



**Politecnico  
di Torino**

Dipartimento  
di Ingegneria Meccanica  
e Aerospaziale



## DIMEAS SEMINAR

# SPACEFLIGHT PHYSIOLOGY AT THE INTERFACE OF BONE AND BLOOD FLOW

## SPEAKER



**Svetlana Komarova**

University of Alberta  
(Canada).

### Abstract

This interdisciplinary seminar explores how life in space reshapes bone and cardiovascular health. Drawing on a decade of research, it connects skeletal deterioration and vascular changes observed in microgravity and mouse models of unloading. By bridging these systems, the talk highlights the importance of a multisystem perspective in understanding health in spaceflight.

### BIO

Dr. Komarova earned an undergraduate degree in physics (Moscow State University) and PhD in biophysics (Institute for Theoretical and Experimental Biophysics) and underwent postdoctoral training at NASA Ames Research Center, University of Cincinnati and University of Western Ontario. Prior to coming to the University of Alberta, she worked for almost 20 years at the Faculty of Dental Medicine and Oral Health Sciences, McGill University. Dr. Svetlana Komarova is currently Professor and Chair of the Department of Biomedical Engineering at the University of Alberta, Canada. Dr. Komarova's research focuses on bone physiology, examining how mechanical and biological signals regulate bone cell function and how bone cells, in turn, shape both local and systemic environments. Her work integrates experimental models with computational approaches, including mathematical modeling and data-driven methods, to study complex skeletal systems.



**April 15th 2026**  
**12 pm**



**Sala Ferrari, II floor,**  
**DIMEAS – Politecnico di Torino**