

Newsletter 18-52

Issue 18-52, December 28, 2018

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

1. NEW HORIZONS ULTIMA THULE FLYBY ON 31 DECEMBER/1 JANUARY—GETTING THE WORD OUT TO ENGAGE THE PUBLIC IN THE FIRST EXPLORATION OF A KBO
2. AAS SPLINTER: BIOSIGNATURES IN THE 2030S AND BEYOND
3. PDS SMALL BODIES NODE MINOR PLANET CENTER USER GROUP (MUG)
4. GEMINI OBSERVATORY: NEW LARGE AND LONG PROGRAMS
5. NEXT OPAG MEETING
6. ABSCICON 2019 SESSION: HAVE COMET, WILL TRAVEL!
7. ABSCICON 2019: EXPLORING THE PLANETARY SYSTEM OF ALPHA CENTAURI
8. NATIONAL ACADEMIES REPORT: STRATEGIC INVESTMENTS IN INSTRUMENTATION AND FACILITIES FOR EXTRATERRESTRIAL SAMPLE CURATION AND ANALYSIS
9. JOBS, POSITIONS, OPPORTUNITIES

+-----+

1-----1-----1-----1-----1-----1-----1-----1-----1-----1

NEW HORIZONS ULTIMA THULE FLYBY ON 31 DECEMBER/1 JANUARY—GETTING THE WORD OUT TO ENGAGE THE PUBLIC IN THE FIRST EXPLORATION OF A KBO

On Dec. 31 and Jan. 1, NASA’s New Horizons mission will make the first close reconnaissance of a KBO, 2014 MU69—aka, Ultima Thule. This challenging and scientifically exciting flyby will make the farthest exploration of worlds in history, a billion miles beyond Pluto.

Extensive flyby social media and TV coverage begins on Dec. 28. The mission website at <http://pluto.jhuapl.edu> [1] has links to Twitter (hashtags #UltimaThule and #UltimaFlyby), other social media channels, and live streams carrying the event; more here: <http://pluto.jhuapl.edu/News-Center/Where-to-Watch.php> [2]

If the government shutdown has ended, this coverage will include NASA social accounts and NASA TV; but even if not, numerous traditional and social media, as well as TV channels will be covering the flyby and its ensuring early results.

Public engagement is a key factor in support for the NASA planetary program. The New Horizons mission team asks community members to help spread the word about this exciting exploration using social media channels, mailing lists, and other means over the next few days as we approach and then flyby Ultima.

2-----2-----2-----2-----2-----2-----2-----2-----2-----2-----2

AAS SPLINTER: BIOSIGNATURES IN THE 2030S AND BEYOND

The Origins Space Telescope is sponsoring a splinter session at the Winter AAS meeting in Seattle on Wednesday, January 9, 2-4:30 PM, "Biosignatures in the 2030s and Beyond," room 401. The session is organized by Jonathan Fortney (UC Santa Cruz), Tyler Robinson (Northern Arizona University), and Shawn Domagal-Goldman (NASA Goddard). The main goal is to discuss the prospects and context for detecting biosignatures from space-based and ground-based telescopes in the coming decades. The session is composed of 7 invited talks, each 15 minutes, along with a half-hour for open discussion. Free coffee and sugary snacks provided!

Schedule of Speakers:

Introduction and Overview, Shawn Domagal-Goldman
Earth as a Roadmap to Understanding Exoplanet Biosignatures, Linda Sohl

Ground-Based Observations with ELTs, Mercedes Lopez-Morales

Origins Space Telescope, Tiffany Kataria

HabEx, Ty Robinson

LUVOIR, Vikki Meadows

Atmospheric Retrievals from Terrestrial Planet Spectra, Mike Line

A Bayesian Framework for Biosignature Assessment, David Catling

3-----3-----3-----3-----3-----3-----3-----3-----3-----3

GEMINI OBSERVATORY : NEW LARGE AND LONG PROGRAMS

Gemini Observatory announces the opportunity for new Large and Long Programs, with observations beginning in the 2019B semester. Letters of Intent to propose a new Large and Long Program are due February 4, 2019. Completed Proposals are due April 1, 2019. See the current Call for Proposals for further information:

<http://www.gemini.edu/sciops/observing-gemini/proposal-routes-and-observing-modes/large-and-long-programs/2019-llp-call> [3]

Large and long programs (hereafter "large programs" or LLPs) are Principal Investigator-defined and -driven programs that, as a guideline, either require significantly more time than a partner typically approves for a single program or extend over two to six semesters, or both. Large programs are expected to promote collaborations across the partnership's communities, to have significant scientific impact, and normally to provide a homogeneous data set, potentially for more general use. Proposals for Large and Long programs are accepted annually.

4-----4-----4-----4-----4-----4-----4-----4-----4-----4

NEXT OPAG MEETING

The next OPAG meeting is scheduled for February 5-6, 2019, in Washington, DC.

Additional details will be provided on the website as they become available.

5-----5-----5-----5-----5-----5-----5-----5-----5-----5

ABSCICON 2019 SESSION: HAVE COMET, WILL TRAVEL!

We are pleased to announce that AbSciCon 2019 (June 24-28, 2019, Bellevue, WA) will feature a session focused on the role small bodies play in promoting habitability.

Link: <https://agu.confex.com/agu/abscicon19/prelim.cgi/Session/66054> [4]

Topic Area: Star-planet-planetary system interactions and habitability

Session Title: Have Comet, Will Travel: How small bodies promote habitable conditions across the solar system?

Session ID: 66054

Abstract submission deadline: Wednesday, January 23, 2019 23:59 EST.

Small bodies in the solar system (and other planetary systems) may play a significant role in the promotion, proliferation, dissemination and the cessation of life and its related building blocks. The potential of such populations (i.e., comets and asteroids) has been demonstrated to:

- 1) Serve as reservoirs or catalytic surfaces that promote the production of more complex prebiotically relevant chemistries.
- 2) Dynamically distribute prebiotic material across different regions of the proto-planetary disk.
- 3) Alter the volatile and isotopic inventories of planetary atmospheres and surfaces.
- 4) Enable local variations of habitable niches on planetary surfaces (e.g., Earth, Mars, Icy Moons).

This session will combine recent insights from experimental, observational and theoretical studies of ice and organic-rich environments of comets and

carbonaceous asteroids. We invite contributions aimed at revealing how the physics and chemistry of small bodies help catalyze and distribute life's building blocks, across the planetary system, from early to late stages of planetary formation. We encourage submissions that discuss two or more of the mentioned topics. We will enable a "lightning-talk" mini-session, for presentations of poster contributions, in order to promote wider participation and livelier off-session discussions.

Please feel free to forward this announcement to your colleagues who might be interested in this session.

We look forward to seeing you there!

Sincerely,

Gal Sarid & Chris Bennett

University of Central Florida, FSI & Physics

6-----6-----6-----6-----6-----6-----6-----6-----6-----6

ABSCICON 2019: EXPLORING THE PLANETARY SYSTEM OF ALPHA CENTAURI

We invite you to submit an abstract to the 2019 Astrobiology Science Conference, which will be held on 24-28 June 2019 in Bellevue, Washington to the session entitled "Exploring the planetary system of Alpha Centauri: current knowledge, opportunities, and techniques". The Alpha Centauri system (AB and Proxima) presents a unique opportunity to detect and characterize a habitable planet in the next decade. This is because Alpha Centauri is not merely the closest star system to the Sun, but an unusually favorable outlier. It is 2.4 times closer than the next nearest non-M-dwarf star, and the habitable zones around A and B stars are ~3x

larger in angle than around any other Sun-like star. An Earth twin around any of the three stars in the system would be 25th magnitude, rather than the ~30th magnitude typically assumed for survey missions. In addition, Proxima Centauri hosts a potentially habitable planet, an attractive target for habitability characterization. This session aims to survey the current knowledge about the system as well as the opportunities, challenges, instruments, and instrument concepts to detect and characterize the planetary systems of Alpha Centauri, and determine the potential habitability of exoplanets there. This includes studies of binary planet formation, dynamical stability of planetary orbits in the system, limits from current non-detections, as well as expected planet occurrence rates. Techniques and instruments include indirect planet detection with astrometric and RV measurements; direct imaging in optical bands as well as thermal infrared, with current ground-based telescopes, upcoming ELTs, as well as space telescope missions. This session will be an opportunity to bring together the knowledge gathered on the system, and provide focus to the interdisciplinary research needed to detect, characterize, and search for life on planets around Alpha Centauri.

Conveners: R. Belikov (NASA Ames), E. Bendek (NASA Ames),
F. Marchis (SETI Institute), O. Guyon (U. of Arizona)

The deadline for all submissions is Wednesday, 23 January 2019 23:59 EST.
<https://connect.agu.org/abscicon/program/format-schedule> [5]

7-----7-----7-----7-----7-----7-----7-----7-----7-----7-----7

PDS SMALL BODIES NODE MINOR PLANET CENTER USER GROUP (MUG)

The PDS Small Bodies Node has convened a Minor Planet Center User Group (MUG) to represent the interests of the Minor Planet Center user community. The MUG welcomes comments about the Minor Planet Center

via this form: <https://goo.gl/forms/SgbbZds3GVep12xp2> [6]

Sincerely,
C.R. Nugent, Olin College

(on behalf of the MUG)

8-----8-----8-----8-----8-----8-----8-----8-----8-----8

NATIONAL ACADEMIES REPORT : STRATEGIC INVESTMENTS IN INSTRUMENTATION AND FACILITIES FOR EXTRATERRESTRIAL SAMPLE CURATION AND ANALYSIS

To the Small Bodies community:

Note the following report that came out on Thursday, December 20, 2018,
Strategic Investments in Instrumentation and Facilities for Extraterrestrial
Sample Curation and Analysis:

The United States possesses a treasure-trove of extraterrestrial samples that were returned to Earth via space missions over the past four decades. Analyses of these previously returned samples have led to major breakthroughs in the understanding of the age, composition, and origin of the solar system. Having the instrumentation, facilities and qualified personnel to undertake analyses of returned samples, especially from missions that take up to a decade or longer from launch to return, is thus of paramount importance if the National Aeronautics and Space Administration (NASA) is to capitalize fully on the investment made in these missions, and to achieve the full scientific impact afforded by these extraordinary samples. Planetary science may be entering a new golden era of extraterrestrial sample return; now is the time to assess how prepared the scientific community is to take advantage of these opportunities.

The report is now available for download:

<https://www.nap.edu/catalog/25312/strategic-investments-in-instrumentation-and-facilities-for-extraterrestrial-sample-curation-and-analysis> [7]

9-----9-----9-----9-----9-----9-----9-----9-----9-----9

JOBS, POSITIONS, OPPORTUNITIES

A) ASSOCIATE OR FULL PROFESSOR IN DATA SCIENCE FOR SCIENCES

INSTITUTE FOR COMPUTATIONAL SCIENCE

ZURICH, SWITZERLAND

<https://dps.aas.org/content/associate-or-full-professor-data-science-sciences> [8]

The Faculty of Science at the University of Zurich invites applications for an Associate or Full Professor in Data Science for Sciences to join us.

Through her/his research activities in the Institute for Computational Science on the Irchel Campus, the successful candidate should demonstrate the benefits of data science and modern data analytics for Sciences, with a preference in Earth, Space and/or Environmental Sciences. Her/his expertise in data science could cover for instance: computer science, machine learning, optimization, signal processing, advanced statistics. Her/his research applications could be for instance: satellite remote sensing, atmospheric science, oceanography, hydrology, glaciology, planetary science, ecology and evolution. Her/his activities at the Institute for Computational Science should in particular help demonstrating how open-source scientific software, data digitalization or new collaborative approaches (e.g. hackathon, data challenges) contribute to a successful interdisciplinary research.

Candidates for this data science position should be either



- an outstanding domain scientist with a proven track record in developing computational methods and applying modern data analytics in her/his field;
- or an outstanding data scientist with a proven track record in the proposed fields of application and a strong motivation for advancing knowledge in Earth, Space and/or Environmental Sciences.

The University of Zurich provides generous research support, including dedicated funds for personnel, running expenses and competitive start-up packages, as well as access to world class supercomputers and storage capacities. As Zurich's scientific environment includes a rich spectrum of research activities and provides extensive opportunities for collaboration with research groups at the University of Zurich and other leading Swiss research institutions.

The employment conditions for this position follow the legal regulations of the University of Zurich (see www.prof.uzh.ch/de.html). [9] which include part-time options.

The University of Zurich is an equal opportunities employer and in particular strives to increase the percentage of women in leading positions (see <https://www.mnf.uzh.ch/en/mnf-gleichstellung.html>). [10]

Therefore, qualified female researchers are particularly encouraged to apply. The city of Zurich combines a stimulating cultural scene in a modern European city with easy access to a beautiful natural landscape.

Academics with the appropriate qualifications are kindly invited to submit their applications including:

- a curriculum vitae
- lists of publications and research funding,
- detailed outlines of concepts for teaching and research
- vision for data science and its application to natural sciences
- names and contact details of three referees

Please address your application to Prof. Roland Sigel, Dean of the Faculty of Science. Upload your application files to <http://www.mnf.uzh.ch/dss> [11] by 1 March 2019.

For further information, please contact Prof. Romain Teyssier at romain.teyssier@uzh.ch. [12]

[Download the PDF job advert \(PDF, 53 KB\)](#) [13].

B) POSTDOCTORAL RESEARCHER POSITION AT JPL

We seek a postdoctoral researcher to conduct kinetics and spectroscopic studies on chemical processes relevant to atmospheric compositions of Mars and Titan. The research focus will be on gas-phase and gas-surface reactions involving organic molecules to enhance the scientific return of NASA missions to Mars, Titan and other planetary bodies.

Applicants should have a Ph.D. in chemistry or related discipline with expertise in one or more of the following: physical organic chemistry, kinetics, optical and mass spectroscopy, and instrument development. Documented publication record in internationally circulated, peer-reviewed journals is essential. Initial appointment is full-time for one year with possible extensions based upon satisfactory progress and available funding. Position is available immediately; applications will be considered until position is filled.

The California Institute of Technology is an Equal Opportunity/Affirmative Action Employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, disability, age, or protected veteran status.

Please email a cover letter stating your research accomplishments and interests, a curriculum vitae, representative publications, and

contact information for three references to:

Dr. Xu Zhang (xu.zhang@jpl.nasa.gov [14])

Dr. Stanley Sander (ssander@jpl.nasa.gov [15])

Jet Propulsion Laboratory California Institute of Technology

C) POSTDOCTORAL POSITION IN PLANETARY SCIENCE AT MIT

The MIT Department of Earth, Atmospheric, and Planetary Sciences invites applications for a Postdoctoral Scholar to join Professor de Kleer's planetary astronomy group. The de Kleer group utilizes cutting-edge astronomical facilities at optical, infrared, and radio wavelengths to study a diverse array of Solar System topics including planetary and satellite atmospheres, satellite surfaces and geophysics, and small bodies. Applicants are sought from a broad range of research areas within astronomy and planetary science that overlap with or complement ongoing work in the group, including both Solar System and extrasolar planets. Observational experience is beneficial but not required. The successful candidate will have opportunities to mentor graduate and undergraduate students, and will benefit from the dynamic and interdisciplinary environment within the EAPS department and across the Institute.

The appointment starts on or after July 2019 and is initially for one year, with renewal for up to two additional years. Consideration of applications will begin on January 10, 2019, and applications will be considered until the position is filled. Please see the full posting



for more information and for instructions on submitting applications:

<https://academicjobsonline.org/ajo/jobs/12702> [16]

-----+

Send submissions to:

Anne Verbiscer, DPS Secretary (dpssec@aaas.org [17])

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 [18]. The more general AAS privacy policy is available online at <https://aas.org/about/policies/privacy-policy> [19].

Footer

- [Reports](#)
- [Photos](#)
- [History](#)
- [Bylaws](#)
- [Giving](#)

Source URL: <https://dps.aas.org/newsletters/18-52>

Links

- [1] https://mail02.ndc.nasa.gov/owa/redir.aspx?C=BBh_zoi4kYZ1scWS5IcSHsOUbXB07tAhXvPtomT26YablcbPm3WCA..&URL=http%3a%2f%2fpluto.jhuapl.edu
- [2] <https://mail02.ndc.nasa.gov/owa/redir.aspx?C=YzhRFVg28VW5gleTmku1pjHvgni6mOFIDsmZD45cbjCblcbPm3WCA..&URL=http%3a%2f%2fpluto.jhuapl.edu%2fNews-Center%2fWhere-to-Watch.php>
- [3] https://mail02.ndc.nasa.gov/owa/redir.aspx?C=IMJBCx9mjFk_B_TM_RfG2fO_BQXMIMZVIEOUMY5aa0CblcbPm3WCA..&URL=http%3a%2f%2fwww.gemini.edu%2fsciops%2fobserving-gemini%2fproposal-routes-and-observing-modes%2flarge-and-long-programs%2f2019-llp-call
- [4] https://mail02.ndc.nasa.gov/owa/redir.aspx?C=xyUJZjnyTZOEJdNNOxbFaS6TnF_pc5V0rpCusXbtZv2blcbPm3WCA..&URL=https%3a%2f%2fagu.confex.com%2fagu%2fabscicon19%2fprelim.cgi%2fSession%2f66054
- [5] <https://mail02.ndc.nasa.gov/owa/redir.aspx?C=JUhhcXUYH1q5ddpFVLx8iXIXIWtWCLWmAUd2Uo2Kw82blcbPm3WCA..&URL=https%3a%2f%2fconnect.agu.org%2fabscicon%2fprogram%2fformat-schedule>



- [6] https://mail02.ndc.nasa.gov/owa/redir.aspx?C=Ld_5jK5F4ovM8HUJnbViuzrQ80PoHUeALg3ii423YwWblcBPFm3WCA..&URL=https%3a%2f%2fgoo.gl%2fforms%2fSgbbZds3GVep12xp2
- [7] https://mail02.ndc.nasa.gov/owa/redir.aspx?C=17T8W4wo3BWwwKhIP4YLieikivRr_CynyAcMn_Uqpj-blcBPFm3WCA..&URL=https%3a%2f%2fwww.nap.edu%2fcatalog%2f25312%2fstrategic-investments-in-instrumentation-and-facilities-for-extraterrestrial-sample-curation-and-analysis
- [8] <https://mail02.ndc.nasa.gov/owa/redir.aspx?C=anY7V-K59jSoLGuYn9uxFIIIYLNuUMKu0vhon7il6ESblcBPFm3WCA..&URL=https%3a%2f%2fdps.aas.org%2fcontent%2fassociate-or-full-professor-data-science-sciences>
- [9] https://mail02.ndc.nasa.gov/owa/redir.aspx?C=KKIZ2Katoa2tAqs0QSDK0m9xjTFb-Td4yQjMe_kPjCgblcBPFm3WCA..&URL=http%3a%2f%2fwww.prof.uzh.ch%2fde.html
- [10] <https://mail02.ndc.nasa.gov/owa/redir.aspx?C=AAPLB9cL495VkeZok4He916ZY9E9Yvd4CYh0ok3bZc-blcBPFm3WCA..&URL=http%3a%2f%2fwww.mnf.uzh.ch%2fen%2fmnf-gleichstellung.html>
- [11] https://mail02.ndc.nasa.gov/owa/redir.aspx?C=yqXEqNczdTh_BvPXL95zBauGsPPIEAWqF8iKlelZKh2blcBPFm3WCA..&URL=http%3a%2f%2fwww.mnf.uzh.ch%2fdss
- [12] https://mail02.ndc.nasa.gov/owa/redir.aspx?C=yKSWZgs_XDIJDFOXOTjc6JE5DnCkc-w97Ok87pIEVybblcBPFm3WCA..&URL=mailto%3aromain.teyssier%40uzh.ch
- [13] https://mail02.ndc.nasa.gov/owa/redir.aspx?C=SI7AWvHEEOpjizT5TVgTquheVYtTu2CpU7gi_G9iubCblcBPFm3WCA..&URL=https%3a%2f%2fwww.ics.uzh.ch%2fdam%2fjcr%3a7a3f7cd7-1033-4a0c-b6a5-79bf58ff3650%2fAd_BigData_2018.pdf
- [14] <https://mail02.ndc.nasa.gov/owa/redir.aspx?C=EPPzkSq0x8EfZ6sKRYhoAdmSi2fyp4uyJNApqUMcVra blcBPFm3WCA..&URL=mailto%3axu.zhang%40jpl.nasa.gov>
- [15] <https://mail02.ndc.nasa.gov/owa/redir.aspx?C=3mBk0ICLTOHGJrby-j3LyWRiK4O9wMpNiT0grhPCq3S blcBPFm3WCA..&URL=mailto%3assander%40jpl.nasa.gov>
- [16] <https://mail02.ndc.nasa.gov/owa/redir.aspx?C=Y48swm4DhV1-CYQKfzocvR-Ac2JXCcqZB4gHJlglFmO blcBPFm3WCA..&URL=https%3a%2f%2ffacademicjobsonline.org%2fajo%2fjobs%2f12702>
- [17] https://mail02.ndc.nasa.gov/owa/redir.aspx?C=m_bXKiwdoBH9lQt0rTchyXAHRqCuiSE-fKytYH4XOJeb blcBPFm3WCA..&URL=mailto%3adpssec%40aas.org
- [18] <https://mail02.ndc.nasa.gov/owa/redir.aspx?C=q-nz0Yqxrll0zDiMWZzf7FR6zu2FWk0IAMZaLaDDYjm blcBPFm3WCA..&URL=mailto%3aprivacy%40aas.org>
- [19] https://mail02.ndc.nasa.gov/owa/redir.aspx?C=mQIUcUA0ymyxXQ2mV6sqcFLnmpwhm_EQ9_fjvy_RI vyblcBPFm3WCA..&URL=https%3a%2f%2faas.org%2fabout%2fpolicies%2fprivacy-policy