



PRESS RELEASE

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IMBB-FORTH LAUNCHES GREECE TO THE INTERNATIONAL SPACE STATION

The Foundation for Research and Technology (FORTH), with its Institute of Molecular Biology and Biotechnology (IMBB), participates in an international scientific experiment with the aim of studying how space flight influences organismal physiology as well as muscle mass and function.

This international effort is coordinated by Dr. Tim Etheridge, University of Exeter, and Prof. Nate Szewczyk, University of Nottingham, in the UK. Four research teams around the world share the workload of the mission, including the team of Prof. Nektarios Tavernarakis (Chairman of the Board, FORTH, Research Director at IMBB and Professor at the Medical School of the University of Crete, Greece), Prof. Atsushi Higashitani (University of Tohoku, Japan), Prof. Monica Driscoll (Rutgers University USA) and Prof. Jin Lee (University of Yonsei, South Korea). It is the first time a Research Institution from Greece is involved in a biomedical research experiment aboard a space mission.

Scientists will study the biological effects of long-term exposure to space flight conditions by addressing important questions: How are the tissues and cells of an organism affected by microgravity? What are the consequences on muscle and neuronal structure and function? What are the molecular mechanisms responsible for the loss of muscle mass after prolonged space missions? How do low gravity and cosmic rays influence the aging process?

The experiment, which will be carried out aboard the International Space Station (ISS), is poised to answer these crucial questions. The launch of the mission is scheduled for November 18, from the Kennedy Space Center in the United States. Samples of the nematode *Caenorhabditis elegans* will travel in special oxygen-containing bags to the ISS Space Station where they will remain and reproduce. Resistant larvae will be frozen at -80°C, before they begin the journey back to Earth. Researchers will then study spaceflight-induced alterations in muscles and the nervous system. The findings of this pioneering study are expected to provide critical insights relevant to the impact of spaceflight on organismal physiology and health.

More information:

<https://www.mme-spaceworms.com/>

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