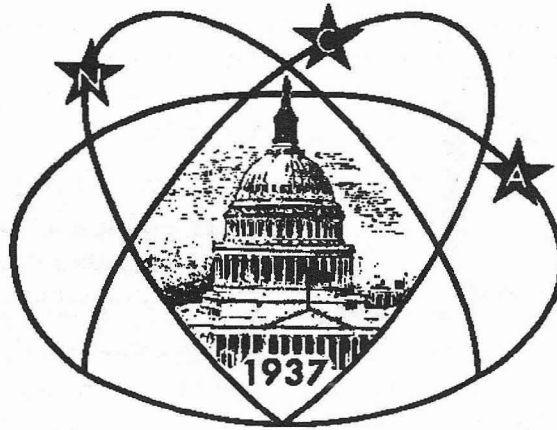


Star



Dust

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Judith Lean to Speak on Global Change

Nancy Byrd

The next meeting of National Capital Astronomers is on November 4, 1992 at 7:30 PM at the National Institutes of Health (in the Bunim Room on floor 9 of the Clinical Center (Building 10)). At this colloquium, Dr. Judith Lean will speak on the subject, "Solar Variability: Implications for Global Change."

Understanding changes in our environment that occur as a result of natural phenomena has become increasingly important during the past decade. With the realization that human activities may be changing the Earth system has come the need to specify the level at which natural variations may be masking or exacerbating these anthropogenic effects. Whether or not changes in the Sun's energy outputs have anything to do with the Earth's weather and climate has been debated, contentiously, for over a century. As Dr. Lean's upcoming talk will demonstrate, certain solar variability and climate parameters are indeed highly correlated over decade to century time scales. Moreover, satellite measurements during the last decade have confirmed that the spectrally-integrated radiative energy from the

sun (the so-called solar "constant") changes with solar activity. Dr. Lean will review the role that the sun may have played in climate change during the past few centuries, and will lead us to consider the implications of this for future climate in a greenhouse world.

The author of numerous scientific papers on solar variability, Dr. Lean received her Ph.D. in Atmospheric Physics from the University of Adelaide in Adelaide, S.A., Australia in 1980 with dissertation entitled, "Atmospheric Ultraviolet Absorption Spectroscopy."

Dr. Lean is currently co-investigator and project scientist for Naval Research Laboratory's Solar Ultraviolet Spectral Irradiance Monitor (SUSIM) currently flying on the Upper Atmosphere Research Satellite (UARS), NASA's first mission to Planet Earth.

In January of 1991, Dr. Lean treated NCA to an excellent lecture on solar variability. We are delighted to welcome her back.

November Calendar

The Public is Welcome!

Thursday, November 5, 7:30 PM - Harvey Tananbaum (Smithsonian Astrophysical Observatory), "The X-Ray Sky from Einstein to AXAF," at Smithsonian Institution, National Air and Space Museum (NASM) Albert Einstein Planetarium.

Saturday, November 7, 9:30 AM - Geoffrey Chester (NASM), "The Anasazi of the Southwest," NASM Albert Einstein Planetarium.

Saturday, November 7, 11:00 AM to 2:00 PM - NCA, "Astronomical Telescope & Binocular Public Seminar for Selection, Use, and Care," NASM briefing room (see article on page 4).

Saturday, November 7, 5:30 PM - Dinner with the speaker at Frascati's Restaurant in Bethesda

before the monthly meeting. Reservations are for 5:30 Sharp!

Saturday, November 7, 7:30 PM - Judith Lean (E. O. Hulburt Center for Space Research, Naval Research Laboratory) "Solar Variability: Implications for Global Change." Meeting will be held in the Bunim Room at the National Institutes of Health. For directions refer to map and description on inside back page.

Friday, November 13, 20, 27, 8:30 PM - NCA 14-inch telescope open nights with Bob Bolster, 6007 Ridgeview Drive, south of Alexandria off Franconia Road between Telegraph Road and Rose Hill Drive. Call Bob at (703) 960-9126.

Tuesday, November 17, 9:30 AM to 4:30 PM - Smithsonian Resident Associate Program, "Astrophysics and Cosmology in the 1990s," S.Dillon Ripley Center Auditorium at the Smithsonian Institution (see article below).

Thursday, November 19, 7:30 PM - John Wood (Smithsonian Astrophysical Observatory), "Magellan's Circumnavigation of Venus," NASM Albert Einstein Planetarium.

ASTROPHYSICS AND COSMOLOGY IN THE 1990s

by John Graham

The Smithsonian Resident Associate Program is organizing an all-day seminar on November 14 (9:30 am - 4:30 pm) entitled Astrophysics and Cosmology in the 1990s. The location is the S.Dillon Ripley Center Auditorium at the Smithsonian Institution. The seminar is described as follows:

In this century we have discovered more about the universe than astronomers learned in several previous millenia. Significant progress came even before the advent of the Space Age, and knowledge of the explosive characteristics of many stars and galaxies has been further enhanced by space exploration. This seminar features prominent scientists and highlights the latest discoveries and theories in astrophysics and cos-

mology.

9:30 to 11 am. "The Universal Microwave Background and Big Bang Cosmology" - George Smoot, University of California, Berkeley, and John Mather, project scientist, COBE space observatory.

11:15 to 12:15 pm. "Adventures of cosmic Rays in the Galaxy" - Maurice M. Shapiro, chief scientist emeritus, Laboratory for Cosmic Physics, Naval Research Laboratory.

12:15 to 2 pm. Lunch (Participants provide their own lunches.)

2:00 to 3:00 pm. "The Gamma Ray Sky" - Neil

Excerpts from The IAU Circulars

by R.N. Bolster

1. August 30 - D. Jewitt, University of Hawaii, and J. Luu, University of California at Berkeley, discovered a slow-moving object of 23rd magnitude in Pisces with a CCD detector on the 2.2-m telescope at Mauna Kea. Calculations by Marsden show that the orbit is still indeterminate, but indicate that the object is between 37 and 59 AU from the Sun, well beyond the orbit of Neptune. Designated as 1992 QB1, the object may be an asteroid or perhaps a comet in the belt proposed by Kuiper.

2. September 14 - Researchers at the Tata Institute of Fundamental Research, Bombay, reported that an analysis of data on Geminga taken with the Ootacamund gamma ray detector showed the 237-ms periodicity seen by ROSAT, EGRET, and COS-B telescopes.

3. September 26 - T. Kiuchi, Usuda, Nagano, Japan, recovered Comet Swift-Tuttle in Ursa Major with 25 x 150 binoculars. Last at perihelion in 1862, the comet is associated with the Perseids meteor shower. Perihelion passage is predicted for 1992 December 12 by Marsden. On September 30, DeYoung and Schmidt used a CCD detector and Ha filter on the U.S. Naval Observatory 60-cm telescope to observe a fan-shaped coma with jets extending as far as 22".

4. September 30 - R. Evans, Hazelbrook, Australia, discovered a supernova of 14th magnitude in NGC 2082.

Comet Comments: Comet Swift-Tuttle will be a telescopic object of magnitude 6 or 7 in the northwest and west evening sky until mid-December. The best observing period will be in mid-November.

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Gehrels, project scientist Compton Observatory.

3:15 to 4:15 pm "Neutrino Astronomy" - Maurice M. Shapiro.

Admission for non-members of the Resident Associate Program is \$75 but the organizers have advised us that they can offer a substantial reduction for a group such as our own. If we can get together a party of 10, the cost per member is \$35. If we have a party of 15 or more, the cost is further reduced to \$25. If you would like to join us,

please leave your name and phone number with me or my answering machine at (301)654-0842 before November 8 or see me at the next NCA meeting on November 7. I shall then get back to you and tell you what we are able to arrange. I hope that many of you can join us for what promises to be a stimulating day of science at the Smithsonian.

John Graham
NCA President

From the Secretary

When you receive my welcome letter after paying your dues, please remember to remove the NCA membership card from the envelope, sign it in the margin and put it in your wallet. Your card may come in handy if you are observing some night with a telescope or binoculars, and a member of some neighborhood watch calls the police. It could then save you a lot of worry and inconvenience to have a document proving you are a bona fide astronomer. Although subscribing to Sky & Telescope through the NCA is convenient, you can better ensure on-time delivery of every issue of this magazine if you subscribe for a 3-year period directly from S&T for

\$74. The cost for three one-year subscriptions through the NCA is \$66. In my personal opinion, which is not necessarily that of the other officers of the NCA, it is well worth the extra \$2.67 per year for the peace of mind of knowing that all of your issues of S&T will come on time regardless of the health, work loads or travel schedules of the NCA secretary and/or treasurer. Be advised that if you do not subscribe through the NCA, you do not qualify for 10% discounts on books and other items ordered from Sky Publishing Corp.

Leith Holloway, NCA Secretary
Phone: 301-564-6061

Astronomical Telescope & Binocular Public Seminar for Selection, Use, and Care - NCA Volunteers Needed

by Daniel J. Costanzo

Purchasing a telescope or binoculars for astronomical use is just like anything else: let the buyer beware. But with proper selection, use, and care, they can provide a lifetime of service and enjoyment. Yet, before every Christmas, NCA inevitably receives numerous requests from the public about selecting astronomical equipment for gifts. And after every Christmas, NCA inevitably receives more requests about use and care for equipment received as gifts. Unfortunately, much of this otherwise fine (and not so fine) equipment ends up in the proverbial attic or land fill, souring more citizens to ever personally experiencing the wonders of space technology, astronomy, and related sciences.

To break this sad cycle, NCA's Robert H. McCracken started annual free public seminars timed early in the Christmas buying season. Now, after a three year hiatus, NCA has arranged with the Smithsonian Institution's National Air and Space Museum (NASM) to hold this seminar on Saturday, November 7, from 11:00 AM to 2:00 PM. Continuing these seminars' long tradition, NCA's experts will provide guidance, dispel myths, and equip the uninitiated to wisely select, use, and care for astronomical instruments. After a basic discussion and presentation, they will offer hands-on experience with representative types.

This year's seminar will be held in NASM's briefing room located on their lowest floor. To reach it, enter NASM's main hall, go to the information/security desk, and take the down escalator located right behind this desk. A table will also be set up in the main hall near this escalator to announce the seminar. It starts shortly after NASM's Monthly Sky Lecture ends, and ends early enough so NCA members will have plenty of time to attend the NCA monthly dinner and meeting that evening. No reservations are necessary. Nor is it necessary to arrive by 11:00 AM. Just show up anytime between 11:00 AM and 2:00 PM. For more information about attending this seminar, contact Cheryl Bauer (NASM) at 202/357-1529. And please tell friends and colleagues about it. For only through maximum publicity will it reach the largest audience.

This seminar is a great opportunity for NCA to continue its fruitful relationship with NASM in joint service to science and society. And NASM's assistance in allowing NCA to hold this event in the world's most popular museum, is a great honor. Yet, for this seminar to be a success, we still need volunteers with expertise, ideas, and sample astronomical equipment. All types of equipment are needed, including telescopes of various types, binoculars, and accessories, as well as atlases, books, periodicals, and catalogs. NASM can arrange parking in their basement lot for anyone volunteering.

So, please volunteer to help by contacting Daniel Costanzo (NCA) at 703/841-4765. Your assistance will be greatly appreciated by NCA, NASM, and the public.

NOTE FROM THE EDITOR



Unfortunately, the review of last month's speaker could not be included in this issue of the Star Dust. It shall appear in the December issue.

The deadline date for submission of all articles is the 15th of each month. There is no guarantee that articles received after this date can be included. As most of the material is extremely

time-sensitive, meeting the deadline is imperative.

I am also interested in receiving feedback on the Star Dust. Please let me know what you like and don't like about the style of the newsletter.

Thank You!

National Capital Astronomers, Inc.

is a non-profit, public-service corporation for advancement of the astronomical sciences and is the astronomy affiliate of the Washington Academy of Sciences. For information, call NCA: (301) 320-3621.

SERVICES AND ACTIVITIES:

A Forum for dissemination of the status and results of current work by scientists at the horizons of their fields is provided through the monthly NCA Meeting. (See monthly *Stardust* for time and location.) All interested persons are welcome; there is no charge.

Expeditions frequently go to many parts of the world to acquire observational data from occultations and eclipses which contribute significantly to refinement of orbital parameters, the coordinate system, navigation tables and timekeeping. Other results of this work under continuing study include the discovery of apparent satellites of some asteroids, discovery of apparent small variations in the solar radius, and profiles of asteroids.

Discussion Groups provide opportunities for participants to exchange information, ideas, and questions on preselected topics, moderated by a member or guest expert.

Publications received by members include *Sky & Telescope* magazine and the monthly publication of NCA, *Star Dust*.

The NCA Public Information Service answers many as-

tronomy-related questions, provides predictions of the paths and times of eclipses and occultations, schedules of expeditions and resulting data, assistance in developing programs, and locating references.

The Telescope Selection, Use, and Care Seminar, held annually in November, offers the public guidance for those contemplating the acquisition of a first telescope, and dispels the many common misconceptions which often leads to disappointment.

Working Groups support areas such as computer science and software, photographic materials and techniques, instrumentation, and others.

Telescope-Making Classes teach the student to grind and polish, by hand, the precise optical surface that becomes the heart of a fine astronomical telescope.

NCA Travel offers occasional tours, local and world-wide, to observatories, laboratories, and other points of interest. NCA sponsored tours for comet Halley to many parts of the southern hemisphere.

Discounts are available to members on many publications and other astronomical items.

Public Programs are offered jointly with the National Park Service, the Smithsonian Institution, the U.S. Naval Observatory, and others.

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Note: If you already subscribe to *Sky & Telescope*, please attach a recent mail label, or indicate the expiration date: _____. A prorated adjustment will be made. Make check payable to National Capital Astronomers, Inc., and send with this form to:

Leith Holloway 10500 Rockville Pike Apartment. M-10, Rockville, MD 20852.

The following information is optional. Please indicate briefly any special interests, skills, vocation, education, experience, or other qualifications which you might contribute to NCA

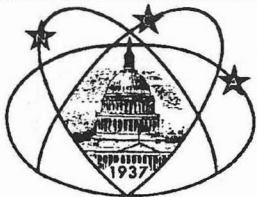
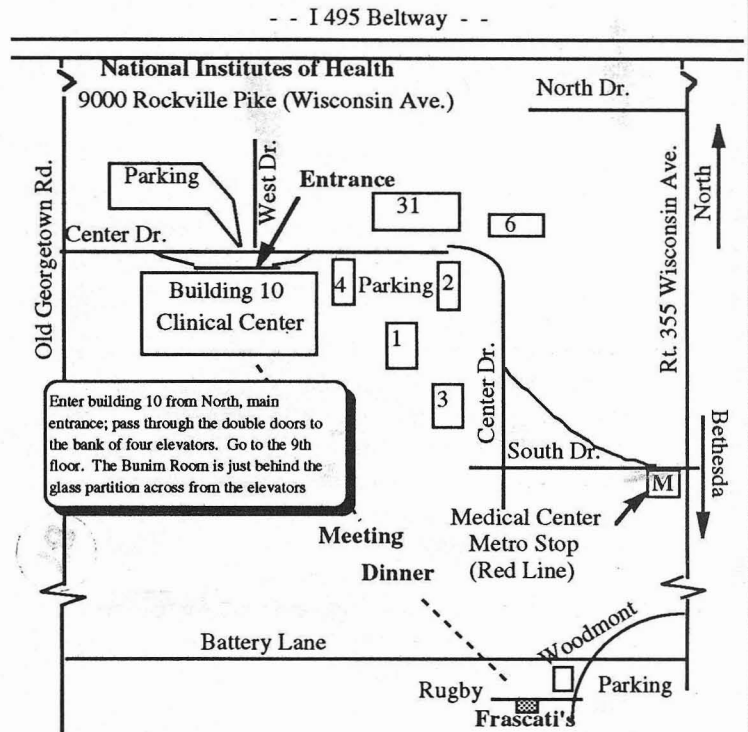
Thank you, and welcome!

Getting to the NCA Monthly Meeting

•Subway Riders - From Medical Center Metro Stop: Walk down the hill, pass the bus stops and turn right at the anchor (onto Center Drive). Continue uphill to building 10, the largest building on campus.

•To Frascati's: Proceed down Wisconsin Avenue toward Bethesda. Bear right onto Woodmont (or the next right onto Battery Lane), follow Woodmont across Battery, take a right onto Rugby and park. The restaurant will not guarantee seats after 5:30.

Stardust is published ten times yearly (September - June) by National Capital Astronomers, Inc. (NCA), a non-profit, public-service corporation for advancement of astronomy and related sciences through lectures, expeditions, discussion groups, conferences, tours, classes, public programs, and publications. NCA is an affiliate of the Washington Academy of Sciences. President John Graham. Deadline for *Stardust* is the 15th of the preceding month. Editor, Nicoletta Stephanz, 202-332-7756. NCA Phone Number is 301/320-3621.



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