Ismael Rodríguez

Palaeoproteomics and Bioinformatics

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Education

Sep 2021 – Current position
PhD in Archaeology, University of Cambridge.
MSCA-ITN PlaCe Early Stage Researcher
- Title: Container and content, integral analysis of Mediterranean amphorae. Supervised by Prof Matthew Collins and Prof Marcos Martinón-Torres.
- Petrographic analysis of transport amphorae
- LC-MS/MS and MALDI-TOF analysis preserved protein contents
- Data analysis and integration

Sep 2017 – Nov 2019
MSc in Bioinformatics, University of Copenhagen.
- Thesis: Assessing deamidation patterns in collagen from ancient sites by mining mass-spectrometry data. Supervised by Prof. Matthew J. Collins, PhD Abigail Ramsøe
- Courses: Bioinformatics of High-throughput Analysis, Machine Learning, Large-Scale Data Analysis
- Avg. grade: 10.375/12 (7 points scale)

Sep 2012 – July 2016
BSc in Biotechnology, Technical University of Madrid (UPM).
Computational Biology itinerary
- Thesis: Toxin-antitoxin based protocols for the invivo dual selection of biocircuits. Supervised by Prof. Alfonso Rodríguez-Patón
- Courses: Multi-omics, Challenges in Programming, Computational Structural Biology
- Avg grade: 8.67/10

Experience

Apr 2020 – Sept 2021
Research assistant, University of Copenhagen.
Section for Evolutionary Genomics, Matthew Collins Group
- ZooMS/MALDI-TOF data analysis.
- Computational analysis of LC-MS/MS data.
- Computational proteomics servers administration

June 2019 – Dec 2019
Research assistant, University of Copenhagen.
Department of Biomedical Sciences, Ion Channel Group
- Single Nuclei RNAseq transcriptomics data analysis.

May 2018 – May 2019
Student assistant, University of Copenhagen.
Department of Biomedical Sciences, Ion Channel Group
- Analysis and integration of RNAseq and micro-array transcriptomics data

June 2015 – June 2017
Reinforcement classes teacher, Cañada Real high school. Galapagar (Spain).
- Assist and help students aged 13-17 with Mathematics, Physics and Chemistry.

Oct 2015 – Dec 2016
Ministry of Education Fellowship, Artificial Intelligence Lab. UPM.
Project: Synthetic Biology: programming of multicellular genetic circuits.
Supervised by Prof Alfonso Rodríguez-Patón

Oct 2014 – Oct 2016
Student representative, Council of the School of Agricultural, Food and Biosystems Engineering. UPM.

Awards

2013 Academic excellence grant of Caja de Ingenieros Foundation.

Skills

Bioinformatics

Programming languages: **Python**, **R**, Unix

Packages and software: MALDIQuant, Pyteomics, PyTorch, MaxQuant, Peaks

Computational proteomics: spectra processing methods, raw format files handling

Background knowledge: Statistical modelling, machine learning, mathematics, molecular biology

IT

Office IT: LaTeX, Word, Excel, Power Point

Literature management: Paperpile, bibtex

Languages

Spanish: Mothertongue

English: IELTS band 8.0. Fluent. Written and oral. Technical and scientific writing

Personal Skills

- Ability to learn quickly
- Ability to work in group
- Autonomy, adaptability and commitment
- Communicative skills to transmit abstract concepts

Interests

- Politics, economics and public life
- Sports, hiking and nature

Personal Details

DOB: 23th of Feb, 1994

Driving license: category B

Publications and Presentations

- Rodríguez, I. (June, 2021). Site specific deamidation of Asn and Gln assessed by analysis of ancient collagen. Presented at the International Symposium on Biomolecular Archaeology (online).
- Larupa Santos, J., Rodríguez, I., S Olesen, M., Hjorth Bentzen, B., & Schmitt, N. (2020). Investigating gene-microRNA networks in atrial fibrillation patients with mitral valve regurgitation. PloS One, 15(5) https://doi.org/10.1371/journal.pone.0232719