

Newsletter 12-2

Issue 12-2, January 31, 2012

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IN MEMORIAM : JAMES R. ARNOLD (1923-2012)

James R. Arnold, a Univ. of California, San Diego, nuclear chemist and visionary scientist, died at 88 on Jan. 6 in La Jolla from complications of Alzheimer's disease. He was founding chairman of UC San Diego's chemistry department and first director of the California Space Institute.

Arnold was born in Metuchen, N.J., on May 5, 1924. At 16, he entered Princeton University, where he earned his doctoral degree in chemistry in 1946. His doctorate was awarded for his work on the Manhattan Project, the military program that produced the atomic bomb and stirred the fears of nuclear fallout that led him to join the Union of Concerned Scientists.

After earning his doctorate, he helped University of Chicago chemist Willard Libby develop radiocarbon dating in 1949. In 1955, Arnold joined the faculty at Princeton, where he expanded his investigations into the planetary sciences by studying the effects on meteorites of cosmic rays, the high-energy particles that speed through space. His work produced a method for recording the age of rocks, which helped scientists understand "how long a meteorite has been a rock in space and where it might have come from," Arnold once explained.

His research on cosmic rays drew him to the UC San Diego, where he founded the chemistry department in 1960. He became a longtime consultant to NASA, where he helped the young agency as early as 1959 in setting science priorities for missions, including the Apollo missions to the Moon. He is remembered as being instrumental with other scientists in leading the agency to establish the national lunar sample research program for analyzing the more than 800 pounds moon soil and rocks returned between 1969 and 1973 by the Apollo missions. For over two decades, Arnold and colleagues traced the history of lunar material being bombarded by cosmic rays and extended our record of the energy output of the Sun by millions of years, thus significantly increasing our understanding of the age and composition of the Moon and also of the history and evolution of the Solar System. The continued legacy of this work on lunar material led to major discoveries even in the recent years. For his contributions, NASA awarded him in 1970 its top medal for "exceptional scientific achievement." Arnold also received the Department of Energy's E.O. Lawrence Award in chemistry and metallurgy.

Arnold founded the California Space Institute in 1979 to foster innovation in space research and was its Director for the first 10 years.

In 1980, Eleanor Helin and Eugene Shoemaker named an asteroid after him, (2143) Jimarnold, after he created a computer model describing how meteorites traverse the asteroid belt between Mars and Jupiter.

He held Univ. of California San Diego's Harold Urey Chair in chemistry from 1983 until his retirement in 1993. The annual Jim Arnold Lecture recognizes his contribution by inviting an interesting speaker who has made significant contributions to chemistry and the space sciences to campus each spring.

In his last decades, Arnold advocated the colonization of space.
Arnold's survivors include his wife, Louise, and three sons.

Full obituaries in

<http://articles.latimes.com/2012/jan/22/local/la-me-james-arnold-20120122> [1]

and

http://www.meteoriticalsociety.org/news_display.cfm?code=news_intro&item... [2]

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DPS CONGRATULATES AGU 2012 PLANETARY FELLOWS

DPS congratulates the AGU 2012 class of Fellows from the planetary sciences field, among which:

Anthony Del Genio, NASA Goddard Institute for Space Studies

F. Michael Flasar, NASA Goddard Space Flight Center

Bruce Jakosky, University of Colorado, Boulder

Kenneth H. Nealson, Univ. of Southern California, Los Angeles

Jim Slavin, University of Michigan, Ann Arbor

Tilman Spohn, Institut für Planetenforschung, Berlin, Germany

The Fellows program recognizes AGU members who have made exceptional contributions to their fields as evaluated by their peers and vetted by section and focus group committees. To qualify for consideration, nominees must be responsible for a major breakthrough, discovery, or paradigm shift in one of the Earth and space sciences. This honor is conferred on only 0.1% of the membership in any given year. The 2012 Fellows will be recognized during the Honors Ceremony at the Fall Meeting.

Note also that nominations for Union-level Awards and Medals are due 16 MARCH. More information on these awards and the process for nomination can be found on the AGU Web site. If you want to discuss potential nominees, you can email any of the P-section officers.

Further from AGU:

You can submit your proposals for sessions for Fall AGU 2012 during the period 20 February–20 April. The Planetary Section is seeking two volunteers for the AGU Fall Program Committee for 2012. Duties include guiding session conveners in organizing their sessions via email and an internet utility during the period 9–31 August, and attending a meeting in Washington, 5–7 September to schedule all sessions for the Fall Meeting. Travel to the Washington meeting is paid, along with a small stipend. Planetary Section Secretary Lindy Elkins-Tanton will provide training and support.

Volunteers make the meeting happen at the section level, and we need your help. It's a great way to meet active scientists from all the other sections and get to know the leaders in all the disciplines within planetary science. If you are interested or have questions, please contact Lindy Elkins-Tanton.

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REMINDER : 2012 ONLINE MEMBERSHIP RENEWALS

You should have paid your 2012 membership dues online at <https://members.aas.org/> [3] by 31 December 2011. But there is still time to renew by logging in to your membership record (today !) and in any case before the membership lists are updated by end of February. By renewing online and not receiving a paper renewal, you will help your Society save enormous costs.

Also, please take a moment to update your personal DPS member file.

Thank you for your attention.

Send general replies to aas@aas.org [4].

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CALL FOR PROPOSALS 2012 FOR INTERNATIONAL TEAMS IN SPACE AND EARTH SCIENCES

The International Space Science Institute (ISSI) in Bern, Switzerland,

invites proposals for establishing International Teams to conduct on its premises research activities in Space Sciences, based on the interdisciplinary analysis and evaluation of data from spacecraft and possible integration with ground data and theoretical models. For the purpose of this Call, Space Sciences include the Solar and Heliospheric Physics, Solar-Terrestrial Sciences, Space Plasma and Magnetospheric Physics, Planetary Sciences, Astrobiology, Cosmology, Astrophysics, Fundamental Physics in Space, and Earth Sciences using Space data.

Letter of Intent: February 15, 2012

Deadline for proposals: March 30, 2012

The Call for International Teams proposal is available on the ISSI web site:
http://www.issibern.ch/spotlight/ISSI_annual_call2012.pdf [5]

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JOB OPPORTUNITIES

1) Post-doctoral fellowship on "Chemical Evolution: from the ISM to Life".

We are opening a search for one Postdoctoral Fellow whose work focuses on understanding the chemistry and physico/chemical principles that provided the conditions for life on the early Earth. Research areas can range from the study of organic molecules formed in the ISM or around carbon stars and seeding the Earth with a later veneer of this material, to the study of reaction pathways and/or the study of an essentially inorganic origin of Life where the pre-biotic chemistry necessary for life could have developed by volcanic degassing of an initially sterile and hot Earth. Postdoctoral positions will be initially awarded for one year, and, contingent upon strong performance may be renewed for up to two years. Those interested in applying are invited to send three letters of recommendation and a short (limited to one page) statement of his or her scientific interests to Ms. Ganna Savostyanova <savosty@fas.harvard.edu [6]> beginning December 20th, 2011. Evaluation of the applications will start January 31st, 2012. For additional information you may address your specific questions to topdownsynthbio@fas.harvard.edu [7].

Harvard University is an Equal Opportunity/Affirmative Action employer, strongly encouraging applications from women and minority scientists, and offering competitive compensation and benefits.

2) Post-doc position in Lund, Sweden

A postdoc position is available at Lund Observatory within the topic of planet formation and orbital evolution of planetary systems. The starting date can be any time in 2012. The application deadline is February 1st 2012. The position is for 2 + 2 years.

The postdoc will work on theoretical/computational models of planet formation and/or orbital evolution.

Part of the postdoctoral research can consist of own, independent research. Applicants can contact Anders Johansen (anders@astro.lu.se [8]) for details.

Applications should be submitted electronically following the instructions at <http://admin.lu.se/o.o.i.s?id=22598&Dnr=437197&Type=E> [9]

The same URL also contains more information about the position.

3) Post-doc at Birkbeck College London

The Department of Earth and Planetary Sciences at Birkbeck, University of London, has a vacancy for a post-doctoral planetary scientist to work on improving our understanding of lunar geological processes. The project will utilise an unprecedented new catalogue of lunar surface features, containing the sizes, shapes, and locations of several million craters, boulders, and volcanic landforms, imaged at high resolution by NASA's Lunar Reconnaissance Orbiter spacecraft. This database has been compiled by the MoonZoo citizen science project (<http://www.moonzoo.org> [10]), which harnesses 'crowd-sourcing' techniques to identify lunar surface features.

The aim of this project is to turn this rich, and growing, archive of observations into new knowledge of lunar and Solar System processes. The successful applicant will be expected proactively to develop a research programme based on the MoonZoo database, and will have the freedom to pursue new avenues of research which may result from it. It is expected that he or she will be the lead author of the resulting scientific publications.

Further details and the application procedure can be found at:
https://www15.i-grasp.com/fe/tpl_birkbeckcollege01.asp?newms=jj&id=43165 [11]

4) JOB OPENING: Scientist in ionospheric tomography at the Finnish Meteorological Institute, Helsinki, Finland

The Finnish Meteorological Institute (FMI, Helsinki, Finland) is seeking for a scientist in the area of ionospheric tomography with experience in GPS data analysis, starting from April 1, 2012, lasting until April 1, 2014 (2 years).

This position is part of the "TomoScand" project funded by the Academy of Finland. The main goal of this project is to obtain mesoscale 3D distributions of the ionospheric electron density over Scandinavia, with high spatial and temporal resolution, using GPS and Beacon satellite data as well as including information from the extensive network of ground-based ionospheric observations in the region.

The work of the successful applicant focuses on the analysis of data from a dense network of several hundreds of GPS receivers in Scandinavia, using tomographic inversion techniques, and on the interpretation of the results in terms of ionospheric and magnetospheric physics. The successful candidate is expected to be able to work independently along the goals of the "TomoScand" project, and to contribute to the implementation of the GPS data into a newly developed tomographic inversion routine that allows to simultaneously incorporate a multitude of different information into the inversion. Further, the successful candidate is expected to contribute to the technical aspects of acquiring and processing the GPS and Beacon satellite data.

Candidates must hold a PhD in the area of physics, mathematics, or geosciences, and should recognize themselves in as many as possible (but not necessarily all) points of the following profile:

- good or at least basic knowledge of ionospheric and magnetospheric physics
- good knowledge of mathematics (particularly inversion techniques)
- good abilities in programming and handling of large data sets
- experience in tomography (not necessarily ionospheric tomography)
- ability to work and publish independently
- ability to work in a team

Applications for the position need to be submitted not later than February 26, 2012, addressed tokirjaamo@fmi.fi [12] and cc:Olaf.Amm@fmi.fi [13], including a CV, list of publications and a short statement of scientific interests.

For further information, please contact Olaf Amm, tel. +358919294689 orOlaf.Amm@fmi.fi [14].

5) Post-doc at CNES/Paris

The SPICAM instrument is a dual ultraviolet-infrared spectrometer that currently operates around Mars onboard the ESA Mars Express mission since 2004.

Since the beginning of the mission, a large wealth of data has been collected that pertains to the characterization of the Martian atmosphere and climate as a whole.

The SPICAM team is actively looking for a post-doctoral candidate in view of applying for a CNES (French Space Agency) postdoctoral position of 1 year (with possible extension for an additional year).

The ambition of the project is to make use of combined UV IR data analysis in view of characterizing the spatial and temporal evolution of dust, clouds, water vapor and ozone on Mars. The candidate shall conduct his work at the LATMOS laboratory (Paris suburb area).

CNES postdoctoral awards are issued after a selective process. Applications must be sent before the end of March. The selection is open to foreign candidates.

For further information, please contact Franck Montmessin (franck.montmessin@latmos.ipsl.fr [15])
phone: +33 1 80 28 52 85
11 bd d'Alembert, 78280 Guyancourt - France

Additional Career opportunities can be found at <http://astrobiology.nasa.gov/careers/> [16]

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UPCOMING MEETINGS

OPPORTUNITIES FOR UNDERGRADUATES AND HIGHER EDUCATION FACULTY MEMBERS
Sunday, March 18, 2012.

Undergraduates Are Invited to Present Research

In Conjunction with the Lunar and Planetary Science Research Conference

As part of the NASA SMD Year of the Solar System (YSS), an Undergraduate Planetary Science Research Conference is being hosted on Sunday, March 18, from 9:00 a.m. to 5:00 p.m. in conjunction with LPSC at The Woodlands Waterway Marriott.

The Undergraduate Planetary Science Research Conference includes:

- Panels on "How to Choose the Grad School Right for You," "Alternative Careers in Science," and "Women in Planetary Science"
- Poster sessions where students will present their posters to other student and to the scientific community
- "Meeting Mentors," which will pair students with a scientist for part of the LPSC meeting, so students can learn how to engage at a scientific conference
- Opportunities to meet other undergraduate researchers, graduate students, and scientists

Undergraduate students currently conducting research in planetary sciences, astrobiology, and lunar sciences are eligible.

Interested undergraduates should:

1) apply through the registration page:

https://www.lpi.usra.edu/meeting_portal/iofi/index.cfm?mtg=yssurc2012* [17]

2) submit an abstract through the abstract submission page:

https://www.lpi.usra.edu/meeting_portal/abstract_submission/index.cfm?mt... [18]

Some travel support will be available to students who are U.S. citizens who qualify. Priority will be given to students of diverse backgrounds. To receive support, students must attend the entire YSS Undergraduate Research Conference and present a poster. Students are encouraged to attend LPSC and any travel support can be applied to registration for and participation in LPSC.

For additional information, please contact Dr. Emily CoBabe-Ammann at ecobabe@spaceeducation.org [19].

THIRD INTERNATIONAL CONFERENCE ON EARLY MARS: GEOLOGIC AND HYDROLOGIC EVOLUTION,
Physical and Chemical Environments, and the Implications for Life —
May 21-25, 2012, Incline Village, Nevada

* * * Abstract Deadline: March 8, 2012 * * *

The Third International Conference on Early Mars: Geologic and Hydrologic Evolution, Physical and Chemical Environments, and the Implications for Life will be held May 21-25, 2012, at the Hyatt Regency Lake Tahoe, Incline Village, Nevada. This location was chosen due to its proximity to Mono Lake (and other locations of interest), which will be the focus of the mid-conference field trip.

The second announcement, which includes the call for abstracts, registration form, and other logistical details, is now available on the conference website:

<http://www.lpi.usra.edu/meetings/earlymars2012/> [20]

PLANETARY ORIGINS AND FRONTIERS OF EXPLORATION
May 27 - June 3, 2012
The Weizmann Institute of Science, Israel.

The theme was chosen to bring together experts in aspects of planetary formation, solar system evolution, and interpretation of exoplanetary discoveries. We plan to organize keynote talks around five topics: Solar system formation, Gas giants formation and interiors, Moons and icy objects as keystones, Exoplanets, and Extreme environments.

The format is inspired by Gordon Research Conferences, with full-length talks followed by substantial time for discussion in the mornings, and shorter presentations in the afternoon. Please consider contributing a presentation on topics relatable to planetary origins, not necessarily from the list of five above.

Some funding is available to support local accommodation, food, and travel expenditures in Israel, the level will depend upon the total number of participants. Student participants may be considered for additional support.

We welcome broad attendance; please feel free to circulate this invitation to interested colleagues, and

forgive us if you receive multiple copies of this invitation.

If you plan to attend, please complete the registration form using the following link. If you wish to present a talk or a poster, please also include a short abstract.

<http://www.weizmann.ac.il/conferences/frontiers/> [21]

PLANETARY AND EXO-PLANETARY ATMOSPHERES, SURFACE INTERACTIONS AND ASTROBIOLOGY AT CMOS/AMS

May 29 to June 1, 2012, Montreal, Canada

This year's joint Canadian Meteorological and Oceanographic Society (CMOS) / American Meteorological Society (AMS) Congress to be held in Montreal from May 29 to June 1, 2012 will feature a session entitled Planetary and Exo-Planetary Atmospheres, Surface Interactions and Astrobiology. This new session, held for the first time this year, seeks to bring together research in atmospheres beyond our own and the processes which affect their composition and dynamics from researchers across Canada and the World. For more information, please consult the links below or contact John Moores at john.e.moore@gmail.com [22] .

Abstracts may be submitted no later than February 17, 2012 at the website of the Montreal Congress: http://www_cmos.ca/congress2012/en/abstractsubmission/index.shtml [23]

INTERNATIONAL PLANETARY PROBE WORKSHOP -9

16-22 June 2012, Toulouse, France.

This year the format of the workshop is a little different in that it is arranged by planetary objects, such as Titan, Venus, Mars, Giant planets, airless bodies etc. although there will be a session on cross-cutting technologies. The goal is to have papers in each session covering probe science, instrumentation and technologies thus having a snapshot of our ability to accomplish probe science in the differing environments. You are invited to present papers on scientific goals, probe instrumentation and technologies related to these bodies.

****Abstracts are due on March 1, 2012. ****

For more information, the website for the workshop is:

<http://www.planetaryprobe.eu/> [24]

CPS 9TH INTERNATIONAL SCHOOL OF PLANETARY SCIENCES:

Across the Earth into Exoplanets

24-29 June 2012

Seapal Suma, a casual seaside resort located near Kobe, Japan

The objective of the school is to promote education and research in planetary sciences for highly motivated graduate students and young researchers by providing them with an opportunity to interact with leading scientists. Note that the term "Planetary Sciences" is used in a broader sense to include astronomy, astrophysics, astrochemistry, astrobiology, astromineralogy, geosciences, space science, cosmology, and other related fields.

The recent wonderful discovery of exoplanets requires us to rethink the Earth and generalize our understandings of the planet. To do so, we should first absorb up-to-date knowledge about the structure of the Earth from the deep interior to the surface, along with the dynamics that produce various geological and geophysical phenomena. We can then apply this knowledge to planets



in different states, such as the early Earth, the other planets in the solar system, and exoplanets. This application enables us to better understand the coevolution of a solid planet's interior and its surface in terms of a search for a habitable exoplanet.

Who are the target participants?

- PhD students, postdocs, and young research/academic staff who have a good command of English
- This school is not intended for bachelor, diploma, and master's students

Important Dates:

All deadline times are 23:59 Japanese Standard Time, UTC+9
07 February 2012 Travel Grant Application Deadline
15 February 2012 Registration Application Deadline
15 February 2012 Abstract Submission Deadline
29 February 2012 Result Notification

Visit the CPS 9th International School of Planetary Sciences Web site for more details

Contact:

Center for Planetary Science

ESLAB Symposium on "Formation and Evolution of Moons"
25-29 June 2012, ESTEC, Noordwijk, The Netherlands

ESLAB is an annual meeting organised by the European Space Agency's Directorate of Science and Robotic Exploration Research and Scientific Support Department.

The goal of the symposium is to review all possible scientific mechanisms for forming the moons, and for driving their subsequent evolutions, and their consequences on our current understanding of solar system formation and evolution.

Topics will include the Earth-Moon system, Mars' Phobos and Deimos, the natural satellites of the giant planets and of Pluto and dwarf planets, ring-moon interactions, and the absence of moons around Mercury and Venus. Discussions will address the contributions of past and current missions, and ground-based observations, on future science mission goals.

URL: <http://www.sciops.esa.int/index.php?project=CONF2011&page=MOONS> [25]

Deadline for abstract: 2nd April 2012.

Olivier Witasse, on behalf of the organising committee.

SECOND CONFERENCE ON THE LUNAR HIGHLANDS CRUST
July 13-15, 2012, at Montana State University in Bozeman, Montana.

Tentative plans are to include either a pre- or post-conference field trip to the Stillwater igneous complex.

More information about the meeting will be provided in the first announcement, which will be available on the conference website in late January 2012:

<http://www.lpi.usra.edu/meetings/lunarhighlands2012/> [26]

39TH SCIENTIFIC ASSEMBLY OF COSPAR

14 - 22 July 2012, Mysore, India

Scientific program and abstract submission:

<http://www.cospar-assembly.org> [27]

- Abstract deadline: 10 February 2012

Registration and hotel reservations:

<http://www.cospar2012india.org> [28]

- Early registration deadline: 30 April 2012

AOGS-AGU(WPGM) JOINT ASSEMBLY
Resort Worlds Sentosa, Singapore
13-17 August 2012

Abstract Submission Opens 15 Jan 2012
Abstract Submission Closes 12 Mar 2012

Website:

www.asiaoceania.org/aogs2012 [29]

IAU XXVIII GENERAL ASSEMBLY
Beijing, China
20-31 August 2012

The deadline for applications for the International Travel Grant program has been extended until 15 February for applications for support to attend the IAU General Assembly in Beijing, China this August. Support is available for round-trip airfare to/from the meeting and the airport closest to your home institution. Full details

and downloadable application forms are available at

<http://www.aas.org/grants/itg.php> [30].

You do not need to be an AAS member to apply for support.

INTERNATIONAL WORKSHOP ON INSTRUMENTATION FOR PLANETARY MISSIONS
October 10-12, 2012, Greenbelt, Maryland (near Washington, DC)

The International Workshop on Instrumentation for Planetary Missions will be held October 10-12, 2012, in Greenbelt, Maryland (near Washington, DC). The objective of the meeting is to have a broad canvas of instrumentation and technology available to "Decadal Survey" missions and those further out. It is also meant to be a forum of collaboration, exchange and discussions where science questions, and the technology needed to address them, are discussed.

For more information, visit the workshop website:

<http://ssed.gsfc.nasa.gov/IPM/index.html> [31]

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Links

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- [3] <https://members.aas.org/>
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- [5] http://www.issibern.ch/spotlight/ISSI_annual_call2012.pdf
- [6] <mailto:savosty@fas.harvard.edu>
- [7] <mailto:topdownsynthbio@fas.harvard.edu>
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- [9] <http://admin.lu.se/o.o.i.s?id=22598&Dnr=437197&Type=E>
- [10] <http://www.moonzoo.org/>
- [11] https://www15.i-grasp.com/fe/tpl_birkbeckcollege01.asp?newms=jj&id=43165
- [12] <mailto:tokirjaamo@fmi.fi>
- [13] <mailto:Olaf.Amm@fmi.fi>
- [14] <mailto:orOlaf.Amm@fmi.fi>
- [15] <mailto:franck.montmessin@latmos.ipsl.fr>
- [16] <http://astrobiology.nasa.gov/careers/>
- [17] https://www.lpi.usra.edu/meeting_portal/iofi/index.cfm?mtg=yssurc2012*
- [18] https://www.lpi.usra.edu/meeting_portal/abstract_submission/index.cfm?mtg=391*
- [19] <mailto:ecobabe@spaceeducation.org>
- [20] <http://www.lpi.usra.edu/meetings/earlymars2012/>
- [21] <http://www.weizmann.ac.il/conferences/frontiers/>
- [22] <mailto:john.e.moore@gmail.com>
- [23] <http://www.cmos.ca/congress2012/en/abstractsubmission/index.shtml>
- [24] <http://www.planetaryprobe.eu/>
- [25] <http://www.sciops.esa.int/index.php?project=CONF2011&page=MOONS>
- [26] <http://www.lpi.usra.edu/meetings/lunarhighlands2012/>
- [27] <http://www.cospar-assembly.org>
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