-Mesh Methods with Adaptive Mesh Refinement for Cosmological Simulation." Invited talk, Los Alamos Computer Science Institute Symposium, October 2005, Santa Fe, NM

"Simulating the Structural Evolution of Galaxy Clusters." Invited review talk, Santa Fe Cosmology Workshop, July 2005, Santa Fe, NM

"Using Simulations for Cluster Cosmology with the Dark Energy Survey." Talk, Dark Energy Survey Collaboration Meeting, May 2005, Fermi National Accelerator Laboratory, Batavia, IL

"Simulations of Merging Clusters of Galaxies." Solicited review talk, 35th COSPAR Scientific Assembly, July 2004, Paris, France

"Applying FLASH to Cosmological Problems" and "Adaptive-Mesh Simulations of Galaxy Cluster Formation." Invited talks, Durham FLASH/AMR Cosmology Workshop, June 2004, University of Durham, Durham, UK

"Galaxy Clusters and Cosmology." Cosmology Day Talk, April 2004, Los Alamos National Laboratory, Los Alamos, NM

"Numerical Methods in Large-Scale Structure Simulation." Electromagnetics Seminar, March 2004, Center for Computational Electromagnetics, University of Illinois, Urbana, IL

"Simulating the Intracluster Medium." V Division/IGPP Seminar, February 2004, Lawrence Livermore National Laboratory, Livermore, CA

"Cosmological Constraints from Clusters of Galaxies." Physics Department Colloquium, February 2004, University of Kansas, Lawrence, KS

"Cosmological Constraints from Clusters of Galaxies." High-Energy Physics Seminar, January 2004, University of Michigan, Ann Arbor, MI

"Particle Simulation using the FLASH Code." Invited talk, 2003 CFD-MHD Workshop in Astrophysics: Numerical Methods and Turbulence, Academia Sinica Institute for Astronomy and Astrophysics (ASIAA), December 2003, Taipei, Taiwan

"Adaptive Mesh Refinement Cosmological Simulation using FLASH." NCSA booth talk, Supercomputing 2003, November 2003, Phoenix, AZ

"Cosmological Constraints from Clusters of Galaxies." Theoretical Astrophysics Lunch Talk, November 2003, University of Illinois, Urbana, IL

"Implementing Particles in an Adaptive Mesh Refinement Hydrodynamics Code." Invited talk, Los Alamos Computer Science Institute Symposium, October 2003, Santa Fe, NM

"Hydrodynamical Simulation of Clusters of Galaxies." Astrophysics Seminar, October 2003, Ohio University, Athens, OH

"Cosmological Constraints from Clusters of Galaxies." Santa Fe Cosmology Workshop, July 2003, Santa Fe, NM

"Not-So-Tiny Bubbles." Talk, Aspen Center for Physics Workshop, May 2003, Aspen, CO

"The Dynamical Evolution of Clusters of Galaxies." Invited talk, May 2003, Los Alamos National Laboratory, Los Alamos, NM

"The Dynamical Evolution of Clusters of Galaxies." Astrophysics Seminar, April 2003, Northwestern University, Evanston, IL

"The Thermal Physics of Galaxy Cluster Mergers." Astrophysics Seminar, December 2002, Max Planck Institute for Astrophysics, Garching, Germany

"The Formation of Globular Clusters." Theoretical Astrophysics Lunch Talk, November 2002, University of Illinois, Urbana, IL

"Mergers between Clusters of Galaxies." Physics Department Colloquium, October 2002, University of Minnesota, Minneapolis, MN

"Systematic Effects of Cluster Physics on Large-Scale Structure." Talk, Aspen Center for Physics Workshop, June 2002, Aspen, CO

"Dynamical Effects of Mergers between Clusters of Galaxies." Astronomy Department Colloquium, January 2002, University of Illinois, Urbana, IL

"The Thermal Physics of Cluster Mergers." Astrophysics Research Group Seminar, August 2001, Carnegie-Mellon University, Pittsburgh, PA

"Cosmological Simulation using Adaptive Mesh Refinement." Cosmological Physics Lunch Seminar, May 2001, University of Chicago, Chicago, IL

"Simulating Self-Gravitating Flows with FLASH." Invited talk, April 2001, Max Planck Institute for Astrophysics, Garching, Germany

"The Structure of Self-Gravitating Hydrodynamic Turbulence." Tuesday UVa-NRAO Astronomy talk, February 2001, National Radio Astronomy Observatory, Charlottesville, VA

"Large-Scale Simulations of Clusters of Galaxies." Talk, VII International Workshop on Advanced Computing and Analysis Techniques in Physics Research (ACAT 2000), October 2000, Fermi National Accelerator Laboratory, Batavia, IL

"Production Version of FLASH: 1.61." ASCI Flash Center Site Review talk, October 2000, University of Chicago, Chicago, IL

"FLASH Code Status: May 2000." Talk, ASCI Flash Center Tri-Lab Science Team Meeting, May 2000, University of Chicago, Chicago, IL

"Numerical Simulations of Galaxy Cluster Mergers." Astronomy Research Group Seminar, March 2000, Queens University, Kingston, ON

"Numerical Simulations of Galaxy Cluster Mergers." CITA Seminar, March 2000, Canadian Institute for Theoretical Astrophysics, Toronto, ON

"Architecture of the FLASH Code." Talk, Utah Frameworks Meeting, February 2000, University of Utah, Salt Lake City, UT

"FLASH-1 Code Overview." ASCI Flash Center Site Review talk, October 1999, University of Chicago, Chicago, IL

"Numerical Simulations of Galaxy Cluster Mergers." Astronomy Department Colloquium, September 1999, University of Maryland, College Park, MD

"The Origin of the X-ray Cluster Luminosity-Temperature Relationship." Cluster Lunch talk, February 1999, University of Chicago, Chicago, IL

"The Origin of the X-ray Cluster Luminosity-Temperature Relationship." Tuesday UVa-NRAO Astronomy talk, December 1998, National Radio Astronomy Observatory, Charlottesville, VA

"The Cluster L_X-T_X Relation as a Cooling-Flow Merger Clock." Talk, Aspen Center for Physics Workshop, September 1998, Aspen, CO

"Cluster Mergers and Cooling Flow Evolution." ASCI Flash Center Seminar, June 1998, University of Chicago, Chicago, IL

"Off-Center Collisions between Clusters of Galaxies." Tuesday UVa-NRAO Astronomy talk, December 1996, National Radio Astronomy Observatory, Charlottesville, VA

Invited lectures

Invited lectures: Mini-School on Computational Astrophysics, October 2018, Academia Sinica Institute for Astronomy and Astrophysics, Taipei, Taiwan

Invited lectures: Python Crash Course and TIARA Summer School on Computational Astrophysics, July 2015, Academia Sinica Institute for Astronomy and Astrophysics, Taipei, Taiwan

"Computational Astrophysics." Invited lecture series, 16th Chris Engelbrecht Summer School in Computational Physics, January 2005, Alpine Heath Resort, Drakensberg, KwaZulu-Natal, South Africa

"Gravity, Particles, and Cosmology with FLASH." FLASH Tutorial talk, May 2004, University of Chicago, Chicago, IL