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SPACE MEDICINE BRANCH REPORT

Awards of the Space Medicine Branch

At the Scientific Meeting of the Aerospace Medical Association in May 1999 the Space Medicine Branch (SMB) presented two awards, the Hubertus Strughold Award, and the Young Investigator Award. The Strughold Award winner was Sam L. Pool, M.D., and the Young Investigator Award winner was Mr. Torsten Lindgren.

Hubertus Strughold Award Sam L. Pool, M.D.

The Hubertus Strughold Award is presented each year for dedication and outstanding contributions in advancing the frontiers of Space Medicine, for sustained contributions to further the goals of the Space Medicine Branch and to whom best exemplifies the ideals of Hubertus Strughold. The recipient of the award is selected by the Strughold Award subcommittee.

Dr. Sam L. Pool is currently the Assistant Director for Space Medicine in the Space and Life Sciences Directorate at the NASA-Johnson Space Center in Houston, TX.

A graduate in physics from the Southeastern State College, Oklahoma, and the University of Oklahoma, he received his medical degree from the Oklahoma University School of Medicine in 1963. His aerospace medical career began in 1964 when he attended the U.S. Navy School of Aviation Medicine in Pensacola, FL. After serving 3 years as a Navy Flight Surgeon, Dr. Pool joined NASA in 1968 at the Manned Spacecraft Center, now the Johnson Space Center (JSC), as a Medical Officer in the Space Physiology Branch of the Biomedical Research Office. In 1969, Dr. Pool became Chief of the Medical Applications Branch in the Biomedical Technology Division of the Medical Research and Operations Directorate and in 1976 became the Chief of the Space/Clinical Medicine Branch of the Space Research and Operations Division in the Life Sciences Directorate. From 1977 to 1998, Dr. Pool was the Chief of the Medical Sciences Division in the Space Life Sciences Directorate at JSC.

Dr. Pool served as Flight Surgeon in the Mission Control Center, Houston, for the

Apollo missions and was a member of the Mission Control team for part of the Apollo 13 "life-boat" mission. Dr. Pool initiated and led the development of the world's first documented set of medical criteria for the selection of astronauts, published in 1977. Prior to this, astronaut selections were conducted without a written set of medical standards.

During his career, Dr. Pool helped develop one of the first telemedicine efforts in the United States; has led JSC in promoting the transfer of NASA biomedical space technology to the public sector; has promoted the development of new bioreactor technologies for space flight, such as those developed for cellular biology; and has led the development of requirements and specifications for the integrated Medical and Behavioral Laboratory for the Space Station.

Dr. Pool has authored numerous scientific and technical publications. One of the most significant of these, co-edited with two other leading authorities in the Life Sciences, is the volume, *Space Physiology and Medicine*. Now in its third edition, this book has become the world's leading textbook on space medicine.

Dr. Pool has served as a committee member with the National Academy of Sciences and was a member of the Aeronautics Advisory Committee of the NASA Advisory Council. He is currently a member of the Space Station Science and Applications Advisory Committee and serves as a member of the Advisory Editorial Board of the journal of *Aviation, Space and Environmental Medicine*.

Dr. Pool has been the recipient of several awards including the Presidential Medal of Freedom; the Jeffries Medical Research Award, AIAA; the Boynton Award, American Astronautical Society; and the Exceptional Service Medal, NASA. A Fellow in AsMA, Dr. Pool has been the President of the Space Medicine Branch and the Society of NASA Flight Surgeons. He has received the Society's President Award and AsMA's Louis H. Bauer Founders Award.

Dr. Pool was selected for the Strughold Award in recognition of his outstanding contributions and life-long dedication to the advancement of the field of Space Medicine.

Young Investigator Award Torsten Lindgren

The Young Investigator Award is presented to an investigator just beginning his career in aerospace medicine who is the first author of an outstanding paper (slide or poster session) in the area of aviation and/or space medicine presenting at the current or recent scientific meeting of the Aerospace Medical Association for the first time.

Mr. Torsten Lindgren was awarded the SMB Young Investigator Award for his paper entitled "Cabin Environment and Perception Of Cabin Air Quality (CAQ) Among Commercial Airline Crew." Mr. Lindgren col-

lected air quality sampling and noise measurement data onboard several Scandinavian Airline Systems (SAS) Boeing 767 aircraft as well as subjective air quality questionnaire data from SAS flight crews. Mr. Lindgren coordinated with the airline to have access to the aircraft that were used as well as to their respective aircrews. Mr. Lindgren's work resulted in the identification of several aircraft cabin environmental factors that were considered occupational stresses by aircrew members. These included stuffy or stagnant air, dry air, static electricity, noise, inadequate illumination and dust. Passive tobacco smoke and wide variations in cabin temperature were also found to have significant effects on work environment stress. Additionally, on intercontinental flights where smoking was permitted, Mr. Lindgren's study revealed that tobacco smoking in a low humidity environment can lead to significant contamination levels of respirable airborne particles.

In order to obtain this information, Mr. Lindgren spent numerous hours, both day and night, onboard aircraft collecting this data. He also performed the data analysis and wrote the paper himself. The success and completion of this study were directly attributed to his ceaseless efforts. The impact of the results from this study may be global. These results may influence the current issues concerning cabin air quality, cabin noise exposure and the occupational health of commercial flight crews as well as the health of their passengers.

There were 65 contestants in this year's competition. In addition to this year's winner, the follow were finalists: Eric R. Muth, M.S., Ph.D., Naval Aerospace Medical Research Laboratory, Pensacola, FL; Mariana Alves-Pereira, Center for Human Performance, Alverca, Portugal; David Cohen, Biodynamics and Protection Division, U.S. Air Force Research Laboratory, Brooks AFB, TX; Matthew Gee, M.D., School of Aerospace Medicine, Brooks AFB, TX; Liu Hongjin, Clinical Aeromedical Center, Peoples Republic of China; Norbert Kraft, M.D., National Space Development Agency of Japan; and Simon Siitonen, Research Institute of Military Medicine, Finland.



STRUGHOLD AWARD--Jeff Myers, M.D., SMB President, presents the award to Sam Lee Pool, M.D.



YOUNG INVESTIGATOR AWARD--Torsten Lindgren receives the award from Lloyd Tripp, chair of the YIA committee, and Dr. Myers.