

# *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-

### **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**

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 (under development)  
PI, Interstellar Boundary Explorer (IBEX) Mission  
PI, Two Wide-Angle Imaging Neutral-atom Spectrometers-TWINS Mission  
PI, Solar Probe Plus - Integrated Science Investigation of the Sun (ISIS) instrument  
PI, ULYSSES Solar Wind Plasma experiment (SWOOPS)  
PI, Solar Wind Electron, Proton, Alpha Monitor (SWEPAM) as ACE Lead Co-I  
PI, Jovian Auroral Distributions Experiment (JADE) instrument as Juno Lead Co-I

PI, Solar Wind Around Pluto (SWAP) instrument as New Horizons Lead Co-I  
 Co-I, IMAGE Midsized Explorer  
 Co-I, CASSINI Plasma Science Experiment (CAPS)  
 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)  
 Team Member, New Millennium Deep Space 1 Plasma Experiment for (PEPE)

### **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, 2015  
 Space Science Award, International Committee on Space Research (COSPAR), 2014  
 Macelwane Medal, American Geophysical Union, awarded 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 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  
 Eagle Scout, Boy Scouts of America, 1971  
 God and Country Award, Boy Scouts of America, 1971

### **PROFESSIONAL COMMITTEES, ACTIVITIES AND EDITORSHIPS**

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-  
 Princeton University President's Cabinet, 2016-  
 Princeton University President's Council, 2016-  
 Princeton University Executive Compliance 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  
 NASA OSS Strategic Planning Workshop, Breckenridge, 1997  
 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**

Professor of Astrophysical Science at Princeton University, 2016-  
 Princeton University President's Cabinet, 2016-  
 Princeton University President's Council, 2016-  
 Princeton University's Executive Compliance Committee, 2016-  
 A primary developer of University of Texas at San Antonio (UTSA) MS/PhD graduate  
 program in Physics that opened in the Fall Semester of 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  
<http://www.swri.edu/4org/d15/mccomasutsacommencement.pdf>  
 Local Organizer: APS Conference for Undergraduate Women in Physics – UTSA 2016  
 Graduate Teaching: Fundamentals of Space Physics, Heliospheric Physics, Space Physics  
 Laboratory Graduate Classes  
 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 by BU)  
 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)  
 Thomas Kim (PhD expected 2019)

**OUTSIDE ACTIVITIES**

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Dyslexic Advantage Board of Directors, 2014 - 2016

Dyslexic Advantage speaker: <https://www.youtube.com/watch?v=X4AN4k51xiI>

Scobee Education Center Advisory Committee, 2012 - 2016

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

**PATENTS**

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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**

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Author of over 630 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 28,000+ citations, with h=84 - See Google Scholar profile for David J. McComas: <http://scholar.google.com/citations?user=E5K1t-kAAAAJ&hl=en&oi=ao>.

**CONTACT INFORMATION**

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