Committee on Solar and Space Physics (CSSP)

Committee

James H. Clemmons

Chair

JAMES H. CLEMMONS is a professor of Physics and Astronomy at the University of New Hampshire (UNH) and a member of the Space Science Center within the Institute for the Study of Earth, Oceans, and Space at UNH. Previously, Clemmons served as principal director of the Space Science Applications Laboratory at the Aerospace Corporation. Clemmons's primary research expertise is the experimental study of the geospace environment. Clemmons has participated in numerous sounding rocket and orbital investigations of phenomena within the Earth's ionosphere, mesosphere, thermosphere, and magnetosphere. Clemmons is a member of the ESA/NASA Lower Thermosphere-Ionosphere Science (ENLoTIS) working group. Clemmons received a Ph.D. in physics from the University of California, Berkeley. Clemmons served as vice-chair of the Panel for Atmosphere-Ionosphere-Magnetosphere Interactions in support of the National Academies 2013 Decadal Survey for Solar and Space Physics.

Laila Andersson

Member

LAILA ANDERSSON is a research scientist at the University of Colorado's Laboratory for Atmospheric and Space Physics (LASP) in Boulder. Andersson's research expertise is in space plasma, ionosphere and thermosphere dynamics of Earth and Mars, electric and magnetic fields, and the aurora. Andersson was co-investigator of the Magnetospheric Multiscale Mission (MMS), serving as part of the LASP team that developed instruments for the MMS-FIELDS investigation, co-investigator for the Global-scale Observations of the Limb and Disk (GOLD), and co-investigator for the Mars Atmosphere and Volatile Evolution (MAVEN) mission, which included serving as the Langmuir Probes and Waves instrument scientist. Andersson is the recipient of two of NASA's Exceptional Scientific Achievement Medals. Andersson received a Ph.D. in space physics from the University of Umea, Sweden.

Mahboubeh Asgari-Targhi

Member

MAHBOUBEH ASGHARI-TARGHI is an astrophysicist in the High Energy Division at the Harvard-Smithsonian Center for Astrophysics. Asgari-Targhi's primary research interests are the modeling and observations of the solar magnetic field, magnetohydrodynamic turbulence of the solar atmosphere and solar wind, and the application of these solar phenomena to other stars. Additional topics are stellar heating and galactic magnetic fields. Asgari-Targhi received a Ph.D. in applied mathematics from University College London, UK.

Barbara L. Giles

Member

BARBARA L. GILES is an emeritus astrophysicist of NASA's Goddard and Marshall Space Flight Centers, now continuing research and mission support as principal scientist at PolarWinds Research. Over a four-decade career at NASA, Giles held leadership roles in the development, management, and scientific execution of major heliophysics missions, including Polar, IMAGE (Imager for Magnetopause to Aurora Global Exploration), Radiation Belt Storm Probes, and the Magnetospheric Multiscale (MMS) mission, where Giles served as senior project scientist. Giles also served at NASA Headquarters as director of the Heliophysics Division, overseeing the agency's heliophysics research program and advancing multiple flagship and Explorer-class missions, and served a detail at the Office of Management and Budget supporting federal research and environmental policy analysis. An experimental space plasma physicist, Giles's research has focused on the Earth's magnetosphere and ionosphere, including ionospheric outflow, magnetosphere–ionosphere coupling, and the microphysics of magnetic reconnection, using satellite, rocket, and ground-based observations. Giles's honors include the NASA Outstanding Leadership Medal and the American Geophysical Union's Edward A. Flinn III Award. Giles received a Ph.D. in physics from the University of Alabama in Huntsville.

Roman G. Gomez

Member

ROMAN G. GOMEZ is a lead scientist at Southwest Research Institute. Gomez is the instrument scientist of the Space Weather Follow On (SWFO-L1) Solar Wind Plasma Sensor (SWiPS), the Lunar Vertex Magnetic Anomaly Particle Spectrometer (MAPS), and the instrument lead in-training on the Tandem Reconnection and Cusp Electrodynamics Reconnaissance Satellites (TRACERS) Analyzer of Cusp Ions (ACI). Gomez's research expertise is investigating the Earth's hydrogen geocorona and the near-interstellar medium with the Hot Plasma Composition Analyzers of the Magnetospheric Multiscale Mission (MMS-HPCA). Gomez was also the calibration lead for these instruments. Gomez received a Ph.D. in physics at Rice University.

Larisa P. Goncharenko

Member

LARISA P. GONCHARENKO is a research scientist at Massachusetts Institute of Technology Haystack Observatory, a multidisciplinary radio and remote sensing center. Goncharenko's research expertise includes physics of thermosphere and ionosphere; whole atmosphere coupling studies, with emphasis on ionosphere/thermosphere variability related to lower atmosphere drivers; waves and tides in the upper atmosphere; and basic and applied space weather. Goncharenko is a co-principal investigator for the U.S. National Science Foundation supported Millstone Hill Geospace Facility. Goncharenko is chair of the Coupling, Energetics, and Dynamics of Atmospheric Regions (CEDAR) Science Steering Committee, member of the program committee for the Space Weather Conference at the American Meteorological Society, and a former member of the NASA Heliophysics Advisory Committee. Goncharenko is a recipient of American Meteorological Society Outstanding Committee Service Certificate, CEDAR Prize Lecture Award, NASA Group Achievement Award, and MIT Excellence Award. Goncharenko’s graduate education in physics was at National Technical University “Kharkiv Polytechnic Institute” in Ukraine.

Hantao Ji

Member

HANTAO JI is a professor of astrophysical sciences and distinguished research fellow at the Princeton Plasma Physics Laboratory, Princeton University. Ji’s research expertise is in magnetic reconnection, magneto rotational instability in the lab, magnetic field effects in high-energy-density (HED) laser plasmas, including magnetic reconnection, magnetohydrodynamic surface waves and free-surface MHD flow in liquid metals, and dynamo effects in laboratory plasmas. Ji is a fellow of the American Physical Society, recipient of two Outstanding Mentor Awards from the Department of Energy, and Princeton’s Kaul Prize for Excellence in Plasma Physics Research and Technology Development. Ji received a Ph.D. in physics from the University of Tokyo.

David M. Klumpar

Member

DAVID M. KLUMPAR is emeritus (pending) research professor of physics at Montana State University, where Klumpar was founder and director of the Space Science and Engineering Laboratory (SSEL). At SSEL, more than 20 spaceflight missions have been conducted by students, faculty, and staff, including 12 free-flying CubeSats and a soon-to-launch experiment to be carried to the lunar surface. Klumpar served at NASA Headquarters for two years as program scientist for the Magnetospheric Multiscale Mission (MMS) and participated in the Heliophysics Division's entry into CubeSat-based investigations. An experimental space physicist, Klumpar's research interests have included solar and cosmic ray effects near Earth, magnetosphere-ionosphere coupling, and fields and particles investigations of the aurora borealis. Klumpar has used stratospheric balloons, rockets, and satellites to conduct this research. Klumpar received a Ph.D. in physics from the University of New Hampshire.

KD Leka

Member

KD LEKA is a senior research scientist at NorthWest Research Associates' Boulder, Colorado office. Leka's research expertise spans solar and space physics including solar active regions, spectropolarimetry and magnetic fields, and solar energetic event prediction. Leka has served as chair of the User's Committee of the National Solar Observatories and on a NASA Senior Review of Heliophysics Operating Missions. Leka received a Ph.D. in astronomy from the University of Hawai'i. Leka served as a member of the National Academies Committee for the Space Weather Operations and Research Infrastructure Workshop: Phase II.

Dana W. Longcope

Member

DANA W. LONGCOPE is a professor of the Department of Physics at Montana State University-Bozeman. Longcope's research interests include the study of the basic physics of magnetic fields in ionized plasmas and the application of these concepts to magnetic fields on the Sun. Longcope has studied the storage and release of magnetic energy in the Sun's corona through a process known as reconnection. Longcope is a recipient of a Faculty Early Career Development grant from the National Science Foundation (NSF), a Presidential Early Career Award for Science and Engineering, the Karen Harvey Prize from the Solar Physics Division of the American Astronomical Society, and the Arctowski Medal from the National Academy of Sciences. Longcope serves on the cross-agency Astronomy and Astrophysics Advisory Committee. Longcope received a Ph.D. in applied physics from Cornell University and is a member of the National Academy of Sciences. Longcope previously served on the committee for the Decadal Survey for Solar and Space Physics (Heliophysics) 2024-2033.

Jennifer (Jinni) L. Meehan

Member

JENNIFER (JINNI) LAUREN MEEHAN is senior manager for civil space programs in Lockheed Martin Government Affairs. In this capacity, Meehan is responsible for providing strategic marketing and business development support to the Lockheed Martin operating companies conducting business with the civil space elements of the U.S. government in the Washington, D.C. area, including the White House, NASA, and NOAA. Previously, Meehan was the National Space Weather Program manager at NOAA's National Weather Service and in this role led implementation of NOAA's mandated responsibilities of the Promoting Research and Observations of Space Weather to Improve the Forecasting of Tomorrow (PROSWIFT) Act and was selected for a one-year rotation assignment in NOAA's Office of Space Commerce. Following this, Meehan served as the assistant director of space policy at the White House, leading the nation's efforts for civil and commercial space policy. Meehan has received the Department of Commerce Gold Medal, two National Weather Service Isaac Cline Awards, NOAA's Order of Sherman's Lagoon Senior Executive Award, and received a challenge coin from the National Weather Service Director in recognition of excellence. Meehan received a Ph.D. in space physics from Utah State University.

Nicholas M. Pedatella

Member

NICHOLAS M. PEDATELLA is a scientist II in the High Altitude Observatory at the National Center for Atmospheric Research. Pedatella's primary research expertise is the variability and predictability of the mesosphere, thermosphere, and ionosphere, with a particular focus on the coupling of these regions with terrestrial weather. Pedatella has experience in the development and application of whole atmosphere general circulation models and data assimilation systems, as well as ground and space-based Global Navigation Satellite System (GNSS) observations. Pedatella has twice received the University Corporation for Atmospheric Research scientific and technical achievement award. Pedatella received a Ph.D. in aerospace engineering sciences from the University of Colorado at Boulder.

Nour E. Rawafi

Member

NOUR E. RAWAFI is principal professional staff and senior scientist at the Johns Hopkins Applied Physics Laboratory, Laurel, Maryland. Rawafi is the project scientist for NASA's Parker Solar Probe mission. Rawafi has held research positions at leading institutions, including the Observatory of Turin, the Max Planck Institute for Solar System Research, and the National Solar Observatory. Rawafi's research focuses on the dynamic solar corona and heliosphere, encompassing solar magnetic fields, polarimetry, coronal plumes and jets, coronal mass ejections and shocks, the solar wind, energetic particles, and cometary physics. Rawafi's work has been recognized with numerous honors, including the National Aeronautic Association Collier Trophy 2025, NASA Silver Achievement Medal, the American Astronomical Society Neil Armstrong Award, the International Academy of Astronautics Laurels Award, the National Space Club and Foundation's Nelson P. Jackson Award, and multiple NASA group achievement awards. An active member of the international scientific community, Rawafi is affiliated with organizations such as the International Academy of Astronautics, American Geophysical Union, American Astronomical Society, European Geoscience Union, Asia Oceania Geosciences Society, and the Committee on Space Research. Rawafi received a Ph.D. in astrophysics from Paris-Saclay University.

Wayne A. Scales

Member

WAYNE A. SCALES is Associate Vice Provost for Research and Diversity and the J. Byron Maupin Professor of Engineering at Virginia Tech. Scales is also a professor in the Bradley Department of Electrical and Computer Engineering and Kevin T. Crofton Department of Aerospace and Ocean Engineering. Scales is the founding director of the Virginia Tech Center for Space Science and Engineering Research. Scales' research expertise includes ground-based and space-based active space experiments, computational space plasma physics, ionospheric physics, dusty mesospheric space plasmas, and Global Navigation Satellite System (GNSS) remote sensing techniques. Scales serves on the Board of Trustees of the University Space Research Association and has served on the Committee of Visitors of the NSF Geospace Section and the National Astronomy and Ionospheric Center, and chairman of the sub-Commission on Dusty Space Plasmas and Active Experiments for the Committee on Space Research. Scales received a Ph.D. from Cornell University in electrical engineering and applied physics specializing in space plasma physics. Scales served as member-at-large on the National Academies U.S. National Committee for the International Union of Radio Science.

Phyllis L. Whittlesey

Member

PHYLLIS L. WHITTLESEY is a research scientist at the University of California, Berkeley Space Sciences Laboratory (SSL). Whittlesey’s expertise is in space plasma instrumentation and development and on the ways measurement techniques can affect scientific analysis. Whittlesey’s primary research interest is in large scale structures in the solar wind and in solar wind interactions with planetary magnetospheres all over the solar system. Whittlesey has been the lead or principal investigator of 6 low-energy electron electrostatic analyzers on missions such as Parker Solar Probe (PSP), Escape and Plasma Acceleration and Dynamics Explorers (EscaPADE), and the upcoming HelioSwarm mission. Whittlesey also worked on the calibration facility for the PSP Solar Probe Cup (SPC). Whittlesey has received the NASA Silver achievement award for work on PSP and the NASA Group achievement award as a member of the SPC calibration team. Whittlesey received a Ph.D. in space sciences from the University of Alabama in Huntsville.