

Astro2010 Panel on Galaxies Across Cosmic Time

Committee

C. Megan Urry

Chair

C. Megan Urry is the Israel Munson Professor of Physics and Astronomy at Yale University and has chaired the Department of Physics since 2007. She is also Director, Yale Center for Astronomy and Astrophysics. She received a Ph.D. in Physics from Johns Hopkins University in 1984, and a B.S. in Physics and Mathematics in 1977 from Tufts University. Following a postdoctoral position at MIT, she moved to the Space Telescope Science Institute, where she became a full astronomer before leaving for Yale in 2001. Her current research interests include the demographics of supermassive black holes, the co-evolution of galaxies and black holes, and the energetics of blazars. At Yale, Prof. Urry introduced peer learning techniques to first-year physics and created evening study sessions for physics students. Throughout her career she has been active on behalf of women in science, chairing committees and organizing meetings in Astronomy and Physics. She was elected to the American Academy of Arts and Sciences in 2008 and to the Connecticut Academy of Science & Engineering in 2007; she is a Fellow of American Women in Science Fellow (2006) and a Fellow of the American Physical Society (1999); and she received Annie Jump Cannon Award of the American Astronomical Society in 1990. She is a member of the American Astronomical Society, the AAS High Energy Astrophysics Division, the American Physical Society, the International Astronomical Union, and American Women in Science. She currently serves on the Council of the American Astronomical Society, AAS Committee on Public Policy, AAU NASA Presidential Working Group, Gemini Board of Directors, Radcliffe Science Advisory Board, and STScI Committee on Diversity (Chair). For the NRC she co-chaired the Committee on Astronomy and Astrophysics (10/20/2004 to 12/31/2007); was a member of the Board on Physics and Astronomy (10/9/2003 to 12/31/2007) and the Space Studies Board (7/1/2000 to 6/30/2004); served on the NRC Task Group on Space Astronomy and Astrophysics Panel on Galaxies and Stellar Systems (1997); and chaired the Committee on Review of Progress in Astronomy and Astrophysics toward the Decadal Vision (9/10/2004 to 2/28/2005). Other previous service includes the NASA Space Science Advisory Committee (1997-2000); SScAC Task Group on MO&DA (1998); AAS Committee on the Status of Women in Astronomy (2000-2003 as Chair, 1998-2000, 1994-1996, editor of STATUS Newsletter 1998-present); APS Committee on the Status of Women in Physics (2000-2002 & site visits); APS Astrophysics Division Executive Committee (1995-1997, 1999-2001); AAS Nominating Committee (1996-1998, 2001-2004 & Chair, 1997-1998); Franklin Bower Award Advisory Committee 2008; Maria Mitchell Award Advisory Committee 1997-1998; and HST, Spitzer, Chandra TAC Chairs.

Mitchell C. Begelman

Vice Chair

Dr. Mitchell Begelman is a professor of astrophysics and Chair of the Department of Astrophysical and Planetary Sciences at the University of Colorado at Boulder, and a Fellow of the Joint Institute for Laboratory Astrophysics of the University of Colorado and the National Institute of Standards and Technology. He received his Ph.D. in theoretical astrophysics from the University of Cambridge in 1978, and A.B. and A.M. degrees in physics from Harvard in 1974. He is the recipient of a Presidential Young Investigator Award, the Helen B. Warner Prize of the American Astronomical Society, an Alfred P. Sloan Foundation Fellowship and a Guggenheim Fellowship. Dr. Begelman's research interests encompass a wide range of topics in high-energy astrophysics, compact objects, active galaxies, galaxy formation, and the intergalactic medium. Dr. Begelman has served on the Interferometry Panel of the NRC's 1991 Astronomy Survey Committee and the NRC Committee on Astronomy and Astrophysics (CAA). He currently serves as Chair of the High Energy Astrophysics Division of the American Astronomical Society. In addition to numerous research articles, he has authored or co-authored two popular science books, "Gravity's Fatal Attraction: Black Holes in the Universe" (with Martin Rees – winner of the 1996 American Institute of Physics Science Writing Award) and "Turn Right at Orion: Travels Through the Cosmos."

Neta A. Bahcall

Member

Dr. Neta A. Bahcall is the Eugene Higgins Professor of Astrophysics at Princeton University. She received her B.S. in Physics and Mathematics from Hebrew University, Israel, in 1963, her M.S. in Physics from the Weizmann Institute of Science, Israel, in 1965, and her Ph.D. in Astrophysics from Tel Aviv University, Israel, in 1970. Following her Ph.D., Dr. Bahcall went to the California Institute of Technology (1970-71), Princeton University (1971-1983), the Space Telescope Science Institute (1983-1989), and then to Princeton University where she became a Professor of Astrophysical Sciences. Her research interests include observational cosmology, dark matter and the mass-density of the universe, the large-scale structure of the universe, clusters of galaxies, formation and evolution of structure, and quasars and their environment. Dr. Bahcall has received numerous awards, including the William T. Patten Distinguished Lecturer from Indiana University (2007), the Distinguished Caroline Herschel Visitor from the Space Telescope Science Institute (2007), and the Sackler Scholar from Tel-Aviv University (2006). She has been Vice-President of the American Astronomical Society (1995-1998), Director of the Board for the Association of Universities for Research in Astronomy (1990-95), Director of the Council on Science and Technology of Princeton University (2000-), and a member of the Astronomy and Astrophysics Advisory Committee (2003-). She has served on the NRC's U.S. National Committee for the International Astronomical Union and the 2007 NAS Award for Scientific Reviewing Selection Committee. She is a member of the National Academy of Sciences.

Andrew J. Baker

Member

Dr. Andrew Baker is an Assistant Professor in the Department of Physics and Astronomy at Rutgers, the State University of New Jersey. He earned his Ph.D. in Astronomy and Astrophysics in 2000 from the California Institute of Technology. He is an experienced extragalactic radio astronomer with broad interests in the formation and evolution of galaxies at low and high redshift. Dr. Baker currently serves as a member of the Science Advisory Group for the Expanded Very Large Array, the Atacama Large Millimeter/Submillimeter Array (ALMA) Science Advisory Committee, and the ALMA North American Science Advisory Committee, the last of which he chaired 2007-08.

Romeel Dave

Member

Dr. Romeel Davé is currently an Assistant Professor of Astronomy at the University of Arizona. He earned his Ph.D. in Astronomy from University of California at Santa Cruz in 1998, and was a Lyman J. Spitzer Fellow at Princeton University and a Hubble Fellow at the University of Arizona. He joined the faculty at the University of Arizona in 2003. His work centers on using cosmological hydrodynamic simulations to understand galaxy formation and intergalactic medium evolution within a hierarchical structure formation context, focusing on constraining models through detailed comparisons versus multi-wavelength observations. He has a broad range of additional interests including constraining cosmological parameters, the epoch of reionization, the nature of dark matter, the stellar initial mass function, and numerical hydrodynamics. He is on the board of the Arizona Theoretical Astrophysics Program and the Arizona High Performance Computing Committee, and has served on various ground and space-based telescope time allocation committees. He has published over 50 refereed articles in professional journals.

Tiziana Di Matteo

Member

Dr. Tiziana Di Matteo is an Associate Professor of Physics with the McWilliams Center for Cosmology in the Physics Department at Carnegie Mellon University. She earned her Ph.D. in 1998 from University of Cambridge. She is a theorist with expertise in both high energy astrophysics and cosmology. She brings knowledge about state-of-the-art cosmological simulations of galaxy formation with detailed expertise in modeling the impact of black hole feedback on the formation of galactic structure. She has been a recipient of the 2008 Award for Excellence from the Carnegie Science Center. She has served on a number of NASA and NSF review panels for the division of Astronomical Sciences. She is a member of the Executive Committee for the APS Division of Computational Physics.

Henric S. Krawczynski

Member

Dr. Henric Krawczynski is an associate professor of physics at Washington University in St. Louis. He earned his Ph.D. in Astronomy and Astrophysics from Universität Hamburg in 1997. His work includes experimental, observational and theoretical astrophysics. Dr. Krawczynski has contributed to the design, construction, and operation of various ground based gamma-ray observatories including the Very Energetic Radiation Imaging Telescope Array System. He is also leading a detector development program for balloon-borne and space-borne hard X-ray and gamma-ray observatories, and is participating in the ProtoEXIST experiment. He has worked on the analysis and interpretation of radio, optical, X-ray and gamma-ray observations of supernova remnants, gamma-ray bursts, active galactic nuclei, and galaxy clusters. His theoretical activities include modeling of the broadband emission from blazars and radio galaxies. Dr. Krawczynski was awarded the Outstanding Junior Investigator award of the Department of Energy in 2004. He is currently a member of the Fermi User Group, and he is the Washington University representative to the Universities Space Research Association.

Joseph Mohr

Member

Dr. Joseph Mohr is a Professor of Astronomy and of Physics at the University of Illinois at Urbana-Champaign and a Research Scientist at the National Center for Supercomputing Applications. He earned his Ph.D. in 1995 from Harvard University. He works at the interface of theory and observation in the areas of structure formation and cosmology. He has experience in ground-based, space-based (X-ray, infrared) and computational astronomy and astrophysics, working to design and implement projects aimed at obtaining multi-wavelength observations of cosmic structures from recombination to the present. He has played a leading role in improving our understanding of galaxy cluster structure and evolution and in using galaxy clusters for the study of cosmology. Currently he is leading the development of the high performance computing-enabled data management system for the Dark Energy Survey. He served on the Chandra X-ray Observatory User Committee in the past and currently serves on the Science Advisory Group for the Expanded Very Large Array.

Richard F. Mushotzky

Member

Dr. Richard Mushotzky is a Senior Scientist with the Laboratory for X-ray Astronomy at the NASA Goddard Space Flight Center (GSFC). He earned his Ph.D. in 1976 from the University of California at San Diego, after which he became a NRC fellow at GSFC. He began working at GSFC as a civil servant in 1979. He has been involved in the acquisition, analysis and interpretation of data from many of the X-ray spectroscopy and imaging experiments flown in the last 15 years (e.g., OSO-7, OSO-8, HEAO-1, HEAO-2, EXOSAT, Ginga, ROSAT, BBXRT, ASCA, XMM, Chandra, Suzaku and XTE). He is presently an interdisciplinary scientist on the Chandra X-ray Observatory science working group, a Suzaku science advisory group member and a mission scientist on the XMM-Newton Science Advisory Group. He is also head of the guest observer facility for XMM-Newton. Dr. Mushotzky has supervised the Ph.D. theses of 11 students and has worked closely with numerous post-doctoral research fellows and other graduate students. He has received the NASA Medal for Exceptional Scientific Achievement in 1983 and 2003, the NASA Exceptional Achievement award in 2000, and the GSFC Lindsay Award for Scientific Achievement in 1985. His prime research areas are studies of active galactic nuclei, clusters of galaxies, elliptical galaxies, evolution of the elements, and cosmology. He has had a role in the development, planning and implementation of future X-ray observatories for over 20 years. Dr. Mushotzky has been an author or co-author of over 300 refereed papers and has written numerous review articles. He has been a member of several NRC committees, including the Task group on Space Astronomy and Astrophysics (1996-1997), the Committee on Astronomy and Astrophysics (2000-2003), and the U.S. National Committee for the International Astronomical Union (1999-2001).

Christopher S. Reynolds

Member

Dr. Christopher Reynolds is an Associate Professor of Astronomy at the University of Maryland at College Park, and is currently serving as the Director of the Maryland Astronomy Center for Theory and Computation. He received his Ph.D. in Astronomy and Astrophysics from University of Cambridge in 1996. He has a broad program of observational and theoretical research on black holes, including work on accretion disk theory (including large-scale magnetohydrodynamic simulations of disks), the properties of black hole jets, the influence of supermassive black holes on their galactic-scale environment, the physics of the intracluster medium in galaxy clusters, and the X-ray properties of active galactic nuclei and galactic black hole binaries. Dr. Reynolds has also led efforts to probe strong gravitational effects close to black holes using X-ray spectroscopy for which he was awarded the Helen B. Warner Prize of the American Astronomical Society (AAS) in 2005. Dr. Reynolds served on the Chandra X-ray Space Telescope Users Committee for five years (2003—2008), and he was chair of this committee for the last half of his term. He was also elected to the Executive Committee of the AAS High-Energy Astrophysics Division (2006—2008).

Alice Shapley

Member

Dr. Alice Shapley is an associate professor in the Department of Physics and Astronomy at the University of California at Los Angeles. She earned her Ph.D. in Astronomy and Astrophysics from the California Institute of Technology in 2003. She uses a broad range of observational tools, including ground- and space-based imaging and spectroscopy at optical and infrared wavelengths, to study the formation and evolution of galaxies. More specifically, her research includes studies of starburst galaxies, and high-redshift stellar populations and the intergalactic medium. Dr. Shapley has been awarded both Sloan and Packard Foundation Fellowships in support of her research program. Prior to joining the Department of Physics and Astronomy at UCLA, Dr. Shapley was a Miller Fellow at the University of California at Berkeley, and afterwards, she became an assistant professor at Princeton University. She has over 50 published articles in professional journals.

Tommaso Treu

Member

Dr. Tommaso Treu is an Associate Professor of Physics at the University of California at Santa Barbara. He received his Ph.D. in Astronomy and Astrophysics from the Scuola Normale Superiore, Pisa, Italy, in 2001. He is an observer with broad expertise in extragalactic astronomy and cosmology. He brings knowledge about both ground-based and space-based astronomy, mainly at optical and near-infrared (IR) wavelengths, but also in the X-ray and mid-IR bands. Dr. Treu has been a NASA Hubble Fellow and is currently an Alfred P. Sloan Research Fellow and David and Lucille Packard Research Fellow. He is also a recipient of a National Science Foundation CAREER award. Dr. Treu is a member of the Space Telescope Users Committee and of the University of California Observatory Advisory Committee. He has been a member of time allocation committees for the Hubble Space Telescope, the Spitzer Space Telescope, the Chandra X-Ray Observatory, the W.M. Keck Observatory, and a review panel for the National Science Foundation. He served as external referee for all major astronomical journals (The Astrophysical Journal, Monthly Notices of the Royal Astronomical Society, The Astronomical Journal, Astronomy & Astrophysics), and for the Italian Space Agency, Dutch Science Foundation, Chilean Science Foundation, British Science and Technology Facilities Council, and the Canadian Gemini Time Allocation Committee.

Jacqueline H. van Gorkom

Member

Dr. Jacqueline van Gorkom is a Professor of Astronomy and Department Chair at Columbia University. She received her Ph.D. from the Kapteyn Institute, The Netherlands, in 1980. She is an observational astronomer with a research focus on gas and galaxy evolution. Her main expertise is at radio wavelengths. She has served on numerous observatory visiting committees and is currently a member of the scientific advisory committees for the Expanded Very Large Array and the Dutch Radio Astronomical Observatory (ASTRON). She served until a year ago on the Board of ASTRON. She is also a corresponding member of the Royal Dutch Academy of Sciences (KNAW). Dr. van Gorkom has also served on the NRC's Committee on Radio Frequencies.

Eric M. Wilcots

Member

Dr. Eric Wilcots is a Professor of Astronomy and Associate Dean for Natural and Mathematical Sciences at the University of Wisconsin-Madison. He received his Ph.D. in Astronomy and Astrophysics in 1992 from University of Washington. He is an observer with broad expertise in the gas content and evolution of galaxies and galaxy groups and the impact of massive stars on the evolution of galaxies. This work includes understanding the distribution and kinematics of neutral hydrogen in and around galaxies, the impact of massive stars on their environment, and the role of active galactic nuclei in the evolution of galaxy groups and structure. He brings knowledge about radio, optical, and infrared astronomy. Professor Wilcots has served on the Users, Visitors, and Program Advisory Committees for the National Radio Astronomy Observatory. He was also a member of the Associated Universities, Inc. Committee on the Future of Radio Astronomy. He is a member of the Science Working Group for the International Square Kilometer Array project and a member of the Board of the Southern African Large Telescope. He has also served on the board of the Wisconsin-Indiana-Yale-National (WIYN) Optical Astronomical Observatory consortium. Dr. Wilcots served as Chair of the Department of Astronomy at UW-Madison before becoming an Associate Dean in the College of Letters & Science.