

WILLIAM V. BOYNTON

EDUCATION

- 1971 Ph.D., Physical Chemistry, Carnegie-Mellon University, Pittsburgh, Pennsylvania
1966 B.A. Chemistry, Wesleyan University, Middletown, Connecticut

ACADEMIC AND PROFESSIONAL APPOINTMENTS

- 1987- Professor, Department of Planetary Sciences, University of Arizona
1981-87 Associate Professor, Department of Planetary Sciences, University of Arizona
1977-81 Assistant Professor, Department of Planetary Sciences, University of Arizona
1974-77 Assistant Research Geochemist, University of California, Los Angeles
1971-74 Research Associate, Oregon State University

HONORS AND AWARDS

- 2010 NASA Exceptional Public Service Medal:** For extraordinary performance leading to the Phoenix Thermal and Evolved-Gas Analyzer (TEGA) science investigation of volatile materials on Mars.
- 2005 NASA Public Service Medal:** For outstanding leadership of the 2001 Mars Odyssey Gamma Ray Spectrometer Science Team in mapping the elemental abundance of Mars, and for disseminating the data to the science community.
- 2005 NASA Group Achievement Award:** 2001 Mars Odyssey Gamma Ray Spectrometer Team for extraordinary contributions in collecting gamma ray spectroscopy observations at Mars, providing full-planet mapping of elemental abundances during the Odyssey prime mission and for disseminating them to the science community.
- 2002 Discover Magazine:** Number 6 in Top 100 Science Stories for 2002 (for Mars Odyssey Gamma Ray Spectrometer discovery of ice on Mars).
- 2002 NASA Group Achievement Award:** to Near Earth Asteroid Rendezvous Shoemaker Mission team for outstanding achievement in conducting the most comprehensive scientific study of Asteroid 433 Eros, including the first rendezvous, orbit, and landing on an asteroid.
- 2001 NASA Group Achievement Award:** 2001 Mars Odyssey Gamma Ray Spectrometer Team for the detection and mapping of significant quantities of water ice in the near subsurface of the polar regions of Mars.
- 2001 International Astronomical Union:** Minor planet 5345 Boynton named.
- 2000 Computerworld Smithsonian Laureate:** for visionary use of computer technology in education and academia.
- 1993 NASA Group Achievement Award:** for Mars Observer Payload Development in recognition of the design, development, fabrication, calibration, and test of the most complex experiment complement ever to be launched to a planet.
- 1992 NASA certificate:** in recognition of contributions to the successful launch of Mars Observer on September 25, 1992.
- 1984 National Research Council:** Senior Research Fellowship
- 1980 Meteoritical Society:** Elected Fellow.

RESEARCH INTERESTS

Cosmochemistry of the planets and primitive bodies via remote, in-situ, and laboratory analysis. These interests include studying the origin and evolution of the solar system from analyses of asteroids, comets, and primitive meteorites. They also include studying the origin and evolution of individual planetary bodies, especially Mars, Moon, asteroids and comets, via remote elemental analysis with gamma-ray and x-ray spectrometry, via in-situ analysis with differential scanning calorimetry and evolved gas analysis, and via laboratory analyses of meteorites and returned extra-terrestrial samples. Also of interest is the development of instrumentation, both space-flight and laboratory based, to achieve these ends.

SERVICE

National Research Council Committee Membership

- 2010- Committee on Planetary Protection Standards for Icy Bodies in the Outer Solar System
 - 2008-09 Committee on the Review of Planetary Requirements for Mars Sample Return Missions
 - 2007 Committee on Assessing the Solar System Exploration Program
 - 1998-02 Committee on Planetary and Lunar Exploration (COMPLEX)
- and 6 others

Other Professional Service

- 2010-11 European Planetary Science Congress & AAS Division for Planetary Sciences Meeting, Science Organization Committee: Member
- 2010 Planetary Instrument Definition and Development Program Panel: Member.
- 2009 ESA ExoMars Payload Confirmation 2 Review Board: Member.
- 2006-07 ESA ExoMars Payload Confirmation Review Board: Member.
- 2004-06 Mars Special Regions Science Analysis Group: Member.
- 2002 Mars Odyssey Participating Scientist Review Panel: Member.
- 1996-99 Campaign Strategy Working Group: Member.
- 1996-98 Mars Surveyor 2001 Science Definition Team: Member.
- 1996-98 Road Map/Exploration of the Solar System Team: Member.
- 1996-98 Mars 2005 Sample Return and Implementation Committee: Member.
- 1996 NMP Workshop – New Technology for Sample-Return Missions: Organizer.
- 1995-99 Association of American Universities – Space Science Working Group: Chair
- 1995-96 Discovery Lessons-Learned Steering Group: Chair.
- 1995-96 Lunar and Planetary Geosciences Review Panel: Member.
- 1993-95 NASA Rosetta Advisory Group: Member.
- 1993-94 Haiti-International Task Force on the Environment and Sustainable Development: Member.

And 22 others

NASA FLIGHT MISSION PARTICIPATION

- 2002-09 Mars Phoenix Lander Mission: Co-Investigator; responsible for design, fabrication, testing and operation of the Thermal and Evolved-Gas Analyzer (TEGA)
- 1999- MESSENGER Mission to Mercury: Co-Investigator; responsible for data from the X-Ray and Gamma-Ray Spectrometers.
- 1997- Mars Odyssey 2001 Mission: Principal Investigator: Gamma-Ray Spectrometer.
- 1996-00 Mars Polar Lander: Co-investigator; responsible for design, fabrication, testing and operation of the Thermal and Evolved-Gas Analyzer (TEGA).
- 1994-01 Near-Earth Asteroid Rendezvous Shoemaker Mission to Asteroid 433 Eros: Team Member, GRS and XRS investigations, Leader of Geochemistry Group.
- 1993- Cassini-Huygens Mission: Co-investigator; Surface-Science Package.
- 1986-94 Mars Observer: Team Leader; Gamma Ray Spectrometer Investigation.
- 1986-90 Comet Rendezvous/Asteroid Flyby Mission: Principal Investigator; Comet Penetrator-Lander.

PUBLICATIONS

166 Peer reviewed publications