



ELECTION, AWARDS, AND LEIDECKER: MICROS IN ASTRONOMY



DR. LEIDECKER

National Capital Astronomers will elect officers for fiscal 1985 at the May meeting. See page 35 for details.

Following the election, the annual National Capital Astronomers High School Science Fair Awards will be presented to three students. We congratulate and welcome these young people to Junior Membership. See page 35.

Dr. Henning Leidecker, Professor of Physics, American University, will speak on the considerable usefulness of microcomputers in astronomy.

In the past few years the phenomenally rapid developments in computer science, electronics, and miniaturization have led to modern microcomputers that in many ways exceed the power of those marvelous, massive electronic giants that revolutionized science only a few decades

ago. Leidecker will show how the microcomputer is relieving the larger computers of many tasks at far less cost.

Henning Leidecker received his doctorate in physics from the Catholic University of America in 1968 with a dissertation on dielectric behavior of linear polymers. He worked at Bell Telephone Laboratories at Murry Hill on liquid crystals, consulted at NIH on thermal physics of blood-artery interfaces, and has been a professor of physics at American University since 1967. He is on sabbatical leave at Goddard Space Flight Center. Dr. Leidecker is a member of the American Association for the Advancement of Science, the American Physical Society, and National Capital Astronomers, of which he is a past president.

MAY CALENDAR — *The public is welcome.*

Tuesday, May 1, 8, 15, 22, 29, 7:30 pm — Telescope-making classes at Chevy Chase Community Center, Connecticut Avenue and McKinley Street, NW. Information: Jerry Schnall, 362-8872.

Friday, May 4, 11, 18, 25, 7:30 pm — Telescope-making classes at American University, McKinley Hall Basement. Information: Jerry Schnall, 362-8872.

Friday, May 11, 18, 25, 9:30 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 960-9126.

Saturday, May 5, 10:00 am to 4:00 pm — Astronomy Day Open House at the U.S.

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APRIL LECTURE

Dr. Ted A. Maxwell, Chairman of the Center for Earth and Planetary Studies, National Air and Space Museum, compared the landforms of Mars with those of the deserts of Earth.

The National Aeronautics and Space Administration's program of planetary exploration are supported by Earth-based observations. Extensive observatory photography of the Moon preceded the lunar missions. The missions to Mars were supported by ground exploration, and aerial and space photography, of analogous features on Earth. In particular, the volcanic features of Hawaii and the "global sand seas" of desert Africa were studied in detail. Dr. Maxwell described studies of the sand features of Egypt, especially his own work there.

Percival Lowell's telescopic mapping of Mars occupied the period from 1900 through 1930, and created much speculation about Mars. Exploration of desert Egypt seems to have begun in 1917, and produced maps of the region. Geological exploration, begun in 1930, aimed at finding nitrate deposits for the manufacture of gunpowder, produced extensive and detailed maps of Egyptian sand topography. Recent photographs from space greatly extended the maps of Egyptian deserts.

The area has been dry for at least 6,000 years. It shows earlier water channels and lake beds clearly. Of course, Mars' fluvial features are many millions of years older; Mars has changed very little in geologically recent eras. Recent Egyptian changes are entirely aeolian, as on much of Mars' surface. There are dune areas in Egypt closely similar to those near the north pole of Mars.

Detailed ground studies of Egypt's sand seas by Maxwell and others include trenching and other subsurface exploration of the terrain structure -- not possible for Mars. Much of the area is sand stabilized by rocky layers. The movement of sand features was both studied over time and modified experimentally. In Egypt, naturally formed, wind-sculpted pyramidal features were found to be the most stable shapes. (Perhaps the ancients noticed this!) Wind streaks much like those seen on Mars are seen in Egypt's sand, and show similar seasonal variations and long-term stability. Braided water-formed channels are found about Egyptian wadies. They are photographically similar to the channels near the Martian equator.

The studies were probed in the question period that followed. Mars' Solis Lacus region may have subsurface ice and liquid water at depths greater than a kilometer, but probably not in the locations examined by the Viking Landers. Ice or water at lesser depths would evaporate. The landers showed that large rocks on Mars are not cracked. Volcanic areas on Earth are analogous to those on Mars.

John B. Lohman

MAY CALENDAR -- Continued

Naval Observatory and the National Air and Space Museum, with NCA participation. See page 35.

Saturday, May 5, 6:15 pm -- Dinner with the speaker at Blossom's Restaurant in the Old Post Office Pavilion, 12th Street and Pennsylvania Avenue, NW. Reservations unnecessary.

Saturday, May 8, 8:15 pm -- NCA annual business meeting at the Department of Commerce Auditorium, 14th and E Streets, NW. Election, awards, and lecture by Dr. Leidecker.

Saturday, May 19, 8:00 pm -- Discussion group in Conference Room D, Department of Commerce, 14th and E Streets, NW; NCA's future -- what shall it be? Come! NCA needs your input.

Saturday, May 26, 9:00 pm -- *Exploring the Sky*, presented jointly by NCA and the National Park Service. Glover Road south of Military Road, NW, near Creek Nature Center. Planetarium if cloudy. Information: John Lohman, 820-4194.

Wednesday, May 30 -- Near-total solar eclipse: See page 35.

OCCULTATION EXPEDITIONS PLANNED

Dr. David Dunham is organizing observers for the following grazing lunar occultations. For further information call Dave at 585-0989.

UT Date	Time	Place	Vis Mag	Pcnt Sunlit	Cusp Angle	Min Aper
05-04-84	00:53	Potomac, MD	9.2	8	4N	20 cm
05-04-84	01:16	Randallstown, MD	8.3	8	4N	10 cm
05-07-84	02:09	Thornburg, VA	8.4	34	8N	10 cm
05-07-84	03:55	Burtonsville, MD	9.7	35	6N	20 cm
05-09-84	05:02	Bay St. Louis, MS	3.6	58	7N	3 cm
05-10-84	03:24	Belfast, MD	6.4	68	9N	5 cm
05-18-84	01:48	White Oak, MD	8.2	94	10N	20 cm
05-27-94	08:07	Carolina Beach, NC	7.3	11	3N	5 cm

NCA SOLAR ECLIPSE EXPEDITION IN VIRGINIA 30 MAY

The site selected for the NCA science expedition is near Bishops Corner, Virginia, a few miles north of South Hill. A block of rooms has been reserved for the previous night at South Hill for the observers; some will be available for others who desire overnight accommodations in that area. Call Dr. David Dunham, 585-0989.

NCA TO ELECT NEW OFFICERS

The Nominating Committee, Mark Trueblood, Chair, Jay H. Miller, and Jerry Schnall, present the following slate for the 5 May election:

President: Geoffrey R. Chester

Treasurer: Ruth S. Freitag

Vice President: Stanley G. Cawelti

Trustee: Robert H. McCracken

Secretary: Joan B. Dunham

Sergeant at Arms: Richard J. Taibi

Other nominations may be made by petition of ten full members in good standing presented to the secretary prior to the 5 May election.

ASTRONOMY DAY: NCA AT NAVAL OBSERVATORY, AIR/SPACE MUSEUM

NCA will participate with exhibits and demonstrations at both the U.S. Naval Observatory and the National Air and Space Museum on 5 May from 10:00 am to 4:00 pm featuring expedition results, solar viewing, and telescope making.

NCA WELCOMES NEW MEMBERS

I.S. Friedman

6620 Fernwood Court

Bethesda, MD 20817

Alan M. Rulis

5410 Donnelly Court

Springfield, VA 22051

Thomas B. Kinsolving

8202 Townsend

Fairfax, VA 22031

Read B. Schuster

8314 Tobin Road, Nr. 11

Annandale, VA 22003

Peter F. Lemkin Family

14901 Native Dancer Road

Darnestown, MD 20878

SCIENCE FAIR WINNERS TO BE AWARDED

The annual National Capital Astronomers High School Science Fair Awards will be presented to three students following the 5 May election:

Michael Cumberland, Senior Division, Prince George Area, Surrattsville High School, for his project, "A New Concept in Telescope Mounts."

Devesh C. Pati, Junior Division, Prince George Area, Robert Goddard Middle School, for his project, "How the Moon Maintains its Orbit."

Michael J. Rymond, Junior Division, Northern Virginia Area, St. Mary's School, for his project, "Backyard Radio Astronomy."

EXCERPTS FROM THE IAU CIRCULARS

1. February 5 -- Courvoisier and Peacock, European Space Agency, and Pakull, Technische Hochschule, detected with EXOSAT the first X-ray burst observed from 2S 1254-690, which appeared optically to be a likely X-ray burster. After 6 hours of observation a burst consisting of two peaks 4.5 and 20 s long were observed followed 10 m later by deep dips in intensity.

2. February -- Winget, Nather, and Kepler, University of Texas, found the third known pulsating dB white dwarf star, PG 1116+158. Using a high-speed two-star photometer on the 2.1-m telescope at McDonald Observatory, they found a quasi-period of 1000s and an amplitude of 0.06 magnitude for the 16th-magnitude object.

3. March 26 -- N. Metlova, Sternberg Crimean Station, and K. Okazaki, Kahoku-machi, Yamagata, Japan, independently discovered a supernova of 15th magnitude in NGC 3169. It was also independently discovered on March 29 by R. Evans of Maclean, NSW., and confirmed by T. Cragg, Anglo-Australian Observatory.

4. April -- G. Hurst, Wellingborough, England, found Chanal's variable object in the Orion Nebula on ten plates dating from 1920. He noted, however, that Scott's object is most likely a spurious image of the nearby star V372 Ori.

Robert N. Bolster

MORE PERIODICALS FOR NCA MEMBERS

Through NCA, members can now subscribe at a substantial discount to the following magazines: *Astronomy* (monthly), *Deep Sky* (quarterly), *Telescope-Making* (quarterly), and, for the youngsters, *Odyssey* (monthly). Treasurer Ruth S. Freitag, 1300 Army-Navy Drive, Apt. 806, Arlington, VA 22202, 521-7831, will process subscriptions or provide information.

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★ S T A R D U S T

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FIRST CLASS