

Space Medicine Branch Report

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Space Medicine Branch notes of 1981 meeting

1. The 30th annual business luncheon was called to order by President Arnauld Nicogossian with a rap of the Arkansas Potlash Forest Gavel at 1230 on May 6, 1981. The following introductions were then made of those seated at the head table: CAPT Roger G. Ireland, Dr. Frank H. Austin, Dr. Stanley C. White, Dr. Arnauld Nicogossian, Donald K. Slayton, Dr. William K. Douglas, Dr. Hubertus Strughold, and CAPT Ronald K. Ohslund.

Members of the Executive Committee seated in the audience were: Col. Eduard Burckhard, Col. Roy L. DeHart, Dr. Harald von Beckh, CDR Victoria Voge, Capt. Paul Tyler, Col. Willard L. Meader, Col. George C. Mohr, and Dr. Karl E. Klein.

Thirteen past presidents of the Space Medicine Branch in attendance at the luncheon were then introduced. They included Drs. Gagge, Strughold, Gaume, Berry, Chrisiy, Hessberg, Austin, White, Ireland, Houghton, Fuchs, von Beckh and Meader. The attendance at the meeting was excellent, with 137 tickets sold.

2. CAPT Ron Ohslund then gave the Secretary-Treasurer's report and the results of the recent election. There were 193 dues paying members and the current bank balance was \$993.12. He discussed the Executive Committee decision to raise the initial membership fee to \$10 to cover the cost of the membership certificate. Membership dues will remain at \$5, but members outside the U.S. were encouraged to either pay in cash or with checks drawn on U.S. banks due to the fee for foreign bank transactions.

The 1981-82 slate of officers was presented: President, Dr. William K. Douglas; President-Elect, Dr. Lawrence F. Dietlein; Secretary-Treasurer, CAPT Ronald K. Ohslund; Bibliographer, Dr. Paul A. Campbell; and Historian, Dr. Frank H. Austin, Jr.

Executive Committee—term expiring in 1982: Capt. Paul Tyler, Col. George C. Mohr, Dr. Karl E. Klein, and Col. Willard L. Meader; term expiring in 1983: Dr. Paul Buchanan, Col. Daniel H. Spoor, Dr. Heinz Oser, and Dr. Arnauld Nicogossian.

3. President Nicogossian then gave his message. He cited the recent Space Shuttle success as being a rebirth of the space program and predicted that next year we would experience a resurgence of interest in space medicine. He called attention to the scientific session sponsored by the Branch, as well as the panel on the Space Shuttle flight presented by the Branch. President Nicogossian ended his remarks by expressing his thanks for having had the opportunity to lead the Space Medicine Branch during this past year.

4. CAPT Ireland, head of the Awards Committee, announced the winner of the Hubertus Strughold Award to be Dr. Heinz S. Fuchs. The award was presented by Dr. Nicogossian.

5. The President then introduced Mr. Donald K. Slayton, Manager, Orbital Flight Test Operations at Johnson Space Center. "Deke" discussed the Space Shuttle program and showed a movie of the recent Shuttle flight, from launch to touchdown, which was enthusiastically received by the audience. He was then presented with a certificate of appreciation by Dr. Nicogossian.

6. Following the presentation, Dr. Nicogossian relinquished the gavel to Dr. William K. Douglas, President for the coming year. President Douglas then presented the Past President's plaque to Dr. Nicogossian.

7. The meeting was adjourned at 1400.

Respectively submitted,
Ronald K. Ohslund
Secretary-Treasurer

Science projects developing for Shuttle

NASA is moving on many fronts to make maximum use of the Space Shuttle, once it becomes operational.

It has already signed an agreement with a W. German firm for flying the Shuttle Space-lab Pallet Satellite on the first operational Shuttle flight—now scheduled for September, 1982. While the Pallet is in the Shuttle payload bay, materials processing research experiments will be carried out. Then the Shuttle's remote manipulator will place the system outside the Shuttle into free flight, where it will be controlled by an onboard stabilization and control system. It will later be retrieved and brought back to Earth.

NASA and Italian space officials are also considering deployment of a tethered satellite. It would be carried into orbit by the Shuttle, released into space, but kept tethered to the Shuttle by a super-strong cord, perhaps as long as 60 miles. The satellite then could be trolled through the upper atmosphere to gather atmospheric, magnetospheric, and gravity data.

Meantime, work continues on the Space Telescope to be put into orbit by the Shuttle.

Polishing of the primary mirror—made of extremely-low thermal expansion glass—has been completed after nearly a year. Now, two reflective coatings are being applied—a pure aluminum layer 65 nm thick and a magnesium fluoride layer 27.5 nm thick. Then, the primary mirror will be aligned with the rest of the telescope.

After the death in March of two Rockwell International employees while working inside the Shuttle's aft compartment prior to its first launch, NASA set up an investigating team. Its 400-page report has been completed, and includes 19 pages of recommendations to help prevent such accidents from occurring again. The two employees were overcome in the compartment because gaseous nitrogen was present, and the report says the procedure used did not contain adequate steps to ensure safety.

In other activities:

- NASA investigators have found a natural infrared laser—the first ever found—on Mars. Using an Earth telescope with an infrared heterodyne spectrometer, they observed the carbon dioxide in the Mars

atmosphere absorb sunlight, which pumped the CO₂ into a higher energy state and, in the process, released photons. Its power output exceeds 1 million megawatts—more than 5 times the power output of the United States.

- Pioneer 10, now 25 astronomical units (25 X 93 million miles) from Earth, has found that the Sun's atmosphere and magnetic envelope extends that far—well beyond predictions. Scientists now think it goes even further since there is, as yet, no clear evidence of the heliopause. Pioneer 10 is so far away it takes 3.5 hours for its data—travelling at the speed of light—to reach Earth.

- NASA's Atmosphere Explorer-5 satellite reentered the Earth's atmosphere in June after 5.5 years in orbit. Carrying 15 instruments to gather data about the thermosphere, it was the first satellite to use onboard propulsion to make large orbit changes, and the first to use a central computer and data base to feed information to all members of an investigative team—via their own small terminals—at the same time, whatever their location.