CENTRE FOR MECHANICS OF BIOLOGICAL MATERIALS

The Centre for Mechanics of Biological Materials, established at the University of Padua, works in the field of bioengineering, focusing on the mechanics of biological tissues and biomaterials. The research activity is developed in the framework of national and international projects through direct collaboration with universities, research centres and industry.

Prof. Paolo Gargiulo meets CMBM

Institute for Biomedical and Neural Engineering Reykjavik University, Iceland

Friday March 28th 2025, 11.00 – 12.00 a.m. Dipartimento di Ingegneria Industriale, Sala Riunioni 3° piano, Via Venezia 1, Padova

Biography

Paolo Gargiulo is full professor at Reykjavik University with a distinguished academic background. He studied at TU Wien and completed his PhD in 2009. His primary research interests and expertise lie in medical image processing, neuro-engineering, 3D printing, and medical technologies. At Landspítali University Hospital in Reykjavík, he established a 3D printing service that has supported surgical planning for over 300 operations, significantly impacting Iceland's healthcare system and earning international recognition for his pioneering work in the field. Paolo Gargiulo is the founder and director for the Institute of Biomedical and Neural Engineering, which encompasses advanced research facilities such as a highdensity electroencephalographic system (256-EEG), postural control platform, virtual reality system, 3D printing and additive manufacturing center.

He has published over 100 scientific papers and has presented his work at numerous international conferences and workshops. He has also participated in several EU-funded research projects.

In 2023, Paolo Gargiulo received the prestigious Scientist of the Year Award at Reykjavik University and was granted an Excellence Award by the Icelandic Centre for Research to study postural control responses as biomarkers for neurodegenerative conditions.

He is also the co-founder of the startup company Heilalabs, which focuses on studying brain aging and developing predictive evaluation metrics for neurodegenerative diseases.



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The seminar will showcase the research and development activities at the Institute of Biomedical and Neural Engineering (IBNE), a multi-disciplinary research lab established through a collaboration between Reykjavik University and Landspitali University Hospital. IBNE's research spans a diverse range of fields, from neuroscience and biomechanics to medical imaging and 3D printing.

The seminar will feature research from the Postural Control Lab, as well as explore cutting-edge advancements in 3D printing and 3D anatomical modeling for surgical planning and medical education.

A particular focus will be placed on ongoing collaborative projects between Reykjavik University and Università degli Studi di Padova, which are investigating the mechanical response of cartilage tissue. These projects will demonstrate how advanced additive manufacturing technologies are integrated with expertise in the mechanics of both biological and synthetic materials.



Università degli Studi di Padova