

## Newsletter 17-25

Issue 17-25, June 23, 2017

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### DPS ELECTIONS : PROCEDURE AND HOW TO VOTE

The 2017 election for DPS Vice-Chair and Committee is now open, and will close on July 31st 2017.

To vote, go to <https://aas.org/vote> [1]. You will need your AAS member login ID (which defaults to your membership number), and your password.

If you have trouble voting on line, the AAS can do a proxy vote and vote on your behalf (send an e-mail to [dpssec@aaas.org](mailto:dpssec@aaas.org) [2]). You will still get an automated email confirmation and a separate manual email, both with who you voted for and a confirmation number.

You should vote for one of the two candidates for Vice-Chair:

Reggie Hudson, NASA Goddard Space Flight Center

Linda Spilker, Jet Propulsion Laboratory

The elected Vice-Chair will begin serving in October 2017 and will become the DPS Chair in October

2018.

You should vote for two of the five candidates for DPS Committee:

Michele Bannister, Queens University, Belfast

Terry Hurford, NASA Goddard Space Flight Center

David Morrison, NASA Ames Research Center

Michael “Migo” Mueller, Kapteyn Astronomical Institute, Netherlands

Padma Yanamandra-Fisher, Space Science Institute

The successful candidates will serve on the Committee for three years after October 2017.

The detailed vitae and position statements for each of the candidates follow. This information is also linked

from the main election page <http://aas.org/vote/> [3] and

[https://vote.aas.org/ballot/ballot\\_view/39](https://vote.aas.org/ballot/ballot_view/39) [4]

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## CANDIDATE BIOS AND STATEMENTS

Candidate biographical notes and statements follow in alphabetical order.

## CANDIDATES FOR VICE-CHAIR (Vote for 1)

### A) REGGIE L. HUDSON: VICE-CHAIR

**Education:**

Post-doctoral research: University College London, 1985-1986

Ph.D., University of Tennessee, Physical Chemistry, 1978

A.B., Pfeiffer College, Mathematics and Chemistry, 1974

**Career:**

Lead Scientist, Cosmic Ice Lab, NASA Goddard Space Flight Center - 2009-present

Assoc. Chief, Astrochemistry Lab, NASA Goddard Space Flight Center - 2011-present

Acting Chief, Planetary Systems Lab, NASA Goddard Space Flight Center - 2010-2011

Visiting Scientist, NASA Goddard Space Flight Center - 1984-2008

Professor of Chemistry, Eckerd College, Florida - 1978-2008 (ACS certified program)

Adjunct professor in astronomy - University of Maryland, 2011, 2012, 2015

**Selected Honors and Awards:**

Continuous NASA grant support of planetary science research since 1991

NSF grants for infrared and magnetic resonance instrumentation

HHMI grant for curricular innovations and new faculty positions

Awards for teaching, research, and campus leadership

**Community Service:**

Chair, Astrochemistry Subdivision (700 members), American Chemical Soc., 2016-2017

Editorial Board: Astrobiology, 2010-present

Manuscript reviewer: Icarus, JGR, PSS, ApJ, ApJL, A&A, MNRAS, Astrobiology, OLEB, Nature, Science, JACS, JCP, JPC, PCCP, JCE, Molec. Phys., Bull. Hist. Chem.

Proposal reviewer: NASA planetary science and astronomy programs, NSF astronomy and chemistry programs, DOE, various observatories, assorted international programs

Statement: Hudson

It is an honor to be nominated for Vice Chair of the Division for Planetary Sciences (DPS). I have long been a DPS member, I know many of the Division's senior members, and I have worked actively with newer members. My research supports and enhances past, present, and future planetary missions, so that I am familiar with a broad range of planetary science activities, but without too close an affiliation with any single program to be able to represent all. I also have international experience and a firm connection to the astrobiology community.

To this nomination I bring a diverse, multidisciplinary background having served as both a tenured college professor and a NASA planetary science researcher. My non-DPS connections have helped me lobby for and discover opportunities for younger members and funding for early-career scientists. I have been involved in education and science advocacy for decades and will continue such work as a DPS officer. Recent events in DC have, to be tactful, sent mixed messages to scientists and the public, again emphasizing the need for science literacy. The DPS has an almost unfair advantage over some scientific fields in that regard, with its inherently interesting subject, and I will continue take full advantage of it.

Our annual meetings inspire, inform, and continue to grow in attendance, but financial scares of recent years have reinforced the need for continued budgetary care, which I will emphasize. Careful financial planning is needed as we continue to enjoy the rewards of current planetary missions and projects (e.g., New Horizons, Mars, Dawn, Juno) and look forward to new successes with OSIRIS-REx, new capabilities with JWST, a return to icy satellites, movement towards new worlds (e.g., Venus, Uranus) and preparing for the next Decadal Survey.

Finally, journal access remains a concern for many DPS members. Even the traditionally sluggish American Chemical Society threatens to pass us by in terms of access. The efforts of current and past DPS officers concerning access to our published research results must be continued and reinforced.

Having balanced two jobs in two distinct areas for over two decades, I will be an informed, energetic officer and advocate for our causes, within and beyond the DPS, and within and beyond NASA. Thank you for this opportunity.

## B) LINDA J. SPILKER: VICE-CHAIR

### Education:

Ph.D. (Summa cum laude), UCLA, Geophysics and Space Physics, 1992

M.S. California State University, Los Angeles, Physics, 1983

B.S. California State University, Fullerton, Physics, 1977

### Career:

#### Jet Propulsion Laboratory:

Cassini Project Scientist (2010–present)

Cassini Deputy Project Scientist (1997–2010)

Cassini Composite Infrared Spectrometer Co-I (1990–present), lead CIRS ring team

Cassini Mission Scientist (1990–1997)

Voyager Photopolarimeter Science Associate (1984–1990)

Voyager Infrared Radiometer & Spectrometer (IRIS), Experiment Rep. (1977–1990)

California Institute of Technology, Geology Dept. Research Assistant (1975-1977)

PI for NASA R&A programs including CDAP, PG&G and OPR (1993-2012)

Selected Awards and Honors:

NASA Exceptional Service Medal, Cassini leadership (2013)

NASA Group Achievement Awards (10) for Cassini (2002 - 2016)

ESA Award for contribution to Huygens Probe (1997)

NASA Exceptional Service Medal, Voyager Neptune (1990)

NASA Group Achievement Awards (7) for Voyager Mission (1982 - 1989)

Distinguished Alumna Award for Math, Science & Engineering, Cal State Fullerton (2005)

Distinguished Alumna Award for Natural & Social Sciences, Cal State LA (1996)

Selected Service to Community:

Outer Planets Assessment Group (OPAG) Deputy Chair (2017 - present)

OPAG Steering Committee (2008 - present)

NASA Decadal Survey: Planetary Rings Panel (2001)

Planetary Science Data Steering Group (1991 - 1994)

Advisory Council for Planetary Data System Ring Node (1990 - present)

American Association of University Women member (1985 - present)

Candidate Statement:

Planetary science has experienced tremendous success in the past several years with interplanetary

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missions big and small, ground-based and space-based telescopic observing programs, and laboratory and modeling efforts to understand our new data. However, as an organization, the DPS must never be complacent. NASA leadership changes as do members of Congress. As we advocate for programs, we must also keep our representatives in Congress informed about our scientific accomplishments and vision for the future. Congress passes a new budget every year and we must thank them for their support, asking them to continue to protect NASA science.

After talking with DPS members, one of the biggest concerns facing our membership is the uncertainty in Research and Analysis (R&A) programs. Low proposal acceptance rates and unacceptably long delays in awards continue to erode the foundation of our solar system exploration program. Unless resources are applied to the problem to increase R&A immediately we face long-term loss of capability as both established and young planetary scientists are forced to seek other careers. The next generation of planetary scientists is endangered. It is truly amazing that this is occurring at a time when we are experiencing a fire hose of data from active Mars missions, Cassini at Saturn, Juno at Jupiter, and many other missions in flight or preparing for flight. I believe that DPS has a responsibility to be a leader in advocating for the growth of NASA's R&A programs. The health of these programs is essential to the success and future of our solar system exploration.

We must continue to explore the most productive ways to investigate our solar system and the exoplanets beyond. One approach is to continue to foster international collaboration on planetary missions because the science return is greatly enhanced through the use of multinational funds and expertise. Like the R&A programs at the other end of the spectrum, the existence of planetary missions, including those with international collaboration, is an important part of our solar system exploration program.

Our research is funded primarily by taxpayer dollars, and that carries two important responsibilities. We must ensure that the public gets the best possible research for their investment, and we must communicate our scientific results to the general public in a way that is interesting and exciting to them. Regarding the quality of research, our greatest strength is our diverse membership, and I firmly support inclusion, diversity and fairness in our community. Regarding communication to the public, we need to continue reaching out to the public through school visits, outreach talks, and popular articles. I take great pride in communicating the excitement of NASA programs like Cassini to both members of Congress and the public.

The DPS must continue to assume a leadership role as an advocate for solar system science, including healthy research programs, strong ground-based and space-based observing programs, laboratory support, and robust, balanced solar system missions. The midterm review of the decadal survey is coming soon and it is time to start thinking about the next decadal survey. As vice-chair of DPS, I will solicit input from DPS members and work to develop a consensus on the key actions our organization should be taking. I also plan to craft a constructive, ongoing dialog with NASA leadership to accomplish these goals.

CANDIDATES FOR COMMITTEE (Vote for two)

A) MICHELE T. BANNISTER: COMMITTEE

Research Fellow and Director's Outreach Fellow at Queen's University Belfast.

I use the techniques of observational astronomy to understand the populations and surface properties of the small bodies of the Solar System. I am involved in several international collaborations, and I led data acquisition for the Outer Solar System Origins Survey (50 colleagues).

Education:

Ph.D., the Australian National University with a year at Caltech, Astronomy, 2013

B.Sc. (Honours), University of Canterbury, New Zealand, Astronomy and Geology, 2007

Career:

Queen's University Belfast, United Kingdom, 2016-present, postdoctoral fellow

Herzberg Research Institute/University of Victoria, British Columbia, Canada, 2013-2016, postdoctoral fellow

Service to the community:

HST Solar System Advisory Committee, 2014

Reviewer for panels and journals: NASA SSO proposals panel, HST, CFHT, AJ, ApJL

Science teams and working groups: PanSTARRS, OSSOS, Col-OSSOS, CFIS, WFIRST, LSST, MSE

Session chair at DPS and at MetSoc

Asteroid (10463) Bannister was named by the IAU in 2017

Statement: Bannister

As the largest planetary science society in the world, the DPS interacts with scientists at an international level. The DPS has provided support and a scientific family to me for a decade as I have moved across five countries for research. I would be

honoured to now help serve it as a committee member.

I want our professional society to support and aid the problems of our community. I would focus on working to improve the diversity and equity of the DPS in a number of areas.

First, I want graduate students and research interns who are coming to their first DPS to feel they have a realistic chance of becoming involved in the large-facility and spacecraft-based research that they see presented by career scientists. I would like to help the DPS build support structures that can bring early-career scientists into missions & projects in a straightforward, documented and transparent way. This transparency will also reduce the barriers to participation by early-career scientists who have trajectories in institutes that do not have a long culture of mission development.

Another issue that I see our community facing is retention. We cannot have a diverse workforce if the structural and intersectional problems that affect our scientists continue. A professional society will not by itself solve all problems, but it can help allay some. I will work toward putting in place additional support structures for early to mid-career scientists that help stave off the whittling away of our community. One that I see an immediate use for is a small grant program: aimed at helping with unexpected expenses, not easily paid for by normal personal funding. The lack of such a program cumulatively applies pressures that remove people from the field. I also want to propose investigating a program of offering free registration at our meetings to early to mid-career colleagues in the STEM societies that support & represent minority identities. Planetary science should be open to all, and any barrier we can remove is one more step toward that.

#### B) TERRY A. HURFORD: COMMITTEE

##### Education:

Ph.D., University of Arizona, Planetary Science, 2005

B.S., Astronomy and Physics with Honors, Cum Laude, University of Arizona, 1998

##### Career:

Planetary Scientist, Geology Geophysics and Geochemistry Lab., NASA GSFC, 2016-Present

Planetary Scientist, Planetary Systems Lab., NASA GSFC, 2008-2016

NASA Postdoctoral Program, ORAU, 2005-2008

Selected Honors and Awards:

NASA Robert H. Goddard Award, Team achievement, CIRS team, 2016

NASA Robert H. Goddard Award, Individual achievement, 2015

NASA Robert H. Goddard Award, Team achievement, OPIS/WASP, 2015

NASA Special Act Award, 2012, 2011, 2010 - Outstanding service to Outer Planets Research Program

GSFC Recognition Award, 2010

Statement:

I would be honored to represent our community as part of the DPS Committee.

I see two areas that need support of the DPS committee to ensure the future health of our community.

1) A focus on maintaining a stable community and 2) a focus on early and mid career scientists within the community.

The planetary science community has built top notch research programs in both the US and abroad. And that success is seen in the spectacular science return from well planned and executed planetary missions. Currently the planetary science budget is healthy but it comes at a time where future stability is not a given. Therefore, we need to continue to educate the broader community and Congress of the success of planetary science and the need to continue to support it. And we need to figure out how to best deploy resources now, while they are relatively strong, to make sure if things change in the future we have the right networks and resources to withstand any periods of shortfall.

With the success of the planetary community, it seems that there are more opportunities than ever. But more opportunities also brings more AOs, more proposal deadlines, more requests for service and more pressure to do it all. A lot of this increase in workload falls upon the early and mid career scientists, who are working to establish themselves and their future funding stability. We need to make sure that early and mid career scientists have more representation within the community, so that their needs can be heard. And we need to find ways to better support and recognize their tremendous efforts.

I am thrilled to have been nominated to run for DPS office. I've always felt support from this community and I look forward to repaying the community through this service.

### C) DAVID MORRISON: COMMITTEE

Senior Scientist, NASA Ames Research Center

Research Focus: Planetary Exploration, Planetary Defense, Education & Outreach

I developed my enthusiasm for planetary science as Carl Sagan's graduate student; I am a charter member of the DPS and have attended most DPS meetings. I was privileged to be part of the first golden age of planetary exploration, with the Mariner, Viking, and Voyager missions. In 17 years as a faculty member at the University of Hawaii, I participated in the pioneering development of Mauna Kea as an outstanding observatory site, and I served for 4 years as Director of the NASA IRTF. Among my proudest research accomplishments (with colleagues) were demonstration that the surface temperature of Venus is nearly uniform as evidence for a thick greenhouse atmosphere, discovery of the bimodal distribution of asteroid albedos and the definition of the C and S taxonomy, first determination of the infrared thermal emission from Io volcanoes, and first measurement of the surface composition of Pluto. As Galileo Program Scientist, I helped establish the overall objectives and select the science instruments for that mission. I chaired the Congressionally mandated NASA Spaceguard Committee in 1991-92, publishing the first modern quantitative assessment of the impact hazard, testifying 4 times before Congressional committees on how to deal with the hazard, and serving on a variety of committees and oversight groups for NASA and the International Astronomical Union. Since coming to NASA Ames Research Center in 1988, I have primarily been focused on science management, including establishing the first two NASA multidisciplinary virtual institutes, the NASA Astrobiology Institute and the NASA Lunar Science Institute. I am also a passionate advocate for science education and public outreach, having written several textbooks and many popular articles on astronomy and planetary science. In 2012, I became well-known as the leading scientist debunking widespread claims of the "end of the world", with writing, speaking, talking with media, and answering on-line questions from the public including many frightened children. I am proud also to have worked recently with my co-authors Andrew Fraknoi and Sidney Wolff to make our popular undergraduate astronomy textbook available on-line and free of charge.

#### Education:

1962: BA in Physics, University of Illinois

1969: PhD in Astronomy, Harvard University

#### Employment History:

1969 - 1988: Professor, Institute for Astronomy and Dept of Physics & Astronomy, University of Hawaii (Manoa)

1981 – 1982: Vice Chancellor for Research (acting). University of Hawaii (Manoa)

1981: Deputy Director (acting), NASA HQ Science Directorate

1988 – 1996: Chief, Space Science Division, NASA Ames Research Center

1996 – 2001: Director of Space, NASA Ames Research Center

2001 – 2008: Senior Scientist, NASA Astrobiology Institute

2008 – 2010: Founding Director, NASA Lunar Science Institute

2010 – 2014: Director, Carl Sagan Center, SETI Institute

2011 – present: Senior Scientist, NASA Solar System Exploration Virtual Institute

2014 – present: Chief Scientist, NASA Ames Asteroid Threat Assessment Project

#### Spacecraft Involvement :

Imaging Science Team Member, Voyager

Program Scientist and later Interdisciplinary Scientist, Galileo

Interdisciplinary Scientist, Kepler

#### Scientific and Professional Offices

DPS Secretary/Treasurer

DPS Committee

DPS Chair

AAS Council

Astronomical Society of the Pacific, President

AAAS Astronomy Section, President

IAU Planets Section, President

IAU Working Group on Near Earth Objects, Chair

NASA Spaceguard Working Group, Chair

NASA Planetary Astronomy Committee, Chair

NASA Astrobiology Roadmap Working Group, Chair

## Major Awards and Honors

Klumpke-Roberts Prize for science communications, Astronomical Society of Pacific

NASA Outstanding Leadership Medal for work as Galileo Project Scientist

NASA Outstanding Leadership Medal for Spaceguard Survey

NASA Exceptional Achievement Medal for outreach, debunking pseudoscience

Dryden medal of the American Institute of Aeronautics and Astronautics for astrobiology

Carl Sagan Medal of the DPS for science outreach and communications

Education Prize of the American Astronomical Society

Fellow of American Association for the Advancement of Science

Fellow of California Academy of Sciences

Fellow of Committee for Skeptical Inquiry

Name given to asteroid 2410 Morrison

## Statement: Morrison

Planetary science/exploration is one of the most successful and inspiring human endeavors of the past half-century. I can remember when the discipline of planetary science did not exist, and we debated whether we would ever be large enough to justify a professional organization or a journal devoted to the planets. What an incredible ride we have had! In retrospect, our growth may look inevitable, but along the way we faced many existential challenges. When I was DPS Chair in 1981, the Reagan Administration was slashing research budgets and proposed to terminate Voyager after its Saturn encounter. Yet we survived and grew, and today we are in the midst of a renaissance of planetary exploration, with (among others) several international missions to the Moon, an incredible flotilla of Mars spacecraft in orbit and on the surface, the uniquely successful Cassini and Rosetta missions, and the spectacular New Horizons encounter with Pluto. However, our discipline still faces major challenges. The fact that the NASA planetary budget is the largest in its history does not automatically translate into an equitable or optimum distribution of resources to our community. What looks great from the top down may appear quite different from the perspective of a student or the majority of DPS members who depend on soft money.

If elected to the DPS Committee, here are some of the issues I hope to promote. First is the relationship we have with related disciplines. (1) Earth Science. A healthy study of other planets requires similar focus on the planet we know best. (2) Astrobiology. The search for life on other worlds has become a major driver for missions to Mars and the ocean worlds of the outer solar system. (3) Planetary Defense. Research to find hazardous NEOs and develop mitigation technologies is a practical spin-off from planetary science. (4) Exoplanets. There are now hundreds of known exoplanets for every planet in our solar system. (5) Human exploration. Long dormant, human flights to the Moon and Mars are being seriously discussed. (6) Astrophysics. Many of our instruments, from Arecibo to Hubble to JWST, are shared with other parts of astronomy. Each of these six topics provides opportunities to expand our

discipline intellectually and to gain additional support from the public and from funding agencies. Second is the requirement to encourage diversity and to open our professional ranks to anyone who wants to be part of our community. We have made great strides, but the challenge remains. Related issues include grad student and post-doc funding, and opportunities for participating scientists on NASA missions. Third is the importance of education and public outreach. Planetary science has always had outstanding communicators, such as Carl Sagan and Neil de Grasse Tyson, and many others whose names are less well known. Our future ultimately depends on the ability of all of us to share our excitement with the public and politicians, and especially to nurture young people's interest in science. Very few people will become professional planetary scientists, but millions can and should share in our exciting quest for knowledge.

#### D) MICHAEL "MIGO" MUELLER: COMMITTEE

Calibration scientist at Kapteyn Astronomical Institute, Rijksuniversiteit Groningen, Netherlands

Research focus: thermal emission of asteroids; calibration of space-based IR facilities

#### Education:

Dr. rer. nat. (equivalent: PhD), 2007, Geosciences, Freie Universität Berlin, Germany

Dipl.-Phys. (equivalent: MSc), 2003, Theoretical Physics, Freie Universität Berlin, Germany

#### Employment history:

2015 - present: Calibration scientist for JWST-MIRI, Rijksuniversiteit Groningen

2011 - 2015: Calibration scientist for Herschel-HIFI, SRON Groningen

2009 - 2011: Poincaré postdoctoral fellow, Observatoire de la Côte d'Azur, Nice

2007 - 2009: Research associate, Steward Observatory, University of Arizona

2003 - 2007: Research assistant, DLR Berlin, Germany

#### Space missions:

- JWST: test and calibration team member, MIRI (2015-present)

- Herschel: calibration and operations, HIFI (2011-2015)

Academic Service:

- Reviewer: Icarus, NASA, Planet. Space Sci., A&A, Adv. Space Res.
- Professional Memberships: AAS-DPS, Nederlandse Astronomenclub, IAU

Statements:

If elected as a DPS committee member, I would be thrilled to serve the community that so greatly served me. I attended 13 DPS meetings since 2003, and they remain my favorite conference, with their spirit of friendly professionalism that makes our field stand out. May the story of my first DPS, 2003 in Monterey, CA, serve as illustration:

Those were interesting times, with an outsider candidate, who had never held elected office, running for ... governor of the state we were in. I was a first-year grad student and intimidated by this large room full of people whose names I had read on papers. Until a speaker in 'my' session opened his talk with a faux Austrian accent: "Hi, I'm Andy, and I'm running for governor." Hilarity ensued, my stage-fright was gone. This was a friendly crowd, and my accent would only help my talk. I left the conference with very constructive feedback, with exciting new ideas, and with email addresses of people who would soon enough turn into collaborators and friends.

Today, we live in times that are just as ... interesting, with isolationism on the rise across the globe. My candidacy is a reminder that, like science itself, DPS is international and relies on the free exchange of ideas. Space missions, which are so critical for our field, depend increasingly on international collaboration. Yet,

European DPS members have been unrepresented in the committee since 2009.

Based on personal experience, I will emphasize the perspective of DPS members outside of North America. As an example, I propose a straightforward improvement of the Hartmann travel grants, one of our most important tools to make DPS meetings accessible to early-career scientists. I obtained a Hartmann grant for the 2003 meeting in Monterey, CA, but it was so small compared to trans-Atlantic airfare Berlin-California, it was not very effective in getting me travel permission. On the flipside, the 2005 grant for the meeting in Cambridge, UK, (a one-hour flight from Berlin) was far more generous than I needed it to be. Both grants made sense for US participants, for whom they were tailored.

I propose we add a flat dollar amount to Hartmann travel grant if grantees have to cross an ocean in order to reach the meeting (to be discussed: does Hawaii qualify as trans-Pacific?). In 2018, this will benefit Europeans going to Knoxville. In 2019, this will benefit Americans going to Genève. In both cases, the system will be fairer and more efficient, with minimal extra overhead (one extra check-box in the form, one extra if-statement in the calculation of the grant)

E) PADMA A. YANAMANDRA-FISHER: COMMITTEE

Senior Research Scientist, Space Science Institute

Scientific focus

Understand light scattering by various solar system bodies to probe the physical properties of the respective scattering medium; provide a bridge between professional, amateur and educational communities for astronomy.

#### Education

EMBA (Strategy and Marketing), Drucker School of Business, Claremont, CA 2006

Ph.D. (Physics), University of Denver, Denver, CO 1989

M.Sc. (Astrophysics and Plasma Physics), University of Delhi, Delhi, India 1977

B.Sc (Physics), Hindu College, Delhi, India, 1974

#### Professional Positions

Space Science Institute, Senior Research Scientist, Boulder, Co, 2011 - Present

Research Scientist, Jet Propulsion Laboratory, Pasadena, CA, 1991 - 2011

Postdoctoral Research Associate, Jet Propulsion Laboratory, Pasadena, CA, 1989 - 1991

#### Service & Outreach:

-NSF and NASA panel review service, various

-Journal reviewer: Icarus, Astrophysical Journal, Astronomical Journal

-Science reviewer of NASA and IAU Educational products

-Convener, AGU, AOGS, IAU, EPSC meetings since 2010

-NASA PDS Small Bodies Node (Comets) Peer Review, 2016

-Member, CIOC, NASA panel for characterization of comets ISON (2013) and SidingSpring (2014)

-Global Ground-based Amateur Observations Coordinator, ESA/Rosetta mission 2014-2016

-Founder, The Pro-Am Collaborative Science (PACA) Project, creator of pro-am observing campaigns via social media

-Keynote Speaker, National Australian Convention of Amateur Astronomers (NACAA), 2014, 2016

-Speaker, Amateur Astronomer (comet) meetings such as British Astronomical Association (BAA) and Czech Amateur Observer Conference

-Invited Speaker, Europlanet meetings for Amateur Astronomers in support ESA/Rosetta mission and NASA/JUNO mission

-Mentor, Summer interns

-Member, Working Group on Astrostatistics and Astroinformatics, since 2013

### Major Awards and Grant Funding

NASA Planetary Astronomy (PAST and SSO), several since 1992 (as PI and Co-I), study of Jupiter and Saturn and its rings

NASA Planetary Atmospheres (PATM and SSW), several since 1992 (as PI and Co-I) study of Jupiter and Saturn

NASA PDART, archival of ground-based mid-ir data of Jupiter, 2016

NASA/ISE, Citizen science approach to the study of polarization of the inner solar corona on 21 August 2017

Observational proposals from NASA/IRTF, Gemini, Keck, U. of Hawaii, U. of Arizona/Steward Observatory (PI, Co-I to observe Jupiter, Saturn, Saturn's ring system; comets)

### Statement

I am honored to be considered for this position. I regard the DPS as the flagship association for the planetary community to address issues that affect both work and personal lives. The balance between these two aspects of a person's life benefits both the individual and the community. However, many other issues have come up in recent years that threatens this balance such as gender, race, family; lack of or limited funding, loss of expertise/knowledge; inclusion and diversity issues. As a scientist, I have found that I had to change my science focus from Saturn's rings to outer planetary atmospheres; from spacecraft/mission data to ground-based observations and to data mining/numerical algorithms. Although it seemed I was changing my science focus, I realized I was expanding my skill set, which allowed me to be able to innovate as I moved on with my career. Specifically, the opportunity to participate in ground-based observing allowed me develop strategies of the type of observations needed and expand to observations of other solar system objects; became adept at writing observing proposals, based on the strategic knowledge gaps (SKG), identify the valuable contributions of the amateur community to develop pro-am observing campaigns - the most notable campaigns being CIOC\_ISON (comet ISON), CIOC\_SidingSpring (comet SidingSpring), in lieu of spacecraft missions to these objects; and complementary ground-based amateur observations in support of the ESA/Rosetta mission to the comet 67P/Churyumov-Gerasimenko). These efforts spurred the development of a consistent set of standards for observations, reporting them and archival of the data to coalesce the amateur community and their contribution to professional research.

Knowing the importance of polarization studies, I have initiated polarimetric observation program of the Sun, Earth, Moon, Mars, Jupiter, Saturn, including both professional and amateur observers. In anticipation of observations from the 2017 Total Solar eclipse and the study of the scattering medium, I am leading a multi-site citizen science experiment to measure the linear polarization of the inner solar corona. One of the goals is to develop standards for consistent polarimetric observations of various solar system objects and with various audiences (from informal to formal and educators).

With the large volumes of data becoming the normal in the future, planetary scientists sometimes need to transform into data scientists to explore and mine large data sets as part of doing research. These are some of the current issues facing our community, which we must address and embrace to stay competitive and maintain our role in space exploration.

I have been a member of DPS for 30 years (wow!), as a young early career scientist to a mid-level research scientist and have experienced many of the issues I have identified. These experiences make me empathetic, willing to find solutions and and help bring about change as needed. As a committee member, I would work hard to improve the climate for inclusion of the diverse planetary science community in the workplace; strive to find solutions for the harsh funding situation with innovative partnerships and sharing of resources; develop/grow the synergy of the pro-am astronomy communities to partner with each other in support of mission and provide a bridge for STEM-related interaction with formal and informal educational audiences.

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Send submissions to:

Anne Verbiscer, DPS Secretary ([dpssec@aaas.org](mailto:dpssec@aaas.org) [2])

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