

CAROL PATY

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Educational Background:

B.A. Physics & Astronomy 2001 Bryn Mawr College
Ph.D. Earth & Space Sciences 2006 University of Washington (Mentor: Winglee)

Employment History:

Undergraduate Teaching Assistant, Bryn Mawr College, Physics 1998-2001
Graduate Teaching Assistant, University of Washington, Earth & Space Sciences 2002-2005
Graduate Research Assistant, University of Washington, Earth & Space Sciences 2001-2006
Instructor, Chautauqua Course on Space Weather & Planetary Magnetospheres 2006 (Summer)
Postdoctoral Researcher, Southwest Research Institute, Space Science & Engineering 2006-2008
Assistant Professor, Georgia Institute of Technology, Earth & Atmospheric Science 2008-2014
Associate Professor, Georgia Institute of Technology, Earth & Atmospheric Science 2014-present

Current Fields of Interest:

Space Plasma Physics, Planetary Magnetospheres, Planetary Upper Atmospheres/Ionospheres, Icy Satellites, Dusty Plasmas, Mars Atmospheric Evolution, Astrobiology, Mission Planning Activities (Cassini, Jupiter Icy Moon Explorer: JUICE, Europa Mission)

Synergistic Activities:

Europa Mission Thematic Working Group Co-Chair: Interiors Working Group 2015-present
Conference Organizer: The Magnetospheres of Outer Planets Meeting, Atlanta, GA June 1-5, 2015
Conference Organizer: Outer Planets Assessment Group, Atlanta, GA January 10-11, 2013
Conference Organizer: Cassini Plasma Spectrometer Team Meeting #39, Atlanta, GA Oct. 29-30, 2009

Classes Formally Taught

History of Space Exploration (GT Honors Course), Planetary Seminar, Quantitative Techniques, Physics of Planets, Intro to Space Physics & Instrumentation, Introduction to Research

Refereed Publications: (*Student or †Postdoc at time of submission)

a.) Already Published/In Press

- Hale, J. P. M.* , and **Paty, C**, 2016, Investigating Charon's Impact on Pluto's Interaction with the Solar Wind through Multifluid MHD Simulations. In Press 12/6/2016 *Icarus Special Section on Pluto*
- Simon, S., E. Roussos, and **C. S. Paty**, 2015, The interaction between Saturn's moons and their plasma environment, *Physics Reports*, 602 (2015), 1-65, doi:10.1016/j.physrep.2015.09.005
- Payan, A. P.* , **C. S. Paty**, and K. D. Retherford, 2015, Uncovering local magnetospheric processes governing the morphology and variability of Ganymede's aurora using threedimensional multifluid simulations of Ganymede's magnetosphere, *J. Geophys. Res. Space Physics*, 120, doi:10.1002/2014JA020301.
- Payan, A.* , A. Rajendar* , **C. S. Paty**, and F. J. Cray, 2014, Effect of Plasma Torus Density Variations on the Morphology and Brightness of the Io Footprint, *J. Geophys. Res. Space Physics*, 119, 3641–3649, doi:10.1002/2013JA019299.
- Riousset, J., † **C. S. Paty**, M. Fillingim, R. Lillis, S. England, P. Withers, and J. P. M. Hale* , 2014 Electrostatics of the Martian dynamo region near magnetic cusps and loops, *Geophys. Res. Lett.*, 41, doi:10.1002/2013GL059130.
- Winglee, R. M., A. Kidder* , E. Harnett, N. Iffland* , **C. Paty**, and D. Snowden, 2013, Generation of periodic signatures at Saturn through Titan's interaction with the centrifugal interchange instability, *J. Geophys. Res. Space Physics*, 118, doi:10.1002/jgra.50397.
- Riousset, J.† , **Paty, C. S.**, M. Fillingim, R. Lillis, S. England, Paul Withers, and J. P. M. Hale* , 2013, Three-dimensional multifluid modeling of atmospheric electrostatics in Mars' dynamo region, *J. Geophys. Res. Space Physics*, 118, doi:10.1002/jgra.50328.
- Kidder, A.* , **C. S. Paty**, R.M. Winglee, E.M. Harnett, 2012, External triggering of plasmoid development at Saturn, *J. Geophys. Res.*, 117, A07206, doi:10.1029/2012JA017625
- Dong, C. F.* and **C. S. Paty**, 2011, Response to Comment on 'Heating of ions by low-frequency Alfvén waves in partially ionized plasmas,' *Phys. Plasmas* 18, 084704; doi:10.1063/1.3626548 (3 pages)
- Dong, C. F.* and **C. S. Paty**, 2011, Application of adaptive weights to intelligent information systems: An intelligent transportation system as a case study, *Inform. Sci.*, doi:10.1016/j.ins.2011.07.018
- Fillingim, M. O., R. J. Lillis, S. L. England, L. M. Peticolas, D. A. Brain, J. S. Halekas, **C. Paty**, D. Lummerzheim, and S. W. Bougher, 2011, On wind-driven electrojets at magnetic cusps in the nightside ionosphere of Mars, *Earth Planets Space*, doi:10.5047/eps.2011.04.010

- Dong, C.* and **C. S. Paty**, 2011, Heating of ions by low-frequency Alfvén waves in partially ionized plasma, *Phys. Plasmas* 18, 030702; doi:10.1063/1.3555532
- Tokar, R. L., R. E. Johnson, M. F. Thomsen, R. J. Wilson, D. T. Young, F. J. Crary, A. J. Coates, G. H. Jones, and **C. S. Paty**, 2009, Cassini Detection of Enceladus's Cold Water-Group Plume Ionosphere, *Geophys. Res. Lett.*, 36, 13, doi:10.1029/2009GL038923.
- Burch, J. L., J. Goldstein, P. Mokashi, W. S. Lewis, **C. Paty**, D. T. Young, A. J. Coates, M. K. Dougherty, and N. Andre, 2008, Cause of Saturn's Plasma Periodicity, *Geophys. Res. Lett.*, 35, L14105, doi:10.1029/2008GL034951.
- Paty, C.**, W. R. Paterson, and R.M. Winglee, 2008, Ion energization in Ganymede's magnetosphere: Using multi-fluid simulations to interpret ion energy spectrograms, *J. Geophys. Res.*, 113, A06211, doi:10.1029/2007JA012848.
- Lawrence, K. P.*, **C. Paty**, C. L. Johnson, E. Harnett, and C. Milbury, 2007, Possible Shielding of the Martian Atmosphere by a Crustal Magnetic Field, Lunar and Planetary Science Conference, Contributed Published Submission #1453.
- Harnett, E., R. Winglee and **C. Paty**, 2006. Multi-scale/multi-fluid simulations of the post plasmoid current sheet in the terrestrial magnetosphere, *Geophys. Research. Lett.*, 33, L21110, doi:10.1029/2006GL027376.
- Paty, C.**, and R Winglee, 2006. The role of ion cyclotron motion at Ganymede: Magnetic field morphology and magnetospheric dynamics. *Geophys. Res. Lett.*, 33, L10106, doi:10.1029/2005GL025273.
- Paty, C.** and R. Winglee, 2004. Multi-fluid simulations of Ganymede's magnetosphere. *Geophys. Res. Lett.*, Vol. 31, No. 24, L24806 10.1029/2004GL021220.
- Beckmann, P A, **C Paty**, E Allocco, M Herd, C. Kuranz, and A L Rheingold, 2004. The relationship between crystal structure and methyl and t-butyl group dynamics in van der Waals organic solids. *J. Chem. Phys.*, 120, 5309-5314.

b.) Submitted

- Winslow, R. M., † L. Philpott, **C. Paty**, N. Lugaz, N. A. Schwadron, C. L. Johnson, and H. Korth, Statistical study of ICME effects on Mercury's magnetospheric boundaries and northern cusp region from MESSENGER. Submitted to *J. of Geophys. Res.* (Submitted 2016, Accepted with revision 11/2016, Under Revision)
- Rajendar, A.,* **C. Paty**, H. T. Smith, and C. Arridge, Incorporation of neutral cloud coupling in a global multifluid simulation of Saturn's magnetosphere, Submitted to *J. of Geophys. Res.* (Submitted 2017)

Rajendar, A.*, J. D. Dufek, C. S. Paty, and J. Roberts, Modeling tidal heat dissipation in Io's interior: existence of a global, partially molten asthenosphere, Submitted, *Reviewed, Under Revision*

c.) In Preparation (this list of manuscripts included submissions anticipated before March 1, 2016)

Cao, X.*, and Paty, C., The effect of rotation on the asymmetry of Uranus' magnetosphere. In Prep for *JGR - Space Physics (Jan. – 2017)*

Rajendar, A.,* C. Paty, H. T. Smith, and C. Arridge, Seasonal variability of Saturn's global magnetosphere and its impact on global mass transport, For submission to *JGR – Space Physics (2017)*

RiOUSSET, J., C. S. Paty, M. Fillingim, R. Lillis, S. England, P. Withers, and J. P. M. Hale,* Ionospheric loss from the Martian Exosphere governed by chemistry, dynamo physics, and remnant magnetic fields. For submission to *JGR – Space Physics (March 2017)*

Research Grants and Contracts:

a.) Administered

- Plasma Instrument for Magnetic Sounding (PIMS), NASA Europa Mission Phase A Selection, (CoI-Paty), Budget Awarded so far: Phase A-B (FY16-FY19) **\$99K**
- Radar for Europa Assessment and Sounding: Ocean to Near-surface (REASON), NASA Europa Mission Phase A Selection (CoI-Paty and CoI-Schmidt), Budget Awarded so far: Phase A-B (FY16-FY19) **\$138K**
- Europa's magnetic field: Separating plasma perturbations from an ocean-induced dipole, NASA Solar System Workings, FY 2017-2020, **\$51K** to CoI-Paty (PI-Crary, UC Boulder)
- Magnetospheres of Outer Planets Conference 2015, NASA Topical Workshops, Symposium, and Conferences (PI-Paty), Budget **\$45K**
- Characterizing the influence of ICMEs at Mercury using MESSENGER observations and multifluid simulations, NASA Discovery Data Analysis Program, Start of FY2016 through end of FY 2018, **\$224K** (PI-Paty)
- Particle Environment Package for the Jupiter Icy Moon Explorer (JUICE), ESA L-Class Program, NASA HQ for US Participation, FY13-FY33, \$60M, (Co-I Paty, Subcontract to JHU/APL, subcontract budget **\$290K**)

- The Interaction between Callisto and Jupiter's Magnetosphere: A Hybrid Approach, NASA Outer Planets Research Program, FY2014-FY2017, **\$378K**, (PI- Simon, Co-I Paty, Georgia Institute of Technology)
- Observing Ganymede's atmosphere and auroras with COS and STIS, Hubble Space Telescope Cycle 21, Space Telescope Science Institute, FY13/14, (Co-I Paty, only travel funds, **\$5K** as proposal funds support Hubble Space Telescope Observations.)
- Seasonal variability of Saturn's magnetosphere: A synoptic study of dynamic and morphologic changes using simulation and observation, NASA Cassini Data Analysis and Participating Scientist Program, Start of FY2012 though the end of FY2014, **\$322K** (PI- Paty) → **Awarded: Cassini Participating Scientist**
- Enceladus' Plume: Coupling Eruptive Dynamics to Plasma Dynamics, NASA Outer Planets Research Program, Start of FY2012 through end of FY 2014, **\$280K**. (PI- Paty with CoI- Dufek, also Georgia Institute of Technology)
- Developing a Novel Modeling Approach for Mars' Ionospheric Electrodynamics, NASA Mars Fundamental Research Program, FY2010 to FY2013, **\$310K**. (PI- Paty)
- Vacuum ultraviolet photon induced formation of O and O₂ in Saturn's ring particle atmosphere, NASA Outer Planets Research Program, FY2009 to FY2012, **\$384K**. (Co-I Paty with PI Thom Orlando, Georgia Institute of Technology) (no cost extended to 2013)
- Incorporating Ion-Neutral Interactions Into 3D Multi-fluid Simulations: Understanding Enceladus' Plume Through Observation and Simulation, NASA Cassini Data Analysis Program, FY2008 to FY2010, **\$200K** (no cost extended through FY2011).
- Developing a Novel Modeling Approach for Mars' Ionospheric Electrodynamics, NASA Mars Fundamental Research Program, FY2009 to FY2010, **\$100K** (no cost extended to 2011).
- Planetary and Space Science Initiative, Georgia Tech Fund for Innovation in Research and Education, 2012, **\$4K**. (PI- Paty and Co-PI Wray)

Keynote addresses and Invited Seminars, Colloquia, and Talks:

- 1.) *The Jovian System: Icy Moons, Volcanos and Magnetic Fields*, **The Georgia Regional Astronomers Meeting Public Lecture**, Georgia State University, October 28, 2016
- 2.) *A Tour of the Outer Solar System: Exploring Volcanos, Moons, and Giant Planets*, **Fernbank Science Center and Planetarium**, Keynote Talk for Earth Science Day, October 15, 2016, Atlanta, GA

- 3.) *Moon-Magnetosphere Interactions at Jupiter & Saturn*, **University of Arizona Lunar and Planetary Laboratory Seminar**, September 21, 2016, Tucson, AZ
- 4.) *Modeling Magnetospheric Current Systems*, **Chapman Conference on Currents in Geospace and Beyond**, Invited Talk, May 26, 2016, Dubrovnik, Croatia
- 5.) *Critical Models: Plasma Dynamic Simulations*, **Juno/Cassini Workshop**, Invited Talk, May 31, 2015
- 6.) *The Cassini Mission to Saturn*, **Agnes Scott College, Bradley Observatory Open House**, May 15, 2015
- 7.) *Exploring the Solar System with Robots and Computers*, **Siemens Science Competition Awards Ceremony Keynote**, Nov. 22, 2014
- 8.) *From Ionospheric Electrodyamics at Mars to Mass and Momentum Loading at Saturn: Quantifying the Impact of Neutral-Plasma Interactions using Plasma Dynamic Simulations*, **University of Arizona Lunar and Planetary Laboratory Colloquium**, Oct. 7, 2014
- 9.) *From Ionospheric Electrodyamics at Mars to Mass and Momentum Loading at Saturn: Quantifying the Impact of Neutral-Plasma Interactions using Plasma Dynamic Simulations*, **Chapman Conference on Magnetosphere-Ionosphere Coupling in the Solar System**, Invited Keynote, Yosemite, CA, February 14, 2014
- 10.) *From local interaction to global impact: The role of Enceladus at Saturn*, **Georgia Institute of Technology NASA Space Science Day with the Society of Hispanic Professional Engineers**, Oct. 4, 2013
- 11.) *From local interaction to global impact: The role of Enceladus at Saturn*, **Physics and Astronomy Colloquium, Georgia State University**, Sept. 24, 2013.
- 12.) *Magnetospheric dynamics: From giant planets to tiny moons*, **School of Earth and Atmospheric Sciences Seminar, Georgia Institute of Technology**, Sept. 19, 2013.
- 13.) *Cassini at Saturn: Icy Moons, Rings, and Volcanos*, **College of Science Advisory Board, Georgia Institute of Technology**, Oct., 26, 2012.
- 14.) *Unraveling the role of Enceladus in Saturn's magnetosphere through observation & simulation*, **Bryn Mawr College, Physics Colloquium Series**, Bryn Mawr, PA, Sept. 24, 2012.
- 15.) *Space Physics and Planetary Sciences*, **Georgia Institute of Technology NASA Space Science Day with the Society of Hispanic Professional Engineers**, August, 24, 2012

- 16.) *The future of outer solar system exploration lies with JUICE*, **Mars Landing Party with the Atlanta Science Tavern**, August 5, 2012
- 17.) *Neutrals and Charged Dust in Plasma Dynamic Simulations*, **University of Washington, Space Physics Seminar**, Seattle, WA, March 7, 2012
- 18.) *From local interaction to global impact: The role of Enceladus at Saturn*, **University of Washington, Earth & Space Sciences Seminar**, Seattle, WA, March 6, 2012
- 19.) *Enceladus' Plume: Perspectives from Simulations and Observations*, **Southwest Research Institute, Planetary Science Directorate Seminar**, Boulder, CO, February 7, 2012.
- 20.) *Defining your path*, **University of Washington, Earth and Space Sciences Commencement Speaker**, June, 2011
- 21.) *Enceladus' Plume: Perspectives from Simulations and Observations*, **Boston University, Center for Space Physics Seminar**, February, 2011.
- 22.) *The Cassini Mission: A close look at Enceladus*, **Georgia Regional Astronomers Meeting (GRAM) Invited Public Outreach Talk**, Atlanta, GA., Nov., 2010
- 23.) *The Solar Resource: The Sun as a Source of Energy*, **Keynote Lecture, Georgia Tech's Open Forum on Energy and Environment**, Jan., 2010
- 24.) *Coupling between the magnetospheres of Ganymede and Jupiter*, (**Invited Talk Fall AGU 2009**) Paty, C., K. D. Retherford, R. Winglee, and W. R. Paterson (2009), *Eos Trans. AGU*, 90(52), Fall Meet. Suppl., Abstract SM11C-06.
- 25.) *Enceladus' Plume: An Overview of Observations and Interpretation Through Multi-fluid Simulations*, **Magnetospheres of Outer Planets Conference (Invited Keynote)**, 2009.
- 26.) *Coupling between the magnetospheres of Ganymede and Jupiter*, (**Invited Talk EPSC 2008**) Paty, C. and R. Winglee (2008), *European Planetary Science Congress*, EPSC2008-A-00443.
- 27.) *Modeling magnetospheric interactions in the solar system*, **Physics Colloquium, Georgia Institute of Technology**, Oct., 2008
- 28.) *Understanding the Interaction between Ganymede's and Jupiter's Magnetospheres: Combining Observations and Multi-fluid Simulations*, **University of Maryland, Physics Seminar**, May, 2006
- 29.) *Understanding the interaction between Ganymede's and Jupiter's magnetospheres through multi-fluid simulations and observations*, (**Invited Talk EGU 2006**) Paty C., and R. Winglee (2006), *Geophysical Research Abstracts*, Vol. 8, 10724, 2006 SRef-ID: 1607-7962/gra/EGU06-A-10724.

- 30.) *Understanding the Interaction between Ganymede's and Jupiter's Magnetospheres: Combining Observations and Multi-fluid Simulations*, **Georgia Institute of Technology, School of Earth & Atmospheric Sciences Seminar**, April, 2006
- 31.) *A tale of two magnetospheres: Understanding the Complex Interaction between Ganymede's and Jupiter's Magnetospheres*, **Southwest Research Institute, Space Physics Seminar**, Jan., 2006
- 32.) *The importance of being O⁺: The role of heavy ions in shaping Ganymede's magnetosphere*, **Los Alamos National Laboratory, Space Science Seminar**, Nov., 2005
- 33.) *Planetary Magnetospheres: Understanding the Complex Relationship between the Sun our Magnetosphere and Us*, **Rocks and Stars Lecture Series, hosted by NASA's Washington State Space Grant**, May, 2005

Committees Georgia Tech:

College of Science Diversity Council 2015-present (COS)
Faculty Council for the Center for Space Technology & Research 2013- (COS/COE)
Co-Chair, Graduate Studies Committee 2013/2014/2016 (EAS)
Chair, Planetary Faculty Search Committee 2012/2013 (EAS)
Solid Earth Geosciences Faculty Search Committee 2012/2013 (EAS)
Internal Review Panel for the Center for Relativistic Astrophysics, 2012 (COS)
Graduate Studies Committee 2008-2009, 2010-present (EAS)
Web and Social Computing Committee 2010-present (EAS)
Center for Space Systems 2008-present (AE)
Undergraduate Studies Committee 2009-2010 (EAS)
Geophysics Search Committee 2009-2010 (EAS)
Senior Design Project Assessment Panel 2008-2009 (AE)
Comprehensive Exam Committees: Dasa Gu (2009), Zhen Liu (2010), Andrew Davis (2010), John Trostel (2010), Jennifer Telling (2011), Mary Benage (2011), Ashok Rajendar (2012), Yuzhong Zhang (2012), Yohei Takano (2013), Lujendra Ojha (2014), Zefeng Li (2014), Yanqing Su (2014), John Hale (2014), Xin Cao (2014)
PhD Dissertation Committees: Dr. Ashok Rajendar (2011-2015), Dr. Michele Dawley (2008-2013), Dr. Bryan Karpowicz (2007-2009), Dr. Gregory Boer (2009), Dr. Kiruthika Devaraj (2008-2011)

Committees External:

National Academy of Sciences – Committee Member for ‘Large Strategic NASA Science Missions: Science Value and Role in a Balanced Portfolio’ July 2016-2017
NASA Outer Planets Assessment Group – Steering Committee Member (2016-present)
NASA Outer Planets Assessment Group (2011-present)
NASA Uranus Working Group (2011-present)

Science Program Committee for the Magnetospheres of Outer Planets Conference (2007-2015)

Fall 2010 AGU Meeting: Planetary Undergraduate/Graduate Career Panel. This first annual student/scientist event was developed by the Planetary Division Education Working Group to provide a forum for students to learn about career paths and get advice from scientists in various roles in the Planetary Science Community.

2008 ISSI International Team: Intercomparison of Global Models and Measurements of the Martian Plasma Environment.

NASA Review Panels (1 in 2017, 1 in 2014, 2 in 2013, 1 in 2012, 2 in 2010, 2 in 2008) for the NASA Mission Participating Science Program, the Cassini Data Analysis Program, Outer Planets Research Program, Discovery Data Analysis Program, Lunar Advanced Science and Exploration Research Program, and ICEE – Instrument Concepts for Europa Exploration Program, Mars Data Analysis Program.

Conference Organizer for 3+ international meetings at Georgia Tech:

Cassini Plasma Spectrometer Team Meeting #39, Oct. 29-30, 2009

Outer Planets Assessment Group, January 10-11, 2013

Magnetospheres of Outer Planets Meeting, June 2015

Journal Reviews:

Journal of Geophysical Research: Space Physics

Journal of Geophysical Research: Planets

Geophysical Review Letters

Space Science Reviews

Icarus

Annales Geophysicae

Education and Public Outreach:

- Atlanta Science Tavern - Helped organized eight major events with the Atlanta Science Tavern including:

Exploring Icy Moons and Planets - A Benefit for Cosmos Education, *Dinner and a seminar with Dr. Kevin Hand, JPL Scientist and Founder of Cosmos Education (80+ attendees) 10/23/2010*

Mars Rover Landing Party and Planetary Science Symposium, *An all night affair with 5 science talks followed by discussion and live feed from the Mars Science Lander arrival at Mars! (300+ Attendees) 8/5/2012*

‘Europa Report’ viewing party, *Midtown Arts Cinema Matinée followed by dinner and discussion of this scientifically grounded scifi thriller. (58+ Attendees) 8/11/2013*

Exploring the Solar System with Robots, *An Atlanta European Science Café with the Atlanta Science Tavern featuring Dr. Christopher Arridge, Royal Society University Research Fellow*

Mullard Space Science Laboratory, University College London (80+ Attendees) 12/4/2013

The Voyager spacecraft after 37 years in space: The quest for traveling beyond our solar system, *Part of the CSTAR Distinguished Lecture Series featuring Dr. Stamatios Krimigis, Johns Hopkins Applied Physics Laboratory, (200+ Attendees) 1/12/2015*

Roving Mars: Spirit, Opportunity and the Exploration of the Red Planet, *Part of the CSTAR Distinguished Lecture Series featuring Dr. Steve Squyres, Cornell University (200+ attendees) 4/13/2015*

Understanding Particles and Fields Throughout the Solar System, *Part of the CSTAR Distinguished Lecture Series featuring Dr. Daniel Baker, University of Colorado, LASP, (100+ attendees) 10/7/2015*

Why We Explore? *Part of the CSTAR Distinguished Lecture Series featuring Dr. James Crocker, Lockheed, (~100 attendees) 11/18/2015*

- NASA Science Day at Georgia Tech (9/28/2012, 10/4/2013): Worked with the Society of Hispanic Professional Engineers university chapter of undergrad and graduate students along with of Johnson Spaceflight Center's Astromaterials Research and Exploration Science group to put on NASA Science Day for local middle school students. This involved training students with the SHPE chapter in August and helping to coordinate the event in September/October.
- Observatory Special Events:
 - Yuri's Night (4/12/2016): Helped organize an observing night and outreach party and talk with the Planetary Society at Georgia Tech celebrating Yuri Gagarin's historic trip into space. Talk: 'Exploring the Solar System with Robert, Computers, and Humans' – C. Paty, 100+ guests
 - Venus Transit (6/5/2012): Coordinated a Venus transit viewing party with Dr. Jim Sowell (Physics) at the Georgia Tech Observatory. 400+ guests viewed the transit through 6 solar telescopes.
- Founded, contribute to, and manage the Atlanta Spaceport Blog (2012-present): Space Science and Exploration updates from Georgia Tech's Planetary Science Group, <http://atlantaspaceport.blogspot.com/>
- Interviews with local and national news venues on various space and planetary events including: NPR Market Place, Tech News World, CNN, and 11Alive News
- Science Outreach to Newton County Middle School Science Teachers (2012-present): Participated in a workshop with Newton Country Middle School science teachers to bring fundamental earth science and physics to the classroom through learning about planetary science. Developed interactive lectures/demonstration distributed to teachers.
- Science outreach to Atlanta area elementary schools (2010-present): This grass roots program strives to bring planetary science to the classrooms of local elementary schools through 1-2 hour interactive classroom visits and follow-up in class activities. It works with the science topics outlined in Georgia's science curriculum and incorporates them into lesson plans related to planetary science. This program is continuously under development, and has been successfully applied at the 4-5th grade level.

- Chautauqua Instructor (2006): This programs goal is to continue the education of high school and community college instructors by presenting new and cutting edge research topics in a format transportable to their own classrooms. Courses are designed to run for three days and provide participants with lectures, online resources and demonstration ideas to bring research into the classrooms.

Honors Awards and Recognition:

Royal Astronomical Society's Group Achievement Award for the Cassini Magnetometer Team (2014)

NASA Cassini Participating Scientist (2011), the first competition for Participating Scientist since the launch in 1997. Only 8 slots were available for U.S. scientists.

NASA Group Achievement Award given to the Cassini Plasma Spectrometer Team (2009).

Howard A. Coombs Fellowship for excellence in teaching (2005), Dept. of Earth and Space Sciences,

University of Washington.

Student Technology Fee Grant Proposal (from the University of Washington, \$30K, 2003).

Graduated Magna Cum Laude with Departmental Honors from Bryn Mawr College (2001).

Membership in Professional and Honor Societies:

American Geophysical Union

European Geosciences Union

Graduate and Undergraduate Students Supervised:

Ph.D. students (3):

Ayanna Jones, Fall 2016 - present

John Hale, Fall 2012 - present

Xin Cao, Fall 2012 - present

Past Graduate students (7):

Stoyan Ivanov, Fall 2013 – 2016 (Withdrew for 1 semester, Returned, Completed EAS Masters)

Dr. Ashok Rajendar, Spring 2011-Fall 2015 (Completed EAS PhD)

Katie Milway, Fall 2011-Spring 2014 (Completed EAS Masters)

Dr. Alexia Payan, Spring 2011-Spring 2013 (Completed EAS Masters/ AE PhD, 4/2013)

Dr. Ariaah Kidder, 2006-2011 (Remotely Co-Advised, PhD 12/2011 from U. of Washington)

Dr. Chuanfei Dong, Fall 2009-2010 (Completed Masters 12/2010, Completed PhD at U. Michigan 2015)

Dana Ionita, Fall 2008-Spring 2010 (Withdrew for military service: Air National Guard)

Past Undergraduate Students (8 total):

Nicholas Lucas (PHYS), Summer 2014 – Spring 2015, Attending Penn State for PhD Fall 2015

Stoyan Ivanov (PHYS), Summer 2011-Fall 2012, Attending Georgia Tech for PhD Fall 2013

Maria Rusert (GSU, PHYS), Spring 2012

John Hale (PHYS), Summer 2011-Spring 2012, Attending Georgia Tech for PhD
Robert Cooper (PHYS), Fall 2011
Derek Podowitz (EAS), Fall 2010-Spring 2011, Attended Texas A&M, Masters 2013
Carlos Carrera (PHYS), Fall 2009-Spring 2010, Attending Georgia State U. for Masters
Thom Muccillo (EAS), Spring 2010, Fall 2010-Spring 2011

Postdoctoral Fellows Supervised:

Dr. Reka Winslow, Oct. 2015-present
Dr. Jeremy Rioussset, Jan. 2011-Dec. 2013 - Now a tenure-track Assistant Professor at Embry-Riddle Aeronautical University