

# Tassos Natsakis, PhD

## Rehabilitation Robotics

+40 753 820 782  
✉ tassos@natsakis.com  
🌐 www.natsakis.com  
in tassosnatsakis  
🐦 t4ss0s  
🌐 tassos



### Personal information

Full Name Anastasios Natsakis  
Nationality Greek  
Date of Birth 30/05/1985  
Expertise Robotics, Biomechanics, Control, Structural dynamics  
Soft skills Research Project management, Training design and delivery

### Experience

2023 **Researcher**, *Iumen*, Cluj-Napoca, Romania

2021 **Guest lecturer**, *Babes-Bolyai University*, Cluj-Napoca, Romania  
Physics department, teaching the course of Biomechanics

2016 **Academic staff**, *TU Cluj-Napoca*, Cluj-Napoca, Romania  
Associate Professor at the Automation department, in topics of:  
○ Robotic Control Systems  
○ Digital Control of Machine Tools  
○ Integrated Fabrication Systems

2010 **Academic staff**, *KU Leuven*, Leuven, Belgium  
2016 Researching foot and ankle biomechanics. Detailed achievements:  
○ Development of in-vitro experimental set-up for performing gait simulations;  
○ Coaching of multiple bachelor and master thesis students;  
○ Authored four and co-authored 7 published academic articles in peer-reviewed journals on the field of biomechanics;

2010 **Research assistant**, *Aristotle University of Thessaloniki, Laboratory of Machine Dynamics*, Thessaloniki  
Comparing results of different finite element solvers for tests for non-linear dynamic behaviour of mechanical structures.  
Solvers tested:  
○ Dynamis, in-house built non-linear FE solver  
○ Nastran, industry standard FE solver

### Research Projects

2023 **SEACLEAR 2.0**, *Project member*, Cluj-Napoca, Scalable Full-cycle Marine Litter Remediation in the Mediterranean: Robotic and Participatory Solutions  
<https://www.seaclear2.eu>

2023 **SEACLEAR**, *Project member*, Cluj-Napoca, SEArch, identificAtion and Collection of marine Litter with Autonomous Robots  
<https://www.seaclear-project.eu>

2022 **TRUE REHAB**, *Project Coordinator*, Cluj-Napoca, Targeted Robotic UppEr-arm REHABilitation  
<https://rocon.utcluj.ro/true-rehab>

2020 **BETER REHAB**, *Project Coordinator*, Cluj-Napoca, Biomechanically Enabled roboTic controlER for REstoring Human ABility  
<https://rocon.utcluj.ro/beter-rehab>

### Education

2010 **PhD in biomedical engineering**, *KU Leuven*, Leuven

2009 **Masters in Mechanical Engineering**, *Aristotle University of Thessaloniki (AUTH)*, Thessaloniki, 7.53/10

## PhD thesis

title *In-vitro analysis of dynamic foot biomechanics using a gait simulator and intra-articular pressure measurements*  
supervisors Professor Dr. Ir. Jos Vander Sloten (KU Leuven)  
Professor Dr. Ilse Jonkers (KU Leuven)

## Languages

Greek	Native	Mother tongue
English	Proficiency	Daily use, seminars, speeches given in English
Romanian	Proficiency	Daily use, seminars, courses given in Romanian
Dutch	Elementary	Basic conversations on a daily basis
German	Elementary	Basic conversations on a daily basis
Japanese	Basic	Very limited usage and vocabulary

## Computer skills

Linux	Advanced	User of multiple distributions (Debian, Ubuntu, Mint, Arch) since 2007
ROS & ROS2	Advanced	Implementation of advanced control methodologies
LabVIEW	Advanced	Developed mechatronic systems for experiments during my PhD thesis
Matlab	Advanced	GUI design and batch operation optimisation
R	Advanced	Data interpretation, statistical analysis and graphical representation
Git	Advanced	Using git and related services in numerous projects

## Extra Curricular Activities

2011

**Co-founder of Alumni Business Camp (ABC)**, Berlin, Barcelona, Brussels, Budapest  
Event on entrepreneurship and business development for alumni members of BEST. Main organiser of first four editions gathering more than 70 participants ([www.alumnibusinesscamp.net](http://www.alumnibusinesscamp.net))

2011

**Competent communicator (CC) and Competent leader (CL)**, *Toastmasters Fonske*, Leuven  
Member of international organisation dedicated to public speaking and leadership ([www.toastmasters.be](http://www.toastmasters.be))

2008

2009

**Vice-President for External Services**, *BEST*, Europe

Position of the international management of BEST. I was dealing with complementary education, provided by the organisation, and with educational matters that affect all European students.

2006–2007

2007

**President of Local Group of Thessaloniki**, *BEST*, Thessaloniki, Greece

I took care of setting goals for the team and making sure of the stability and the communication flow of the several working groups.

## Extra Information

2003

**Driving licence**, Greece  
EU Category B

2009

2010

**Military service**, Greece

I completed the compulsory military service in the Greek army

## Publications (selection)

Tassos Natsakis, Josefien Burg, Greta Dereymaeker, Jos Vander Sloten, and Ilse Jonkers. Extrinsic Muscle Forces Affect Ankle Loading Before and After Total Ankle Arthroplasty. 473(9):3028.

Tassos Natsakis and Lucian Busoniu. Predicting Intention of Motion During Rehabilitation Tasks of the Upper-Extremity. In *2021 43rd Annual International Conference of the IEEE Engineering in Medicine Biology Society (EMBC)*, pages 6037–6040.

Koen Peeters, Tassos Natsakis, Josefien Burg, Pieter Spaepen, Ilse Jonkers, Greta Dereymaeker, and Jos Vander Sloten. An in vitro approach to the evaluation of foot-ankle kinematics: Performance evaluation of a custom-built gait simulator. 227(9):955–967.

Ioana Ulici, Alexandru Codrean, and Tassos Natsakis. Human-Robot Interaction with Sliding Mode Control for Rehabilitation. In *IFAC World Congress 2023*.

Ioana Ulici, Alexandru Codrean, and Tassos Natsakis. ROS-based Toolbox for Motor Parameter Identification of Robotic Manipulators. 55(15):136–141.