

Astro2020: Panel on Compact Objects and Energetic Phenomena

Committee

Deepto Chakrabarty

Chair

DEEPTO CHAKRABARTY is a professor of physics and former head of the Astrophysics Division at the Massachusetts Institute of Technology (MIT). Prior to joining the faculty, he was a NASA Compton GRO Postdoctoral Fellow at MIT. His research interests include observational high-energy astrophysics, neutron stars, accretion disks, and ultracompact stellar binaries. Chakrabarty is a fellow of the American Physical Society and is also the recipient of several awards and honors including the Bruno Rossi Prize in High Energy Astrophysics at the American Astronomical Society, the Alfred P. Sloan Research Fellowship, the Buechner Teaching Prize in Physics at MIT. Chakrabarty received his Ph.D. in physics from the California Institute of Technology. He has served on the Academies' Astro2010 Decadal Survey Panel on Stars and Stellar Evolution.

Laura B. Chomiuk

Member

LAURA B. CHOMIUK is an associate professor of physics and astronomy at Michigan State University (MSU). After completing her Ph.D., she was a Jansky Fellow of the National Radio Astronomy Observatory at the Smithsonian Astrophysical Observatory. She has far-ranging interests in transient and energetic phenomena, including novae, supernovae, and X-ray binaries, and she pursues these phenomena with multi-wavelength observations spanning radio to gamma-ray wavelengths. Dr. Chomiuk is a recipient of a Cottrell Scholarship and an NSF CAREER Award, along with an MSU Teacher-Scholar Award. She has a Ph.D. in astronomy from the University of Wisconsin, Madison. She has not previously served on an Academies' committee.

Daniel Holz

Member

DANIEL HOLZ is a professor in the Departments of Physics and Astronomy & Astrophysics, the Enrico Fermi Institute, and the Kavli Institute for Cosmological Physics at the University of Chicago. He held postdoctoral appointments at the Albert Einstein Institute (Max Planck Institute for Gravitational Physics), the Kavli Institute for Theoretical Physics in Santa Barbara, the Kavli Institute for Cosmological Physics at the University of Chicago, and as a Richard Feynman Fellow at Los Alamos National Laboratory. His research focuses on general relativity in the context of astrophysics and cosmology, and he is a member of the Laser Interferometer Gravitational-wave Observatory (LIGO) collaboration. He received a National Science Foundation CAREER Award, a Quantrell Award for Excellence in Undergraduate Teaching, and as a member of LIGO received the Breakthrough Prize in Fundamental Physics. He received a Ph.D. in physics from the University of Chicago. He has not previously served on an Academies' committee.

Raffaella Margutti

Member

RAFFAELLA MARGUTTI is an assistant professor of physics and astronomy at Northwestern University. Previously she was a Harvard Postdoctoral Fellow and a James Arthur Fellow at New York University. Her research focuses on transient astrophysical phenomena, including stellar explosions, stellar disruptions by supermassive black holes and compact-object mergers. Her most recent awards include the SLOAN Fellowship in Physics and the CIFAR Global Scholar Fellowship. She has a Ph.D. in physics and astronomy from University of Milano Bicocca. She has not previously served on an Academies' committee.

Julie McEnery

Member

JULIE MCENERY is a senior scientist of high energy astrophysics at NASA Goddard Space Flight Center. She is also the co-director of the Joint Space Science Institute of Goddard and the University of Maryland. She has served as the project scientist for the Fermi Mission and as deputy project scientist for the Wide Field Infrared Survey Telescope (WFIRST) Mission. Her research focuses on the study of extreme high-energy transients and the development of the ground and space-based observatories needed to pursue this. She is a fellow of the American Physical Society and a recipient of both the NASA Exceptional Scientific Achievement and the Outstanding Leadership Medals. She holds a Ph.D. in physics from University College Dublin. She has previously served on an Academies' committee.

Peter Istvan Meszaros

Member

PETER I. MÉSZÁROS is the Eberly Chair of Astronomy and Astrophysics and a professor of physics at the Pennsylvania State University. He is also the director of the Center for Particle and Gravitational Astrophysics at Penn State. His areas of research involve high energy astrophysics, cosmology, particle astrophysics, gamma ray bursts, and neutron stars. For the past two decades he has been primarily interested in theoretical aspects of high energy neutrino astrophysics and multi-messenger astrophysics. Awards and memberships include the American Astronomical Society's Rossi Prize, American Academy of Arts and Sciences, Hungarian Academy of Sciences, and the Einstein Professor of Chinese Academy of Sciences. He obtained a Ph.D. in astrophysics from the University of California, Berkeley. He has previously served on an Academies' committee.

Ramesh Narayan

Member

RAMESH NARAYAN (NAS) is the Thomas Dudley Cabot Professor of the Natural Sciences at the Center for Astrophysics, Harvard and Smithsonian, in the Astronomy Department. Previously, he was on the faculty at the University of Arizona. Dr. Narayan is a broad spectrum theorist with a particular interest in compact objects. His research spans a range of topics in high energy astrophysics, including both black holes and neutron stars; Galactic and extragalactic objects; and electromagnetic bands from radio to gamma-rays. He received a Ph.D. in physics from Bangalore University, India. He was elected to the National Academy of Sciences in 2013 and to the American Association for the Advancement of Science in 2010, he is a fellow of The World Academy of Sciences in 2015, and was elected a fellow of the Royal Society of London (FRS) in 2006. He has previously served on an Academies' committee.

Eliot Quataert

Member

ELIOT QUATAERT is a professor of astronomy and physics at the University of California, Berkeley. He is also the director of the Theoretical Astrophysics Center. Quataert is an astrophysics theorist who works on a wide range of problems, including stars and black holes, plasma astrophysics, and how galaxies form. He has received a number of national awards for his research, including the Warner Prize of the AAS, the Packard Fellowship, a Simons Investigator award from the Simons Foundation, and membership in the American Academy of Arts and Sciences. Quataert received his Ph.D. in astronomy from Harvard University. He has previously served on an Academies' Committees.

Scott M. Ransom

Member

SCOTT M. RANSOM is a tenured astronomer with the National Radio Astronomy Observatory (NRAO) in Charlottesville, VA, where he studies pulsars and gravitational waves. He is also a research professor with the Astronomy Department at the University of Virginia. He works on a wide variety of projects involving finding, timing, and exploiting pulsars of various types, using data from many different instruments and at energies from radio waves to gamma-rays. His main focus is on searching for exotic pulsar systems, such as millisecond pulsars and binaries. Once these pulsars are identified, he uses them as tools to probe a variety of basic physics, including tests of general relativity, the emission (and hopefully soon the direct detection) of gravitational waves (as part of the NANOGrav collaboration, of which he is the current chair), and the physics of matter at supra-nuclear densities. Previously, Ransom was a postdoctoral fellow at McGill University before joining NRAO as a staff astronomer. He won the American Astronomical Society's Helen B. Warner Prize "for a significant contribution to observational or theoretical astronomy during the five years preceding the award." He is a fellow of the American Physical Society and has authored or co-authored over 250 refereed publications including more than 20 in Nature and Science. He received his Ph.D. for astronomy from Harvard University. He has previously served on Academies' committees.

Todd A. Thompson

Member

TODD A. THOMPSON is a professor of astronomy at the Ohio State University. Thompson was formerly a Hubble Postdoctoral Fellow at the University of California, Berkeley, and a Lyman Spitzer Jr. Postdoctoral Fellow at Princeton University. His areas of research expertise include the mechanism of core-collapse supernovae, gamma-ray bursts, superluminous supernovae, heavy element nucleosynthesis, magnetars, wide-field transient surveys; star formation, feedback, galactic winds, cosmic rays and non-thermal emission from galaxies; binary systems, compact objects, few-body dynamics. Thompson was awarded an Alfred P. Sloan Foundation Fellowship, the Ohio State Alumni Award for Distinguished Teaching, a Simons Foundation Fellowship, and an IBM Einstein Fellowship from the Institute for Advanced Study (IAS), Princeton. He was recently a visiting junior professor while on sabbatical at the IAS. Dr. Thompson received his Ph.D. from the University of Arizona, Tucson, in physics. He has not previously served on an Academies' committee.