

★ STAR DUST

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NCA TO MEET AT PLANETARIUM IN VIRGINIA



MRS. ELLIE T. EULER

In a rare departure from its downtown Washington meeting place, National Capital Astronomers will meet at the West Springfield, Virginia Planetarium on Rolling Road on January 6. There, Mrs. Ellie Euler will present a special demonstration of the capabilities and multiple uses of the school's planetarium projector.

The speaker will emphasize the uses of a planetarium in teaching astronomy and related sciences. NCA members will be invited to participate in an analytical activity using the projector.

Mrs. Ellie T. Euler, a planetarium director for the Fairfax, Virginia County Public Schools, has been an educator for fifteen years and a planetarium director for the past seven. Our speaker received her B.S. degree from the

University of Pittsburgh, and a Master's in Education from the University of Virginia.

JANUARY CALENDAR

- Friday, January 5, 12, 19, 26, 7:30 PM — Telescope-making classes at American University, McKinley Hall basement. Information: Jerry Schnall, 362-8872.
- Monday, January 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.
- Saturday, January 6, 8:15 PM — NCA monthly meeting at the West Springfield, Virginia, High School Planetarium. Mrs. Ellie Euler will lecture. The school is at 6100 Rolling Road. From Beltway exit 5 go west on Braddock Road (Rt. 620) 2 miles to Rolling Road (Rt. 638), then left on Rolling Road 2 miles to the school on the right.
- Wednesday, January 17, 24, 31, 8:00 PM — *The Universe*, an adult astronomy survey series given by Dr. John A. Eisele of the Naval Research Laboratory. The 10-week series at the Smithsonian Institution costs \$30 for Smithsonian Associates members and \$40 for nonmembers.
- Saturday, January 27, 9:30 AM (ages 7 - 9), 11:00 AM (ages 10 - 12) — *Exploring the Solar System*, an 8-week astronomy course for children, given by Dr. John A. Eisele at the Smithsonian Institution. This series costs \$20 for Smithsonian Associates members and \$25 for nonmembers.
- Saturday, January 27, 8:00 PM — Discussion group at the Department of Commerce Auditorium, 14th and E Streets, NW. Bernard Goetz of the National Bureau of Standards will show movies and slides of the TSS *Olympia* solar eclipse cruise of July 1972.

NCA DECEMBER LECTURE

At the December 2 meeting, vice President Henning Leidecker discussed his concepts of teaching modern astronomy to undergraduates. He desires his American University students to get two things from his one-semester course: (1) a basic familiarity with the night sky and (2) understanding of the nature of a scientific problem — especially how the meaning of an event is related to the observer's attitude, and how a hypothesis is tested. Physics professor Leidecker gives students reading assignments from a variety of texts; lecture attendance is optional. Students are told early in the course what they will be required to gain understanding of; much of the testing is oral, before knowledgeable peers — a novel approach that has gained national attention for Leidecker's astronomy teaching.

Our speaker noted in passing that (1) many students become so involved studying Ptolemaic astronomy that they want to do research to advance it, (2) many experts believe that the most distant radio sources are near the edge of the universe, and (3) commercial astronomical slides are generally of low quality.

NCA WELCOMES NEW MEMBERS

Douglas Greene
6647 Hawthorne Street
McLean, Virginia 22101

Daniel G. Lewis
11201 Farmland Drive
Rockville, Maryland 20852

Stephen P. Lloyd
9520 Crosby Road
Silver Spring, Maryland 20910

Harvey L. Walsh & Family
3908 Braddock Road
Alexandria, Virginia 22312

Warren Watkins
3210 Quesada Street, NW
Washington, D. C. 20015

SOME GOOD READING

June LoGuirato recommends E. Driscoll's article, "Where will we land on Mars" in November 4 *Science News* as a companion to the map of Viking landing areas published in December *Star Dust*. She also points out that those who lecture on astronomy will be interested in the proceedings of a conference on "Education in and History of Astronomy" published in vol. 198, *Annals of the New York Academy of Sciences*.

November 1972 *Scientific American* has a fascinating article on recording sound, heat, and radio waves directly on cooled Polaroid color film in its "Amateur Scientist" column. This article should lead to some good science fair projects and perhaps a 1974 Westinghouse Science Talent Search winner.

NOTES ON CURRENT RESEARCH

Star dust? — Satio Hayakawa writes in May 1972 *Astrophysics and Space Science*, page 238, that primary cosmic-ray particles estimated to have energies above 10^{20} electron volts may actually be extragalactic dust grains accelerated to relativistic speeds, first by radiation pressure from luminous compact galaxies and then by magnetic fields. These grains would have a mass of approximately 10^{-16} gram.

Mercury scrutinized — McCord and Adams have observed Mercury extensively with Cerro Tololo and Kit Peak reflectors between wavelengths of 3200 and 10,500 Å. Reporting in November 17 *Science*, they conclude that the surface of Mercury is much like the lunar maria and uplands — glasslike soil rich in iron and titanium.



VENUS NEAR MIDDAY

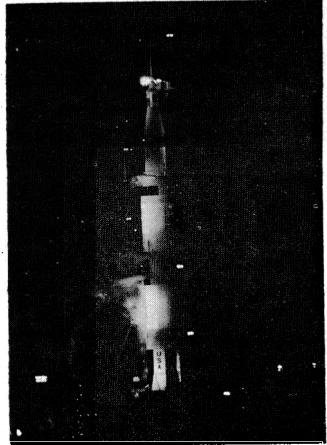
This photograph of Venus was taken just 15 minutes before noon on September 9, 1972. Bill Winkler used Bob Bolster's fine six-inch Maksutov telescope for the 0.1-second exposure on Anscochrome 500 film with an effective focal ratio of 48. Bolster first located the faint image in binoculars.

NCA MEMBERS WITNESS APOLLO LAUNCH

Dick Horwitz and Alan Gottlieb photographed the launching of the final Apollo lunar probe at Cape Kennedy on December 7, 1972. Here, Gottlieb captures the dramatic scene late in the countdown as the enormous Apollo moon rocket with its human passengers is readied for its final historic departure into the night.

Horwitz, whose spectacular picture of the launch on page 20 almost conveys the deafening roar of the monstrous vehicle, writes that the dazzling flame was "so bright it was hard to look straight at it."

At this writing, Apollo belongs to history. One wonders. As thousands of people readjust, move away, find other activities, as the gantries are scrapped, the land surplussed and sold, and the fantastic complex meets the wrecking ball to make way for high-rises and shopping centers, as this, too, fades into history, and we are replaced by other generations having different goals, what social trauma will ever again unify and motivate man to undertake the tremendous effort and expense to reestablish the abandoned capability? Or will history simply note that man, at the pinnacle of his technological civilization, conquered the moon for a brief interval, then — inexplicably — quit?



SOLAR ECLIPSE EXPEDITION AND SAFARI PLANNED

In cooperation with the Aircraft Owners and Pilots Association and Park East Tours, Bob McCracken is planning an East African trip to observe the June 30, 1973 total eclipse of the sun from a site on Lake Rudolph in Kenya. After the eclipse, safaris through game reserves in Kenya and Tanzania and visits to several points of scientific interest are planned. From high-altitude terrain south of the equator the southern sky can be observed and photographed all the way to the pole! Departure for the 16-day trip is planned from Kennedy International Airport by Sabina Airlines to Nairobi, Kenya, with a stopover at Brussels. Cost will be approximately \$1500. For information contact R. H. McCracken, 5120 Newport Avenue, Washington, D. C. 20016.

OBSERVING AIDS AVAILABLE

The 1973 *Graphic Timetable of the Heavens*, published by the Maryland Academy of Sciences, and the *Observer's Handbook*, from the Royal Astronomical Society of Canada are now available and may be obtained from the treasurer at the January meeting. The information density and economy of these two aids suggest their possession by every serious observer.

STAR DUST may be reproduced with proper credit to National Capital Astronomers.

Semtexet - The last of the Apollas



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Photo by Dick Horvitz