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SPACE MEDICINE BRANCH REPORT

Report of the International Committee of the SMB

by *Chrysoula Papadelis, MD*

This is a report of the International Committee (IC) of the Space Medicine Branch (SMB) of the Aerospace Medical Association. The goal of the committee is to report on and organize the activities of its members toward a common goal of international cooperation in the field of space medicine. Many international branch members are devoted to expanding their activities within the SMB in the upcoming years with important projects and goals. With the help of our international members we are kept up-to-date on many individual national space medicine activities.

For the last 3 years, the IC has been trying to organize a space medicine seminar outside of the United States about space medicine in the U.S. mainly to inform foreign medical doctors who cannot travel that distance. Also, an international setting for a space medicine meeting should allow more scientists and physicians from non-U.S. space agencies to become involved in our activities and contribute in support and funding of our international efforts, such as with the International Space Station. With the help of Dr. Eran Schenker, the First International Space Medicine meeting successfully took place during the 44th International Congress of Aviation and Space Medicine, September 8-13, 1996 in Jerusalem, Israel. German, and Japan have already expressed interest in hosting the International Space Medicine meetings in the near future while Greece is already preparing to host this meeting in 1997 in conjunction with the Greek Aerospace Medical Association Meeting. Information and Greek Association membership is available through:

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In Japan, Dr. Akira Miyamoto, M.D., of the National Space Development Agency (NASDA) noted that last year the agency opened a new structure called the Astronaut Training Facility (ATF) located at the Tsukuba Space Center (TKSC). It was built for training Japanese astronauts, but can also be used for space medicine research. It contains a laboratory for blood and urine analysis, rooms for bed rest studies, dual energy X-ray absorptiometry (DEXA), lower body negative pressure, Equitest, and an altitude chamber. The new ATF also has an isolation chamber that simulates the Japanese Experiment Module of the International Space Station. Initial stages of the ATF are almost complete and ready for final verifications. In January 1996, the ATF was utilized for the first time in the selection of a Japanese astronaut. That astronaut is currently in the astro-

naut candidate course in Houston. The first experiment in the new facility was performed last July and lasted 6 days. It was organized by NASDA and operated by six groups of scientists and four universities. The experiment focused on human autonomic functions before and after head down tilt. It was a remarkable event in NASDA since it was the first human experiment conducted on its own without the assistance of other national agencies, and was performed entirely at TKSC. The ATF will help NASDA increase its human-based space medicine research, as well as involve more Japanese scientists in space medicine who have not previously been involved. NASDA wishes to provide more opportunities for Japanese clinicians and scientists to be directly involved in the important basic research needed for the success of human life in space.

Astronaut Chiaki Mukai, M.D., PM of NASDA is currently preparing for Neuro-lab/STS-90 which is scheduled to launch in early 1998. This is a 16-day Spacelab mission aboard NASA's Space Shuttle Columbia. The mission, involving seven countries, will be dedicated to the neurosciences with half of the experiments involving humans and the other half involving animals. Currently her position is still one of four Payload Specialist Candidates, and in March, the mission's Investigators Working Group will designate two of them as Prime Payload Specialists and the other two as Alternates for flight.

Dr. Mukai, after graduating from Keio University in Japan, worked as a resident in general surgery at Keio University Hospital. She has also been on the general surgery staff in at Chimizu General Hospital and on the emergency surgery staff at Saiseikai Kanagawa Hospital. She returned to Keio University Hospital as a resident and later became chief resident and instructor in the Department of Cardiovascular Surgery, Keio University.

In 1985, Dr. Mukai was selected by NASDA as one of three Japanese payload specialist candidates for STS-47. As a NASDA Science Astronaut, Dr. Mukai became a Visiting Scientist to the Division of Cardiovascular Physiology, Space Biomedical Research Institute, Johnson Space Center. She also became a Research Instructor in the Department of Surgery at the Baylor College of Medicine in Houston. In 1994, she flew on the Second International Microgravity Laboratory (IML-2) mission as a Payload Specialist. The mission contained 82 investigations in both the Space Life Sciences (human physiology, space biology and microgravity environment countermeasures, radiation biology, and bioprocessing) and the Microgravity Sciences (material science, fluid science). Since IML-2 was designated as an extended duration orbiter mission its crew also conducted medical experiments on the

cardiovascular system, autonomic nervous system, and bone and muscle metabolism.

Dr. Nick Kanas is the principal investigator of a NASA-funded study on crewmember interactions observed during three NASA/Mir missions. In addition, he is studying the interactions of mission control personnel with each other and the interactions between the flightcrew and ground personnel. In his study, Dr. Kanas and his co-investigator, Dr. Charles Marmar, spent the week of May 13, 1996, in Moscow, orienting and training some of the NASA/Mir astronauts, cosmonauts, and mission control subjects on how to use U.S. computerized questionnaires and study procedures. Training of mission control subjects and NASA/Mir crewmembers was conducted with the assistance of their Russian co-investigators (including Drs. Salmitskii, Gushin, Kozerenko, and Sled) at the Russian Mission Control Center and the Cosmonaut Training Center. One highlight of their stay was a tour of the Soyuz and Mir mock-ups and training simulators.

SMB YOUNG INVESTIGATOR'S AWARD

The Space Medicine Branch Awards Committee is accepting applications for its Young Investigator Award for the 1997 year. The applicant must submit a draft manuscript of their presentation. To be eligible, the work must be original and the author must be presenting at the Aerospace Medical Association Annual Scientific Meeting for the first time. The manuscript must be submitted by March 1, 1997 to:

K. Jeffrey Myers, MD
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AsMA Future Meetings

May 11-15, 1997
Hyatt Regency Chicago
Chicago, IL

May 17-21, 1998
Seattle Convention Center
Seattle, WA

May 16-20, 1999
Westin Hotel, Renaissance Center
Detroit, MI