

CURRICULUM VITAE

Piero Madau

EMPLOYMENT HISTORY

2010–: Director, The Next Generation Telescopes Science Institute (NEXSI)
2010–: Distinguished Professor of Astronomy and Astrophysics, UC Santa Cruz
2000-10: Professor of Astronomy and Astrophysics, UC Santa Cruz
1999-00: Assistant Director of Research, Institute of Astronomy, Cambridge
1992-99: Astronomer, Space Telescope Science Institute
1989-92: Allan C. Davis Fellow, The Johns Hopkins University
1987-89: Postdoctoral Fellow, California Institute of Technology

2006: Sabbatical leave, Max Planck Institute for Astrophysics, Garching
2014: Sabbatical leave, University of Zurich/ETH

EDUCATION

1987: Ph.D., Astrophysics, International School for Advanced Studies, Trieste
1983: B.Sc., Physics, University of Florence

ACADEMIC ACTIVITIES

Professional Societies

1988-: American Astronomical Society
1997-: International Astronomical Union

Honors, Awards, and Fellowships

2014: Dannie Heineman Prize for Astrophysics, American Institute of Physics and American Astronomical Society
2014: Schroedinger Visiting Professor, Pauli Center for Theoretical Studies, University of Zurich/ETH
2014: B. Rossi Lectures, Arcetri Astronomical Observatory, Florence
2010: Arnold Rosenblum Memorial Lecture, Hebrew University, Jerusalem
2009: ISI Thomson Highly-Cited Researcher
2009: Innovative and Novel Computational Impact on Theory and Experiment (INCITE) DOE Award
2009: Raymond and Beverly Sackler Visiting Professor, Institute of Astronomy, Cambridge
2008: OASCR Breakthrough Report on Recent Significant Advancements in Computational Science
2007: Innovative and Novel Computational Impact on Theory and Experiment (INCITE) DOE Award
2005: Humboldt Prize, Alexander von Humboldt Foundation
2004: Bishop Lecturer, Columbia University
2000: B. Rossi Visiting Professor, Observatory of Arcetri, Florence
1999: Official Fellowship, Darwin College, University of Cambridge
1996: NASA/GSFC Group Award
1994: AURA Science Award
1989: Allan C. Davis Fellowship, The Johns Hopkins University
1983: International School for Advanced Studies Graduate Fellowship, Trieste
1983: Summa Cum Laude graduation from Florence University

Grant Support

2012: “Acquisition of a High-Performance Parallel Computing Cluster for Astrophysics Research at UC Santa Cruz” (PI), NSF MRI, \$1,300,000
2011: “From the First Massive Black Hole Seeds to the Supermassive Variety” (PI), NASA/ATP, \$365,289
2011: “Collaborative Research: CDI- Type II: Towards Analyzing Complex Petascale Datasets: The Milky Way Laboratory” (PI), NSF, \$815,828
2010: “Improved Cosmological Models of Gamma-Ray Attenuation” (co-I), NASA/Fermi, \$77,000
2009: “The Imprint of Galaxy Formation on the Intergalactic Environment” (PI), NSF, \$551,542
2009: “From the Earliest Seeds to Today’s Supermassive Black Holes” (PI), NASA/ATP, \$272,000
2008: “A WFC3 Grism Survey for Lyman Limit Absorption at $z = 2$ ” (co-I), NASA/HST, \$150,000
2008: “Modelling Gamma-Ray Attenuation” (co-I), NASA/GLAST, \$63,000

2008: “GLAST and Dark Matter Substructure in the Milky Way” (PI), NASA/GLAST, \$77,000
2007: “New Synthesis Models of the Extragalactic Ionizing Background” (PI), NASA/HST, \$90,000
2006: “An ACS Prism Snapshot Survey for $z \sim 2$ Lyman Limit Systems” (co-I), NASA/HST, \$150,000
2005: “Acquisition of a Beowulf Cluster for a Center for Computational Astrophysics at the University of California, Santa Cruz” (co-I), NSF/MRI, \$1,100,000
2005: “The Low Redshift IGM Enrichment History” (co-I), NASA/HST, \$112,000
2004: “The Assembly, Merging, and Emission History of Supermassive Black Holes in Hierarchical Models of Galaxy Formation” (PI), NASA/ATP, \$268,000
2002: “A Multiwavelength Study of Normal and Active Galaxies at Early Epochs” (PI), NASA/LTSA, \$489,000
2002: “First Light in the Universe: Probing the End of the Dark Ages” (PI), NSF, \$223,000
2002: “The Great Observatories Origins Deep Survey: Imaging with ACS” (co-I), NASA/HST, \$64,000
2002: “Galaxy Interaction Simulations for Interpretation of HST Observations” (co-I), NASA/HST, \$90,000
2001: “The Ionization History of the Intergalactic Medium” (PI), NASA/ATP, \$67,000
1999: “The Physics of the Intergalactic Medium” (PI), European Research and Training Network, \$1,400,000
1999: “Research in Theoretical Astronomy” (co-I), PPARC (UK), \$2,000,000
1997: “The Ionization History of the Intergalactic Medium” (PI), NASA/ATP, \$91,000
1996: “Primeval Galaxies in the Hubble Deep Field”, (PI), NASA/HST, \$44,000

UNIVERSITY SERVICE

2013-14: Committee on Privilege and Tenure
2011-13: Committee on Academic Personnel
2008-10: Committee on Planning and Budget
2004-06: Committee on Academic Personnel
2005: Lick Director search committee
2004-05: Mathematics Department faculty search committee

Department of Astronomy & Astrophysics

2014: Graduate Student Admission Committee
2013: Ph.D. dissertation committee (A. Medling, V. Rahkov), Advance to candidacy committee (B. Wells)
2012: Ph.D. dissertation committee (V. Gonzalez), Advance to candidacy committee (J. Cornell)
2011: Advance to candidacy committee (A. Medling)
2010: Faculty search committee (chair), Advance to candidacy committee (V. Gonzalez, V. Rashkov)
2009: Advance to candidacy committee (B. Anderson, K. Schlaufman, A. Furniss)
2008-10: Associate Chair
2008: Conference Committee (Chair), Ph.D. dissertation committee (G. Novak, K. Fowler), Preliminary exam committee, Prize fellowship coordinator, Advance to candidacy committee (L. Ubaldi)
2007: Ph.D. dissertation committee (B. Baughman), Conference Committee (Chair)
2006: Advance to candidacy committee (K. Gilbert, G. Prochter), Preliminary exam committee
2005: Preliminary exam committee
2004: Preliminary exam committee, Advance to candidacy committee (B. Baughman, M. Kuhlen)
2003: Ph.D. dissertation committee (W. Zhang), Preliminary exam committee (chair)
2002: Advance to candidacy committee (T.J. Cox, B. Algood)
2001: Undergraduate advisory committee (chair), Ph.D. dissertation committee (R. Wechsler), Preliminary exam committee, Lick Observatory faculty search

OUTSIDE PROFESSIONAL ACTIVITIES

Service Activities

2014: NSF Astronomy and Astrophysics Review Panel
2013: Livio Gratton Prize Committee
2012: NASA Astrophysics Theory Program (ATP) Review Panel
2011: Deutsche Forschungsgemeinschaft Excellence Program Review Panel
2010: Ph.D. dissertation committee (Joseph Munoz Harvard, Pascal Oesch ETH)
2010: Deutsche Forschungsgemeinschaft Excellence Program Review Panel
2009-12: ESO E-ELT Science Working Group
2010: National Academy of Science Prioritization Panel on Optical and Infrared Astronomy from the Ground
2009: Deutsche Forschungsgemeinschaft Priority Program Review Panel

2008: DOE OASCR Panel on Scientific Challenges for Understanding the Quantum Universe and the Role of Computing at Extreme Scale
2008: NASA Science Mission Directorate Computational Modeling Capabilities Panel
2008: NASA Spitzer Telescope Cycle 5 Review Panel
2006: NASA Hubble Space Telescope Cycle 15 TAC
2005–: NASA Laser Interferometer Space Antenna (LISA) International Science Team
2004: Deutsche Forschungsgemeinschaft Priority Program Review
2004: “Galaxy-IGM Interactions” (KITP/UCSB), Program Coordinator
2003-06: Kavli Institute for Theoretical Physics, Advisory Board
2002: NASA Astrophysics Theory Program Review Panel
2001: NASA Hubble Space Telescope Cycle 11 Panel Review
2001: IAU Working Group on Particle Astrophysics
1997-99: NASA Next Generation Space Telescope Science Working Group
1995: NASA Compton GRO Fellowship Review Panel
1993: NASA Astrophysics Data Program Review Panel
1992: NASA Compton GRO Guest Investigator Program Review Panel
1990: NASA Long-Term Space Astrophysics Research Program Review Panel

Editorial Boards

2005: Annual Review of Astronomy and Astrophysics, Guest Editor
2003-2009: Journal of Cosmology and Astroparticle Physics

Lecture Series

2014: “The Light and Dark Side of Galaxy Formation”, Rossi Lectures at the Astronomical Observatory of Arcetri, Florence (3 lectures)
2009: “Cosmic Evolution of Baryons”, in First Light After the Dark Ages, School of Astrophysics “F. Lucchin”, Spineto (4 lectures)
2006: “The Astrophysics of Early Galaxy Formation”, in The Emission Line Universe: XVIII Canary Islands Winter School of Astrophysics, Tenerife (4 lectures)
2005: “The Thermal History of the Universe”, INPE Advanced Course, A Roadmap for Cosmology, San Paulo (5 lectures)
2003: “Joint Evolution of Black Holes and Galaxies”, Graduate School in Contemporary Relativity and Gravitational Physics, Villa Olmo, Como (5 lectures)
1999: “Global Properties of Galaxies”, National School of Astrophysics, Elba (3 lectures)
1997: “Observational Cosmology and Galaxy Evolution”, First Joint ON-OAC School, Rio de Janeiro (5 lectures)

Seminars, Colloquia, and Conference Talks (since 2000)

2014: UC Irvine, CITA, Moscow
2013: IAS Princeton, University of Chicago, Institut Astrophysique de Paris, University of Cambridge, University of Zurich
2012: Stockholm University, AAS Anchorage, MIT, University of Cambridge, UC Santa Barbara
2011: Hebrew University, University of Cambridge
2009: Carnegie Mellon University, University of Arizona, Caltech, Johns Hopkins University
2008: Harvard University, Observatory of Padua, University of Massachusetts, UC Santa Barbara
2007: MPE Garching, KIPAC Stanford, IAP, University of Oxford, European Southern Observatory, Astronomical Observatory of Trieste, University of Cambridge, MPA Garching
2006: UC Berkeley
2005: IAS Princeton, MPA Heidelberg, MPA Garching
2004: UC Santa Barbara, Columbia, ETH Zurich
2003: University of Washington, IAS Princeton, Carnegie Observatories of Washington
2002: European Southern Observatory, Observatory of Arcetri, University of Bologna, Caltech
2001: Leiden & Groningen (NOVA colloquium speaker), UC Berkeley, UC San Diego, University of Padua, Observatory of Trieste, University of Rome
2000: European Southern Observatory, Cambridge University

STUDENTS AND RESEARCH ASSOCIATES

Senior Thesis

Michael Obranovich (2009), Denise Spangler (2003), Tero Isotalo (2002)

Graduate Students

Valery Rashkov (Ph.D. 2013), Javiera Guedes (Ph.D. 2011), Xian Chen (Ph.D. 2010), Rudy Gilmore (Ph.D. 2009), Alberto Sesana (Insubria University, Ph.D. 2007), Michael Kuhlen (Ph.D. 2006), Marta Volonteri (University of Milan, Ph.D. 2002), Cristiano Porciani (ISAS Trieste, Ph.D. 1999), Lucia Pozzetti (University of Bologna, Ph.D. 1997), Francesco Haardt (ISAS Trieste, Ph.D. 1995).

Postdoctoral Associates

Ryan Cooke (2012), Annalisa Pillepich (2011), Sijing Shen (2010), Marcel Zemp (2006), Quingjuan Yu (2006), Juerg Diemand (Hubble Fellow 2004), Ben Metcalf (Hubble Fellow 2002), Jennifer Lotz (2002), Marta Volonteri (2002)

TEACHING

Fall 2013: ASTR 113 "Introduction to Cosmology"

Spring 2013: ASTR 113 "Introduction to Cosmology"

Spring 2012: ASTR 113 "Introduction to Cosmology"

Spring 2011: ASTR 113 "Introduction to Cosmology"

Winter 2011: ASTR 13 "Galaxies, Cosmology, and High Energy Astrophysics"

Winter 2010: ASTR 113 "Physical Cosmology"

Spring 2008: ASTR 240C "Galactic Stellar Systems"

Winter 2008: ASTR 113 "Physical Cosmology"

Spring 2006: ASTR 240C "Galactic Stellar Systems"

Winter 2005: ASTR 113 "Physical Cosmology"

Spring 2004: ASTR 240C "Galactic Stellar Systems"

Winter 2004: ASTR 113 "Physical Cosmology"

Winter 2003: ASTR 214 "Structure Formation in the Universe"

Fall 2002: ASTR 113 "Physical Cosmology"

Winter 2002: ASTR 240C "Galactic Stellar Systems"

Fall 2001: ASTR 113 "Physical Cosmology"

Spring 2001: ASTR 113 "Physical Cosmology"