

Georgios Christodoulakis

Investing in Knowledge

Personal Details

Address: Heraklion / Crete, Greece
Nationality: Greek
E-mail: christodoulakis@yahoo.com
Phone: 6981926065

Academic Qualifications

- **2004 – 2006: Master of Philosophy in Engineering (MPhil)**
University of Wales Swansea, Swansea, United Kingdom
Thesis Topic: “Development of a Parameterised Human Musculoskeletal Model”.
> Bioengineering - Modelling, Programming, Simulation.
- **2002 – 2003: Master of Science in Engineering by Research (MRes)**
University of Warwick, Coventry, United Kingdom
Thesis Topic: “Rocker Soles for Diabetic Patients”.
> Bioengineering - Modelling, Simulation, Experimentation.
- **1994 – 1997: Bachelor of Engineering in Robotic & Electronic Engineering (BEng)**
University of Salford, Manchester, United Kingdom
Thesis Topic: “Designing & Implementing the P.I. Controllers of the Hip System of a Biped Robot”.
> Robotics - Modelling, Simulation, Experimentation.

Awards

- “Arthur Shercliff Travel Award 2002”, University of Cambridge (£900).

Participation in International Contests

- SPoSER (Solar Powered Surveillance and Exploration Robot / Self-funded) – Tech Briefs Design Contest 2015 (<https://contest.techbriefs.com/2015/entries/aerospace-and-defense/5781>).

Selected Publications

- Christodoulakis, G., K. Busawon, et al. (2010). On the filtering and smoothing of biomechanical data. 7th IEEE IET International Symposium on Communication Systems, Networks, and Digital Signal Processing. IEEE. Newcastle upon Tyne, UK: 512-516.
- Christodoulakis, G., Marias, K., Notas, G., Kampanis, N., Sfakianakis, S. A Technological Platform to Support Education in Regional Anaesthesia with Patient-Specific Virtual Physiological Human (VPH)-Based Models (2016). In: Proceedings of XIV Mediterranean Conference on Medical and Biological Engineering and Computing. Paphos, Cyprus: 926-929.
- Farmaki, C., Christodoulakis, G., Sakkalis, V. (2016). Applicability of SSVEP-based brain-computer interfaces for robot navigation in real environments. 38th Annual International Conference of the IEEE Engineering in Medicine and Biology Society. IEEE. Orlando, FL:2768-2771.
- Samarentsis, A.G.; Makris, G.; Spinthaki, S.; Christodoulakis, G.; Tsiknakis, M.; Pantazis, A.K. A 3D-Printed Capacitive Smart Insole for Plantar Pressure Monitoring. *Sensors* 2022, 22, 9725. <https://doi.org/10.3390/s22249725>

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Personal Skills

- **Languages**
Fluent conversational and written English, Greek.
- **Computer Literacy**
Anybody Technology, BodyBuilder, Vicon Motion Analysis System (Workstation/Nexus), C3DEditor, Microsoft Office Suite, Scientific Word (Mackichan), AutoCAD, SolidWorks (3D Modelling, Motion Simulation, FEA), Fusion 360, Matlab, Simulink, Arduino Microcontroller Platform, HTML5, CSS3, PostgreSQL, DICOM, Eagle, C/C++, Java, Python, SparkJava Micro Framework, Android Studio, Machine Learning (self-development / in progress).
- **Other**
Completed National Army Service (03/1999 – 08/2000).

Working Experience

- **09/2023 – Present**
 - **Foundation for Research and Technology, Institute of Electronic Structure and Laser (IESL)**
 - **POWERFLEX - Smart, Heterogeneous Platform extending the Power and Frequency Limits of Flexible Nanoelectronics – R&D Engineer**
- **10/2021 – 08/2023**
 - **Biopix DNA Technology P.C.**
 - **R&D Product Engineer**
 - Research and development on existing and upcoming products, as well as automated systems for the quality control, i.e. 3D CAD (assembly driven), mechatronics, manufacturing (3D printing & assembly) and software (microcontrollers, algorithms & GUI applications).
- **10/2020 – 09/2021**
 - **Foundation for Research and Technology, Computational and BioMedicine Laboratory (CBML)**
 - **Health Sonar - A system for monitoring sleep and healthy living with low energy radio technology. ΕΠΑνΕΚ - Τ2ΕΑΚ-04366. – R&D Engineer**
 - Research and development on signal processing and algorithms for the estimation of cardiorespiratory rates, apneas and sleep stages, as well as the implementation of a mechanical system, with the use of 3D printing technology, to simulate the thoracic motion under real-life scenarios for algorithm validation purposes.
- **10/2019 – 08/2020**
 - **Foundation for Research and Technology, Computational and BioMedicine Laboratory (CBML)**
 - **ΚΡΗΘΗΣ - Utilizing new technologies to monitor, support and improve the quality of life of patients and other vulnerable groups at home (ΠΟΙΟΤΗΤΑ ΖΩΗΣ II). ΕΠΑνΕΚ - 2017ΣΕ14510011. – R&D Engineer**
 - Development of a wearable device for non-invasive analysis of vessel flows, as well as a desktop application, an android-based mobile application, and a cloud service for data management.

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- **01/2019 – 09/2021**
 - **Hellenic Mediterranean University, Biomedical Informatics and eHealth Laboratory (BMI Lab)**
 - **Smart Insole - An innovative wearable sensor for continuous analysis and evaluation of human gait. EIIAvEK - T1EAK-01888. – R&D Engineer**
 - Design and construction of an insole with commercial pressure sensors with the use of 3D printing technology, implementation of the electronics for data acquisition and wireless transmission, development of gait algorithms, and storing, processing and visualizing of the biosignals and results through the development of a desktop application.

- **11/2013 – 12/2018**
 - **Foundation for Research and Technology, Computational and BioMedicine Laboratory (CBML)**
 - **RASIMAS - Regional Anaesthesia Simulator and Assistant. FP7-ICT-2013-10-610425. – R&D Engineer**
 - Architectural design and implementation of the integration of a system of local anesthesia simulators into selected European hospitals for storing and processing data and their two-way communication with a centralized system for remote access.
 - **Robotic Platform Driven by EEG. FORTH. – R&D Engineer**
 - Development and construction of a mobile robotic platform and implementation of its wireless communication with an EEG system for navigating the robot through the operation of the brain.

- **01/2012 – 10/2013**
 - **Personal Development**
 - **Integrated Design**
 - 3D Design/Modelling, Statics & Dynamics, Motion Simulation & Mechanism Design, Finite Element Analysis.
 - **Programming**
 - C++, Java, HTML&CSS.
 - **Embedded Systems – Microcontrollers / Programming(C/C++) / Mechatronics**
 - Arduino Platform, Robotics.

- **09/2007 – 11/2011**
 - **Northumbria University (UK)**
 - **Postgraduate Researcher (PGR)**
 - Musculoskeletal Modelling, Simulation, 3D Motion Analysis, Experimentation.

- **02/1998 – 07/2007**

In the periods among my National Army Service and my two Master degrees I was working in numerous, not related with science, jobs. I was primarily working as a jeweler at the family business, and during other shorter periods as a clerk and technical staff at the National Electricity Company, and as a supervisor during the Athens 2004 Olympics.

References

Upon request.