

Curriculum Vitae

David John McComas, Ph.D.

PRESENT EMPLOYMENT – PRINCETON UNIVERSITY

Vice President for the Princeton Plasma Physics Laboratory (PPPL), 2016-
Professor of Astrophysical Sciences, 2016-
Associated Faculty in Mechanical and Aerospace Engineering 2019-

PREVIOUS EMPLOYMENT – SOUTHWEST RESEARCH INSTITUTE (SwRI)

Assistant Vice President, Space Science and Engineering Division, 2009-2016
Senior Executive Director, Space Science and Engineering Division, 2003-2009
Executive Director, Space Science and Engineering Division, 2000-2003

PREVIOUS EMPLOYMENT – LOS ALAMOS NATIONAL LABORATORY (LANL)

Founding Director, Center for Space Science and Exploration, 1998-2000
NASA Program Manager for LANL, 1997-2000
Group Leader, Space and Atmospheric Sciences (NIS-1), 1992-1998
Section Leader, Space Plasma and Planetary Physics, 1991-1992
Technical Staff Member, 1980-2000

EDUCATION

Ph.D. Geophysics & Space Physics, University of California, Los Angeles, 1986
M.S. Geophysics & Space Physics, University of California, Los Angeles, 1985
B.S. Physics, Massachusetts Institute of Technology, 1980

CONTINUING EDUCATION

Personal Executive Coaching, Dannielle Kennedy, PhD, 2016-
Personal Executive Coaching, B.A.F. Greene, MS, ICF Master Cert. Coach, 2009-2013
Program on Negotiation for Senior Executives, Harvard Law School, 2004
Building, Leading & Sustaining the Innovative Organization, MIT-Sloan School, 2003
Numerous leadership/management classes, Los Alamos National Laboratory, 1986-2000

NASA SPACE MISSION INVOLVEMENT

PI, Interstellar Mapping and Acceleration Probe (IMAP) Mission
 PI, Interstellar Boundary Explorer (IBEX) Mission
 PI, Two Wide-Angle Imaging Neutral-atom Spectrometers-TWINS Mission
 PI, Parker Solar Probe - Integrated Science Investigation of the Sun (ISOIS) instruments
 PI, ULYSSES Solar Wind Plasma experiment (SWOOPS)
 PI, Solar Wind Electron, Proton, Alpha Monitor (SWEPAM) as ACE Lead Co-I
 PI, Solar Wind Around Pluto (SWAP) instrument as New Horizons Lead Co-I
 PI, Jovian Auroral Distributions Experiment (JADE) instrument as Juno Lead Co-I
 Co-I, CASSINI Plasma Science Experiment (CAPS), Lead for IMS & IBS sensors
 Co-I, IMAGE Midsized Explorer, Lead for ENA sensor heads
 Co-I, GENESIS Discovery Mission
 Co-I, POLAR Thermal Ion Dynamics Experiment (TIDE)
 Co-I, CLUSTER Plasma Energy Angle Composition Experiment (PEACE)
 Co-I, STEREO solar wind experiment (IMPACT)

PREVIOUS DEPARTMENT OF ENERGY (DOE) SPACE MISSION INVOLVEMENT

PI, Series of 10 Magnetospheric Plasma Analyzers (MPAs)
 Co-I, Series of 10 Los Alamos Neutron Detectors (LANDs)
 Co-I, CRRES Plasma Ion Composition Instrument (LOMICS)

HONORS AND AWARDS

AGU's Eugene Parker - Bowie Lecturer in Solar and Heliospheric Physics, 2018
 Exceptional Public Service Medal, conferred by NASA Administrator in 2015
 Space Science Award, International Committee on Space Research (COSPAR), 2014
 Macelwane Medal, American Geophysical Union, 1993
 Fellow, American Physical Society (APS), awarded 2010
 Fellow, American Association for the Advancement of Science (AAAS), awarded 2007
 Fellow, American Geophysical Union (AGU), awarded 1993

NASA Silver Achievement Award, Parker Solar Probe Team, 2019
 NASA Group Achievement Award, Juno Mission Redesign Team, 2018
 NASA Group Achievement Award, Juno JADE-E300 Anomaly Recovery Team, 2017
 NASA Group Achievement Award, New Horizons Team, 2016
 Laurels for Team Achievement of the International Academy of Astronautics, 2016
 UCLA Earth, Planetary, and Space Sciences Dept. Distinguished Alumni Lecture, 2015
 NASA Group Achievement Award, Juno Orbital Studies Team, 2015
 NASA Group Achievement Award, Juno Earth Flyby Operations Team, 2014
 NASA Group Achievement Award, Juno JADE-I Thermal Anomaly Resolution, 2013
 Adler Planetarium Outstanding Science Education Partner of the Year Award, 2012
 NASA Group Achievement Award, Juno Science Team, 2012
 NASA Group Achievement Award, Juno JADE Instrument Team, 2012
 NASA Group Achievement Award, Juno Proposal Team, 2012
 NASA Group Achievement Award, IBEX Science Team, 2011

NASA/MSFC National Space Science & Tech Center Distinguished Lecturer, 2011
 NASA Group Achievement Award, Ulysses Mission Team, 2009
 NASA Group Achievement Award, Cassini Plasma Spectrometer Team, 2009
 NASA Group Achievement Award, New Horizons Spacecraft Development Team, 2007
 State of Texas Certificate of Excellence, 2006
 NASA Group Achievement Award, Rosetta Ion and Electron Sensor Team, 2005
 ESA Ulysses Achievement Award, 15 Years in Orbit, 2005
 ESA Certificate of Outstanding Contribution, Cluster's Exploration of Geospace, 2005
 NASA Group Achievement Award, Cluster Science Team, 2004
 NASA SEC Recognition Award for Chairmanship of SECAS, 2003
 Aviation Week & Space Technology, Technology Innovation Award, 2003
 NASA Group Achievement Award, IMAGE Mission Team, 2001
 NASA Group Achievement Award, Deep Space 1 PEPE' Experiment Team, 1999
 NASA/JPL Certificate of Appreciation, New Millennium – Deep Space 1 Team, 1999
 Patent Awards, Los Alamos National Laboratory, 1992, 1996, 1997, 1999
 NASA Group Achievement Award, Cassini Plasma Spectrometer Team, 1998
 NASA Group Achievement Award, Advanced Composition Explorer Team, 1998
 NASA Group Achievement Award, Global Geospace Science-TIDE Team, 1998
 NASA Special Recognition Award, Polar Instrument Refurbishment Team, 1995
 Team Distinguished Performance Award, Los Alamos National Laboratory, 1994
 NASA Group Achievement Award, Ulysses Jupiter Flyby Team, 1993
 NASA Group Achievement Award, Ulysses Spacecraft Development, Integration
 and Launch Support Team, 1993
 ESA Ulysses Project Award, 1991
 Team Distinguished Performance Award, Los Alamos National Laboratory, 1990
 Distinguished Performance Award, Los Alamos National Laboratory, 1989
 Advanced Study Program Fellowship, Los Alamos National Laboratory, 1984-1985
 Graduate Fellowship, Institute of Geophysics and Planetary Physics, 1983-1984
 Alvin H. Anderson Award for Outstanding Achievements in Physics (High School), 1976
 20th International Thomas A. Edison Award (High School), 1976
 God and Country Award, Boy Scouts of America, 1971
 Eagle Scout, Boy Scouts of America, 1971

PROFESSIONAL COMMITTEES, BOARDS, ACTIVITIES AND EDITORSHIPS

Review of Scientific Instruments (RSI) Editorial Advisory Board, 2020-
 Space Studies Board (SSB) of the National Academies, 2016-
 Board of Directors of Brookhaven National Laboratory Science Associates (BSA), 2016-
 Member of the BSA Human Resources & Compensation Committee, 2016-
 NASA Advisory Council - (NAC), 2013-2015
 NAC - Science Committee (NAC-SC), 2010-2015; 2013-2015 as Chair
 AGU SPA Fellows Committee, 2010-2012
 IBEX: Search for the Edge of the Solar System, 2009 planetarium show (Exec. Producer)
 NASA Solar Probe Science and Technology Definition Team, 2003-2008 (Chair)
 AGU Honors and Recognitions Committee, 2000-2004; 2006-2008
 ESA/NASA Solar Orbiter Science Definition Team, 2003-2006
 NASA Space Science Advisory Committee (SScAC), 2000-2003
 NASA Sun-Earth Connections Advisory Subcommittee (SECAS), 2000-2003 (Chair)

ESA/NASA Solar Orbiter Payload Definition Team, 2002-2003
 University of California (UC), Office of the President's Quinquennial Review Committee
 of the California Space Institute (CalSpace), 1999-2000
 LANL Threat Reduction Senior Executive Management Team, 1998-2000
 LANL Space Science and Exploration Steering Committee, 1997-2000 (Chair)
 NASA OSS Strategic Planning Workshop, Galveston, 1999
 NASA Sun-Earth Connections Advisory Subcommittee (SECAS), 1996-1999
 LANL Nonproliferation and International Security (NIS) Leadership Council
 1993-2000; 1993 and 1997 (Chair)
 LANL NIS Leadership Council Steering Committee, 1993
 LANL Deputy Director for Science, Technology, and Programs Search Committee, 1998
 AGU James B. Macelwane Medal Selection Committee, 1996-1998
 UC Office of the President's Quinquennial Review Committee of the Institute of
 Geophysics and Planetary Physics, 1996-1997
 NASA Integration Team: Sun-Earth Connections Strategic Planning, 1996-1997
 New Mexico State Office of Space Commercialization Review Committee, 1996
 NASA Space Physics Subcommittee, 1995-1996
 AGU *J. Geophys. Res.-Space Phys.* Editor Search Committee, 1995-1996
 AGU *J. Geophys. Res.-Space Phys.* Direction & Review Committee, 1995-1996
 National Research Council (NRC), Space Studies Board (SSB) Future of Space
 Science Study - Task Group on Research Prioritization, 1994-1996
 Convener, Solar Wind 8, Dana Point, California, 1995
 Associate Editor, AGU *J. Geophys. Res.-Space Phys.*, 1993-1994
 NRC, SSB/ASEB Committee on Space Science Technology Planning, 1992
 NRC Committee on Solar-Terrestrial Research (CSTR), 1991-1994
 NASA Magnetospheric Imaging Study Team, 1991-1994
 NASA Space Physics Data System Steering Committee, 1990-1991

ACADEMIC INVOLVEMENT – PRINCETON UNIVERSITY & UTSA

Princeton University Vice President for the Princeton Plasma Physics Laboratory, 2016-
 Professor of Astrophysical Science, Princeton University, 2016-
 Associated Faculty in Mechanical & Aerospace Engineering, Princeton University 2019-
 Princeton University President's Cabinet, 2016-
 Princeton University President's Council, 2016-
 Princeton University's Executive Compliance Committee, 2016-
 Teaching: AST-555 (Princeton), Fundamentals of Space Physics, Heliospheric Physics,
 and Space Physics Lab Class (University of Texas at San Antonio - UTSA)
 Primary developer of UTSA MS/PhD graduate program in Physics that opened Fall 2004
 Adjoint Full Professor (Physics& Astronomy) in UTSA Joint Program, 2004-2016
 Lead Adjoint Professor (Dept. Chair Counterpart) in UTSA Joint Program, 2004-2007
 Physics & Astronomy Graduate Admissions Committee, 2004-2016
 Commencement Speaker for UTSA graduation ceremony, December 15, 2006
 Local Organizer: APS Conference for Undergraduate Women in Physics – UTSA 2016
Graduate & Dissertation Advisor
 Rob Ebert (PhD conferred 2010)
 Brent Randol (PhD conferred 2012)
 George Nicolaou (PhD conferred 2015)

Dissertation Committee Member

Christina Prested (PhD conferred 2010)
 Tom Broiles (PhD conferred 2013)
 George Clark (PhD conferred 2014)
 Eric Delmonico (MS conferred 2015)
 Robert Allen (PhD conferred 2016)
 Kristie Llera (PhD conferred 2017)
 Parisa Mostafavi (PhD conferred 2019)
 Thomas Kim (PhD conferred 2019)

Undergraduate Junior Project Advisor

Tyler Eddy '21 (2019)
 Alexandros Papamatthaiou '21 (2019)

OUTSIDE ACTIVITIES

Academic-Athletic Fellow to Princeton University fencing teams, 2018-
 Dyslexic Advantage Board of Directors, 2014-2016

Dyslexic Advantage speaker: <https://www.youtube.com/watch?v=X4AN4k51xil>

Scobee Education Center Advisory Committee, 2012-2016

J. Robert Oppenheimer Memorial Committee, 1994-2000; 1997-1999 (Chair)

PATENTS

9,613,789	Compact Dual Ion Composition Instrument, 2017
6,815,689	Mass Spectrometry with Enhanced Particle Flux Range, 2004
6,521,887	Time-of-Flight Ion Mass Spectrograph, 2003
5,912,466	Apparatus and Method for Rapid Detection of Explosives Residue from the Deflagration Signature Thereof, 1999
5,638,166	Apparatus and Method for Rapid Detection of Explosives Residue from the Deflagration signature thereof, 1996
5,545,894	Compact Hydrogen/Helium Isotope Mass Spectrometer, 1996
5,168,158	Linear Electric Field Mass Spectrometry, 1992

SCIENTIFIC PUBLICATIONS

Author of over 700 scientific papers in the refereed literature spanning topics in heliospheric, magnetospheric, solar, and planetary science as well as space instrument and mission development (see Publication List). These papers have generated over 37,000 citations, with h=98 - See Google Scholar profile for David J. McComas: <http://scholar.google.com/citations?user=E5K1t-kAAAAJ&hl=en&oi=ao>.

CONTACT INFORMATION

Professor David J. McComas
 171 Broadmead, Princeton NJ 08540
dmccomas@princeton.edu (e-mail)

609-258-1100 (Phone)
dmccomas@alum.mit.edu (personal)