June 9, 2009

The Honorable Barbara Mikulski
United States Senate
Washington, DC 20510

Dear Senator Mikulski,

The American Physiological Society (APS) thanks you for your ongoing support of the National Aeronautics and Space Administration (NASA). Scientific research plays an important role in technological innovation and economic development and therefore is critical to the future of our nation. While the overall budget for NASA continues to grow, the APS remains concerned about the lack of consistent funding for research into the effects of spaceflight on humans. The APS urges you to make every effort to reinvigorate funding for NASA’s Human Research Program (HRP) with increased funds in FY 2010.

The APS is a professional society dedicated to fostering research and education as well as the dissemination of scientific knowledge concerning how the organs and systems of the body work. The Society was founded in 1887 and now has nearly 10,000 members who do research and teach at public and private research institutions across the country, including colleges, universities, medical and veterinary schools. Many of our members conduct physiology research that is supported by funds allocated through NASA.

The Human Research Program (HRP) at NASA conducts research and develops countermeasures with the goal of enabling safe and productive human space exploration. During prolonged space flight, the physiological changes that occur due to microgravity, increased exposure to radiation, confined living quarters, and alterations in eating and sleeping patterns can lead to health problems and reduced ability to perform tasks. APS scientists are actively engaged in research that explores the physiological basis of these problems with the goal of contributing to the development of countermeasures. The knowledge gained from this research is not only relevant to humans traveling in space, but is also directly applicable to human health on Earth. For example, some of the muscle and bone changes observed in astronauts after prolonged space flight are similar to those seen in patients confined to bed rest.

Given NASA’s current focus on manned space exploration and the development of the Constellation program, it is critical that resources be devoted to research into the health effects of prolonged space flight. NASA is the only agency whose mission includes addressing the biomedical challenges of manned space exploration. Over the years, the amount of money available for conducting this kind of research at NASA has dwindled, and this year the budget request for the Human Research Program stands at only $151.5 million.
A productive first step toward enhancing research into the effects of prolonged space flight was a memorandum of understanding signed in 2007 between NASA and the National Institutes of Health. The memorandum provides a framework for the two agencies to work together and move health research forward. As part of this collaboration, the NIH recently issued a funding opportunity announcement (PAR-09-120) soliciting applications for biomedical research projects that could be conducted on the International Space Station. The goal is to use the unique microgravity and radiation environment of the International Space Station to carry out research that will lead to a better understanding of human physiology and health in space and on Earth. Increased funding for this and other initiatives will speed progress in the field and allow for safer manned space exploration.

The APS calls on Congress and NASA to increase support for peer-reviewed research into the health risks of long-term space flight and development of appropriate countermeasures at a rate that exceeds the biomedical research and development price index (BRDPI) and restore the capacity of the Human Research Program.

Sincerely,

Gary Sieck, Ph. D.
President
The American Physiological Society