

Newsletter 18-40

Issue 18-40, September 29, 2018

+-----CONTENTS-----+

- 1. [IN MEMORIAM: WILLIAM \(BILL\) R. WARD \(1944-2018\)](#) [1]
- 2. COMMUNITY ANNOUNCEMENTS AT THE DPS MEETING
- 3. LAST CALL TO PARTICIPATE IN THIS YEAR'S EARLY CAREER PRESENTERS REVIEW AT DPS
- 4. PUBSPACE AND YOU WORKSHOP AT DPS
- 5. ANNOUNCEMENT OF DPS WORKSHOP ON LABORATORY STUDIES OF ATMOSPHERES AND PLUMES
- 6. TRICK OR TREAT AND TELESCOPES
- 7. JOBS, POSITIONS, OPPORTUNITIES

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IN MEMORIAM: WILLIAM (BILL) R. WARD (1944-2018)

William (Bill) R. Ward passed away on September 20th at his home in Prescott, Az after a battle with brain cancer. Ward was a preeminent theoretician that made many seminal contributions to our understanding of planetary dynamics and solar system formation. With his thesis advisor, Peter Goldreich, Ward proposed that planetesimals were formed via local gravitational instability in the protostellar disk. In 1973, Ward was the first to recognize that the obliquity of Mars undergoes large oscillations, and with Alastair Cameron in 1976, he was one of the original proposers of the giant impact theory for the origin of the Moon. Ward was a pioneer in the study of gravitational interactions between planets and their precursor gas disk, and how these may cause large scale changes in planetary orbits. His many papers on this topic elucidated the nature of Type I vs. Type II migration, central to our understanding of planet formation in our Solar System and in exoplanetary systems. Ward also

contributed greatly to our understanding of satellite formation and dynamical evolution.

After completing his PhD at Caltech, Ward worked as a post-doc at CFA, before moving to JPL. He joined SwRI in Boulder, Co., in 1998, and retired from SwRI as an Institute Scientist in 2014. Ward is survived by his wife Sandra, brother Jeff, sister Patty, sons Brad and Scott, and daughter Stephanie.

Robin Canup

Southwest Research Institute

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COMMUNITY ANNOUNCEMENTS AT THE DPS MEETING

DPS will try something new in the program at this year's meeting. We have allotted 5 minutes at the beginning of the plenary sessions for oral announcements about items of broad interest to our community. If you would like to make a very short announcement (no longer than 2 minutes), please send a short description of your topic to mmcgrath@seti.org [2] for coordination and approval by DPS leadership.

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LAST CALL TO PARTICIPATE IN THIS YEAR'S EARLY CAREER PRESENTERS REVIEW AT DPS

This is the last call for career scientists, including undergraduate and graduate students, postdocs, others early in their careers, and first time presenter to participate in this year's Early Career Presenters Review at DPS. Join this educational opportunity to receive feedback from seasoned presenters!

We have space on Sunday October 21 at 3pm, Monday October 22nd at 7am, and 4pm. Early career scientists are invited to practice their oral or poster

presentation and receive feedback before presenting during the regular meeting.

Participants also have the opportunity to network with their peers and future colleagues.

Registration is free but required for participants:

https://www.surveymonkey.com/r/DPS_18_EC [3].

Please contact Sanlyn Buxner (buxner@psi.edu [4]) with any questions.

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PUBSPACE AND YOU WORKSHOP AT DPS

PubSpace and You: How to Deposit Your Manuscripts as Required by ROSES
at the DPS Fall Meeting on Monday, Oct 22, 12:00 pm-12:45 pm, Room 301B.

We will discuss the relatively new ROSES requirements to submit your manuscripts to NASA's PubSpace system, as well as the practicalities for doing so with a variety of different publications. Please join us.

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ANNOUNCEMENT OF DPS WORKSHOP ON LABORATORY STUDIES OF ATMOSPHERES AND PLUMES

Workshop on "Laboratory Studies of Atmospheres and Plumes" organized
by the Laboratory Astrophysics Division of AAS

The object of the Laboratory Astrophysics Division (LAD) is to advance our understanding of the Universe through the promotion of fundamental theoretical and experimental research into the underlying processes that drive the cosmos.

This LAD workshop will consist of five 15-minute-long invited talks showcasing the laboratory astrophysics work being conducted to support planetary missions for the exploration of our solar system and beyond. The invited talks will demonstrate how missions like Cassini, New Horizons, Rosetta, and future missions focused on Europa or exoplanets can benefit from these experimental and theoretical studies. They will be followed by a 10-minute panel discussion to encourage participants to explore the laboratory astrophysics needs for planetary science studies and initiate conversations that could lead to future collaborations and new` research investigations.

The workshop program will be as follows:

12:00-12:05: Stefanie Milam and Ella Sciamma-O'Brien — General introduction and welcome

12:05-12:20: Morgan Cable — "Laboratory Investigations to Support Exploration of Titan"

12:20-12:35: Karl Hibbitts — "Understanding Europa and its potential plumes through laboratory measurements"

12:35-12:50: Will Grundy — "Laboratory Studies of Condensed Volatiles Under Outer Solar System Conditions"

12:50-13:05: Perry Gerakines — "Laboratory Experiments in Support of Comet Exploration"

13:05-13:20: Sarah Horst — "Laboratory astrophysics investigations supporting exoplanet exploration"

13:20-13:30: Panel discussion

The workshop will be Thursday October 25th from 12:00-1:30 PM in room 301D-E.

Lunch boxes will be provided on a first come first serve basis to the first 30 participants.

Please contact Dr. Ella Sciamma-O'Brien (ella.m.sciammaobrien@nasa.gov [5])

or Dr. Stefanie Milam (stefanie.n.milam@nasa.gov [6]) with any questions.

Acknowledgments: We greatly appreciate support for this workshop from the VORTICES team from SSERVI, and from Thermo Fisher Scientific.

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TRICK-OR-TREAT AND TELESCOPES

DPS is continuing its Trick-or-Treat and Telescopes Program. Put out your telescopes – or even binoculars - during trick-or-treat time on Halloween, in your own lawn or in a neighbor’s lawn with better viewing (or more traffic). The following website gives advice and connections to resources. If you have any pictures of your event, please send them to [bonnie.buratti\(at\)jpl.nasa.gov](mailto:bonnie.buratti@jpl.nasa.gov) <https://dps.aas.org/education/trick-or-treat-and-telescopes> [7]

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JOBS, POSITIONS, OPPORTUNITIES

A) BATEMAN POSTDOCTORAL FELLOWSHIP,
DEPARTMENT OF GEOLOGY & GEOPHYSICS,
YALE UNIVERSITY

The Department of Geology and Geophysics at Yale University (www.geology.yale.edu [8]) announces an annual competition for a Bateman Postdoctoral Fellowship. We welcome applicants with research interests across the full range of disciplines within earth and planetary sciences, including the studies of geophysics, planetary sciences, tectonics, oceans, atmosphere, climate dynamics, geochemistry, paleoclimatology, geobiology, and the evolution of life. The Postdoctoral Associate position is awarded for two years, providing a stipend (\$60,000/yr) and base research funds (\$5,000/yr), plus health care benefits and limited expenses for relocation. Applicants should contact a sponsor in the Department to discuss potential research projects, and then submit a short (2-3 page) statement of research interests and proposed research, a curriculum vitae with a full list of



publications, an endorsement letter from the sponsoring faculty member, and three confidential letters of reference. Applications should be submitted online at <http://apply.interfolio.com/54659> [9]. The deadline for receipt of all application materials is December 15, 2018, and successful candidates are expected to begin their program at Yale between July 1 and December 31, 2019.

Yale University is an Affirmative Action/Equal Opportunity employer.

Yale values diversity among its students, staff, and faculty and strongly welcomes applications from women, persons with disabilities, protected veterans, and underrepresented minorities.

B) POSTDOCTORAL POSITION COMETARY ATMOSPHERES

PHYSICS DEPARTMENT

AUBURN UNIVERSITY

The Physics Department at Auburn University invites applicants for a post-doctoral research position within the [Atomic, Molecular and Optical Physics](#) [10] group in the field of [cometary atmospheres](#) [11].

The successful candidate will analyze images of comet 9P/Tempel 1 taken during the flyby of NASA's [Deep Impact](#) [12] spacecraft. These images were acquired with comet specific narrowband filters and allow for a detailed study of the gas and dust surrounding the nucleus. The goal of this project is to connect this gas and dust to specific areas on the nucleus, to investigate chemically heterogenous outgassing, and to identify atomic and molecular processes that alter the inner coma.

Familiarity with planetary science and/or atomic and molecular physics is



preferred. Substantial familiarity with a commonly-used scientific programming language (e.g. IDL, Python) is highly desirable. Review of applications will begin October 19th, 2018 and continue throughout the year as the positions become available.

The contact for this activity is Prof. Dennis Bodewits (dennis@auburn.edu [13]).

More details and information on how to apply can be found at:

<http://www.auburn.edu/~dzb0059> [14]

C) GRADUATE RESEARCH OPPORTUNITY

UNIVERSITY OF HAWAII :

FLUID MIGRATION IN TITAN'S ICE SHELL

<https://dps.aas.org/content/graduate-research-opportunity-university-hawaii-fluid-migration-titan's-ice-shell> [15]

As part of the new NASA Astrobiology Institute (NAI) project "Habitability of Hydrocarbon Worlds: Titan and Beyond", we are investigating the mechanisms and pathways by which biosignature-hosting materials might be transported from a habitable ocean environment to the surface, where they could be recognized by remote sensing instruments. These mechanisms might include cryovolcanism, solid state convection in the ice shell, fracture/fault propagation, and the formation of subsurface fluid reservoirs that might facilitate fluid migration to the surface. See nai.nasa.gov/teams/can-8/jpl-titan/ [16] for a more detailed description of the overall project.

An opportunity exists in this area at the University of Hawaii (UH) for a

graduate student to pursue their PhD, enrolled through the Department of Earth Sciences (formerly known as Geology and Geophysics; www.soest.hawaii.edu/GG/ [17]), but hosted within the Hawaii Institute of Geophysics and Planetology (HIGP; www.higp.hawaii.edu [18]). The deadline for applying to graduate school at UH is January 15 for Fall 2019 admission; more details at www.soest.hawaii.edu/GG/admissions/gg_admissions.html [19]

The desired candidate will have a solid physics, math, or geology/geophysics background, and interests/expertise in numerical modeling, cryomagmatism, ice physics, Titan and/or other icy satellites.

Please contact Sarah Fagents at fagents@hawaii.edu [20] for more information.

D) NASA ASTROBIOLOGY POSTDOCTORAL OPPORTUNITY UNIVERSITY OF HAWAII

<https://dps.aas.org/content/nasa-astrobiology-postdoctoral-opportunity-university-hawaii> [21]

As part of the new NASA Astrobiology Institute (NAI) project “Habitability of Hydrocarbon Worlds: Titan and Beyond”, we are investigating the mechanisms and pathways by which biosignature-hosting materials might be transported from a habitable ocean environment to the surface, where they could be recognized by remote sensing instruments. These mechanisms might include cryovolcanism, solid state convection in the ice shell, fracture/fault propagation, and the formation of subsurface fluid reservoirs that might facilitate fluid migration to the surface. See nai.nasa.gov/teams/can-8/jpl-titan/ [22] for a more detailed description of the overall project.

An opportunity exists in this area for a postdoctoral researcher to develop a proposal for the NASA Astrobiology Postdoctoral Program, for a project to be pursued at the University of Hawaii. The desired candidate will have a solid physics, math, or geology/geophysics background, and interests/expertise in numerical modeling, cryomagmatism, ice physics, Titan and/or other icy satellites. The next deadlines for this program are November 1 and March 1. If the proposal is selected for funding, the anticipated start dates would be spring/summer 2019 or fall 2019, respectively. More details are available at nai.nasa.gov/funding/postdoctoral-fellowship-program [23]

Please contact Sarah Fagents at fagents@hawaii.edu [24] for more information.

E) NASA HUBBLE FELLOWSHIP PROGRAM (NHFP)

On behalf of the NASA Astrophysics Division, the Space Telescope Science Institute (STScI) announces the second annual call for applications for postdoctoral fellowships under the NASA Hubble Fellowship Program (NHFP) #02904, to begin in the Fall of 2019.

The Announcement of Opportunity, which includes detailed program policies and application instructions, is available at the website: <http://nhfp.stsci.edu> [25].

The application submission page will be open today until November 1, 2018.

Please share this employment announcement with your friends, networking groups, mailing lists, and social connections using this link.

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Send submissions to:

Anne Verbiscer, DPS Secretary (dpssec@aaas.org) [26]

You are receiving this email because you are a DPS member.

To unsubscribe or update your information, please send your request

to privacy@aaas.org [27]. The more general AAS privacy policy is available

online at <https://aas.org/about/policies/privacy-policy> [28].

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Links:

[1] https://dps.aas.org/news/WilliamRWard_1944-2018

[2] https://mail02.ndc.nasa.gov/owa/redir.aspx?C=e5Y5CO4NopLVHuIXMVfAdFKwBua9y_Km--4zXXi5fjC2aDqg3CbWCA..&URL=mailto%3ammcgrath%40seti.org

[3] https://mail02.ndc.nasa.gov/owa/redir.aspx?C=dIXcEAPm1etq7ql_6qpISHdZWqBcJMM2ZIBqC7bX6dm2aDqg3CbWCA..&URL=http%3a%2f%2fwww.surveymonkey.com%2fr%2f49DPS

[4] <https://mail02.ndc.nasa.gov/owa/redir.aspx?C=jgZbfqTaH2P5Qx2LVXFcdITaEGRkkdivZfFWVUwMR3W2aDqg3CbWCA..&URL=mailto%3abuxner%40psi.edu>

[5] <https://mail02.ndc.nasa.gov/owa/redir.aspx?C=EW9nbExE8NWEmxPYcGKsLvEia0pj2DC319QRmOioepm2aDqg3CbWCA..&URL=mailto%3aella.m.sciammaobrien%40nasa.gov>

[6] <https://mail02.ndc.nasa.gov/owa/redir.aspx?C=3-VEsi6qdK5J1ELA0Y-Plp5L6ultGwgEDTO3hjNnBK2aDqg3CbWCA..&URL=mailto%3astefanie.n.milam%40nasa.gov>

[7] https://mail02.ndc.nasa.gov/owa/redir.aspx?C=-TWqpQ5j9OJV9KYbek58_qQg9cukDMMGQAsOQ_ElaC2aDqg3CbWCA..&URL=https%3a%2f%2fdps.aas.org%2feducation%2ftrick-or-treat-and-telescope

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[9] https://mail02.ndc.nasa.gov/owa/redir.aspx?C=cyVWJfIRKS9cAB_xozjdJ-0VfT6em5vTsgvpKvSM6-m2aDqg3CbWCA..&URL=http%3a%2f%2fapply.interfolio.com%2f54659

[10] <https://mail02.ndc.nasa.gov/owa/redir.aspx?C=geg5TKGJrHI5d5LACjLFnn-HSsiu4X4slgkyabo9Kni2aDqg3CbWCA..&URL=http%3a%2f%2fwww.auburn.edu%2fcosam%2fdepartments%2fphysics%2fresearch%2fatomic.htm>

- [11] https://mail02.ndc.nasa.gov/owa/redir.aspx?C=rdOpDkfg9LZmzIBiSt_jmsfdgnSsI21eG-mo4LcXx62aDqg3CbWCA..&URL=http%3a%2f%2fwww.auburn.edu%2f%257Edzb0059%2f
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- [15] <https://mail02.ndc.nasa.gov/owa/redir.aspx?C=-kFV--mRvll3mm-HnSHPeNtFRFLsYbltCLEXNvrLPee2aDqg3CbWCA..&URL=https%3a%2f%2fdps.aas.org%2fcontent%2fgraduate-research-opportunity-university-hawaii-fluid-migration-titan%25E2%2580%2599s-ice-shell>
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- [18] https://mail02.ndc.nasa.gov/owa/redir.aspx?C=sgBe98cE3kvhRG5rMVKx6iOzqCVPVJOtF_ibBvXXD8S2aDqg3CbWCA..&URL=http%3a%2f%2fwww.higp.hawaii.edu
- [19] https://mail02.ndc.nasa.gov/owa/redir.aspx?C=_wHYKr88C73fhBd_bDf1YP9hp-lmBLnEQbtZCNlgCi2aDqg3CbWCA..&URL=http%3a%2f%2fwww.soest.hawaii.edu%2fGG%2fadmissions%2fgg_admissions.html
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- [25] <https://mail02.ndc.nasa.gov/owa/redir.aspx?C=j0GBzGMTIntyTKhD9tlwp1D-dz-1CQPrdGqXeukA-J4cyjy3CbWCA..&URL=http%3a%2f%2fnhfp.stsci.edu>
- [26] https://mail02.ndc.nasa.gov/owa/redir.aspx?C=5Pcs1sIGTCyrZiaAMx6iEQgemmYkvck9A2P_PkCl8Xacyjy3CbWCA..&URL=mailto%3adpssec%40aas.org
- [27] <https://mail02.ndc.nasa.gov/owa/redir.aspx?C=avCslUpxviiGEbleHIFZDiyUZvAe42JnEWotuixh9Ggcyjy3CbWCA..&URL=mailto%3aprivacy%40aas.org>
- [28] <https://mail02.ndc.nasa.gov/owa/redir.aspx?C=ANh2rcf6aOe5ORzXRSAn-VuNIQXUBpgL0AzSD8rWOk0cyjy3CbWCA..&URL=https%3a%2f%2faas.org%2fabout%2fpolicies%2fprivacy-policy>