Chrysovalantou Kalaitzidou

24, Ptolemaion – TK 71305 Heraklion, Crete – Greece

(+30) 69 49 29 06 93 • kalaitzidou.chr@gmail.com

Basic Information

- **Full Name:** Chrysovalantou Kalaitzidou
- **Date of Birth:** 05 March, 1991
- **Place of Birth:** Stuttgart, Germany
- **Nationality:** Greek

Education

M.Sc. Bioinformatics — **University of Crete**
School of Medicine — *10/2016 - to date*
Thesis theme: Modeling and Simulation of Deformation Localization in Fibrous Extracellular Matrix induced by Contractile Fibroblasts.

B.Sc. Applied Mathematics — **University of Crete**
Mathematics and Applied Mathematics Department — *09/2008 - 08/2016*
Specialisation: Mathematical Modeling and Computer Simulation

Detailed Timeline

- 09/2008-06/2009: B.Sc. degree (enrollment)
- 07/2009-08/2011: B.Sc. studies interruption and work in hometown (needed to support family)
- 09/2011-09/2015: B.Sc. degree continuation
- 10/2015-03/2016: Internship in Nürnberg,Germany
- 10/2016- to date: M.Sc. studies

Work Experience

Computational Biology Lab, FORTH — **Heraklion, Greece**
Assistant Researcher, Internship — *07/2017-10/2017*
Main project: Constructing a model to automatically characterize up and down states in the prefrontal cortex.

inuTech GmbH — **Nürnberg, Germany**
Apprentice Software Developer, Erasmus Internship — *10/2015-03/2016*
Main project: The problem of the microstructure of magnetic materials

In particular:

- Studying and implementing Numerical Methods For Ordinary and Partial Differential Equations
- Studying C++ programming language
- Developing software using the C++ programming language for the resolution of fundamental problems for the main project

Technical skills

- **Programming:** Python, R, Bash, Good knowledge of C/C++
- **Scientific tools:** RStudio, familiarity with MATLAB, Octave, ParaView
- **Web Technologies:** HTML, CSS, PHP, JavaScript
- **Database management systems:** MySQL
- **Other:** LaTex, MS Office, LibreOffice

Major curricular topics

- **Methods in Bioinformatics-Machine Learning**:
  - Dimensionality reduction techniques
  - Unsupervised Learning : Clustering
  - Supervised Learning : Classification, Regression
  - Feature Selection
  - Model Selection
- **Algorithms in Bioinformatics**:
  - Sequence Alignment
  - Motifs: Search, Evaluation and Discover
  - Analyzing Sequence Composition
  - Algorithms inspired by NGS problems (mapping, peak finding & differential expression)
- **Statistics**
- **Mathematical and Numerical Modeling of Biological Problems**
- **Numerical Solution of Ordinary and Partial Differential Equations**
- **Continuum Mechanics**
- **Molecular & Cellular Biology**

Conferences & seminars

Hellenic Bioinformatics 10 — **Heraklion GR**
Foundation for Research & Technology Hellas, FORTH — *September, 2017*

Hellenic Bioinformatics 09 — **Thessaloniki GR**
Center for Research & Technology Hellas, CERTH — *November, 2016*

International Conference on Applied Mathematics — **Heraklion GR**
Archimedes Center for Modeling, Analysis & Computation, ACMAC — *September 16-20, 2013*

Kinetic Description of Multiscale Phenomena — **Heraklion GR**
Archimedes Center for Modeling, Analysis & Computation, ACMAC — *June 17-28, 2013*

Research Interests

- Data Analysis
- Applications of Machine Learning
- Biomechanics
- Computational Biology

Honors and awards

Sports achievement: Participated in local and national Swimming Games.
- Several times Champion in semi National (North Greece) Senior Games
- 10_{th} place in National Senior Games, Athens Olympic Aquatic Centre 2005

Languages

Greek: Native language
English: Working proficiency
German: Basic proficiency

Activities

- Attended *Creative Writing* literature courses for two years
- Member of the Students' Representative Council of the Applied Mathematics Department of the University of Crete for the academic year 2013-2014
- Member of the Theatrical Group of the University of Crete, participated in the play "*Le Petit Prince*" by Antoine de Saint-Exupery