

Gil Poiares-Oliveira

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INESC-ID

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Nationality: Portuguese (EU)

EDUCATION

NOVA University Lisbon, NOVA School of Science and Technology

2022

Master of Science, Biotechnology, 16/20

Dissertation: *Development of a HEK293 Cell-line Digital Twin Based on Hybrid Semi-Parametric Modeling at the Genome-Scale* (Approved with unanimity with a grade of 18/20)

Adviser: Prof. Rui M. Oliveira

University of Lisbon, Faculty of Sciences

2019

Bachelor of Science, Biology, Molecular Biology and Genetics, Minor in Informatics, 14/20

RESEARCH & PROFESSIONAL EXPERIENCE

University of Lisbon, Instituto Superior Técnico

April 2025 - June 2025

INVITED ASSISTANT

Lisbon, Portugal

Responsible for teaching 2 weekly lab classes of Databases to CSE students.

BioData.pt

Jun. 2023 - Present

BIOINFORMATICIAN

Lisbon, Portugal

Bioinformatician, trainer and systems administrator at BioData.pt. Deputy Node and Deputy Training Coordinator for Portugal with ELIXIR, the European biological data research infrastructure. Trainer in Research Data Management and Stewardship and co-lead of the Training Platform for BioData.pt

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Jun. 2023 - Apr. 2025

BIOINFORMATICS TECHNICIAN, Adviser: Prof. Ana Teresa Freitas

Lisbon, Portugal

Bioinformatics Technician for BioData.pt, the national biological data infrastructure.

BioISI - Biosystems and Integrative Sciences Institute

Sep. 2022 - Jun. 2023

RESEARCH TRAINEE, Adviser: Prof. Margarida Gama-Carvalho

Lisbon, Portugal

Analysis of Illumina FASTQ RNA-Seq data, RNA Differential Expression analysis, miRNA transcriptomics, Data analysis pipeline development, Development of scripts for data QC automation

NOVA School of Science and Technology

Jan. 2021 - Sep. 2022

STUDENT RESEARCHER / RESEARCH FELLOW, Adviser: Prof. Rui M. Oliveira

Caparica, Portugal

Development of a hybrid semi-parametric genome-scale model for HEK293 cells for vaccine production, in collaboration with GSK. Performed fluxomics analysis and constructed and trained deep learning networks to optimise culture media formulations.

iMM Lisboa - Instituto de Medicina Molecular João Lobo Antunes

Aug. 2021 - Dec. 2021

STUDENT RESEARCHER, Adviser: Dr. Robert M. Martin

Lisbon, Portugal

Effect of R-loops in transcription dynamics and alternative splicing and their possible therapeutic usage in the correction of a genetic defect related to Spinal Muscular Atrophy. Performed molecular cloning,

plasmid construction, animal cell culture, RNA extraction and nucleic acid analysis via RT-qPCR.

University of Lisbon, Faculty of Sciences

APPRENTICE, Adviser: Prof. Marta S. Silva

Sep. 2014 – June 2016

Lisbon, Portugal

Research project for a high school class. The project concerned the development of recombinant endolysins with bacteriolytic abilities.

University of Lisbon, Instituto Superior Técnico

APPRENTICE, Adviser: Francisco Moreira

June 2014

Porto Salvo, Portugal

Short term apprenticeship part of a high school programme. Worked at the Stem Cell and Regenerative Medicine Laboratory at the Institute for Biosciences and Bioengineering (iBB) and companied researchers in cell culture, fluorescence microscopy and tissue culture of iPSCs.

PUBLICATIONS

Peer-Reviewed Journal Articles

João R. C. Ramos, José Pinto, **Gil Poiares-Oliveira**, Patrick Dumas, Rui Oliveira. Deep hybrid modeling of a HEK293 process: combining Long Short-Term Memory (LSTM) networks with first principles equations. *Biotechnology and Bioengineering*. August 23, 2023. DOI: 10.1002/bit.28668

João R. C. Ramos, **Gil P. Oliveira**, Patrick Dumas, *et al.* Genome-Scale Modeling of Chinese Hamster Ovary Cells by Hybrid Semi-Parametric Flux Balance Analysis. *Bioprocess and Biosystems Engineering*. November 2022. DOI: 10.1007/s00449-022-02795-9 .

Conference Posters

Cláudia Noronha-Estima, Madalena Marques, **Gil Poiares-Oliveira**, Ana Espada de Sousa, Margarida Gama-Carvalho. “Dissecting the role of miR-34c-5p in Human CD4+ T cells”. Displayed at *XLVIII Annual Meeting of the Portuguese Society for Immunology*, 2023.

Cláudia Noronha-Estima, Madalena Marques, **Gil Poiares-Oliveira**, Ana Espada de Sousa, Margarida Gama-Carvalho. “The impact of miR-34c-5p on the transcriptome of Human CD4+ T cells”. Displayed at *RNA in Disease - IX ptRNA Meeting*, 2023.

Online Resources

ELIXIR. Research Data Management Kit. A deliverable from the EU-funded ELIXIR-CONVERGE project (grant agreement 871075) URL: <https://rdmkit.elixir-europe.org>

TEACHING

Oct 2024 - *Computational Tools and Resources for Life Sciences*. Workshop at ITQB NOVA PhD Students’ Meeting

Oct 2024 - *Ready for BioData Management? Intensive*. Capacity building programme for Research Data Management targeted at researchers. 2-day intensive course taught at the Lisbon School of Medicine (1 ECTS credit).

Mar 2024 - *Computational Tools and Resources for Life Sciences*. Workshop at XIII Bioinformatics Open days, University of Minho

Feb 2024 - *Computational Tools and Resources for Biomedicine*. Workshop at XIX ENEEB - Encontro Nacional de Estudantes de Engenharia Biológica, Faculty of Sciences of the University of Lisbon.

Jan 2024 - *Ready for BioData Management? Intensive*. Capacity building programme for Research Data

Management targeted at researchers. 2-day intensive course taught at CCMAR, University of Algarve.

EDITORIAL POSITIONS

2024 - present: Member of the ELIXIR RDMKit Editorial Board.

AWARDS & ACCOLADES

2023 Bioprocess and Biosystems Engineering – Best Paper of the Year 2022, awarded to Ramos *et al.* (2022)

PROJECTS & FUNDING

2024-2025 *GLIM-BioData - Gateway for Living Data Management* · Data Research Centre Implementation Call
Role: Researcher
Funder: Foundation For Science and Technology (Lisbon, PT)
Budget: 220k EUR
ID: RI/00138/2024

2024-2027 *MALDIBANK - Multi-domain Open MALDI Spectra Archive for Identification of Microorganisms* · Research project
Role: Researcher
Funder: European Commission (Brussels, BE)
Budget: 10M EUR
ID: 101188201

2024-2027 *ELIXIR-STEERS* · Research project
Role: Researcher
Funder: European Commission (Brussels, BE)
Budget: 4M EUR
ID: 101131096

2024-2028 *DATAREX - Data Management for Research in ELIXIR* · Implementation study
Role: Researcher
Funder: ELIXIR (Hinxton, UK)
Budget: 300k EUR
ID: 2023-COMM-DATAREX

2024- *ELIXIR Train-The-Trainer CoS* · Comissioned services
Role: Researcher / WP lead
Funder: ELIXIR (Hinxton, UK)
Budget: 350k EUR
ID: 2024-PEOPLE-TtT

2024- *ELIXIR Training Platform* · Comissioned services
Role: Researcher
Funder: ELIXIR (Hinxton, UK)
Budget: 785k EUR
ID: 2024-TECH-Training

2024	<i>Building bridges to foster the ambition to reach the frontiers of science with global significance and impact: collaboration between the Office of Data Science Strategy (ODSS) at the US National Institutes of Health (NIH) and ELIXIR</i> · Staff exchange Role: Researcher Funder: ELIXIR (Hinxton, UK) Budget: 15k EUR ID: PT-BIODETA-2023-SEP-49
2021-2022	<i>SILICOMEDIA</i> · Research fellowship Role: Research fellow Funder: GlaxoSmithKline Biologicals SA (Rixensart, BE), NOVA FCT (Caparica, PT) Budget: 5.2k EUR ID: LAQV/BI/006/2021

RELEVANT SKILLS AND EXPERIENCE

Computer languages	Python, MATLAB, R, JavaScript, C, HTML, CSS, MySQL, Markdown, LaTeX, Bash, Go
Omics	NGS/RNA-Seq/Illumina data, RNA-Seq differential expression analysis pipeline development, Multiomics analysis and integration
Systems Biology	Hybrid modelling, flux analysis, genome-scale modelling, constraint-based modelling, dynamic modelling (ODE-based)
Molecular Biology	Microbiological culture, Animal cell culture (HEK293, U2OS), Molecular cloning, PCR, DNA/RNA extraction, Electrophoresis, RT-qPCR, BSL-2 laboratory practices, Bioinformatics tools
Computing	Object-oriented programming, Artificial Intelligence, Deep Learning, Artificial Neural Networks, Networking, Web development, Relational databases, Git, Shell scripting, macOS/Linux, Backend development (Flask, Django, Gin), Drupal backend management, Linux server maintenance, OpenStack
Pedagogy	Bloom's Taxonomy, Principles of learning, Enhancement of learner engagement and participation, Design of sessions/materials/courses, Assessment and feedback

ORAL PRESENTATIONS

2022	GSK Internal Team Meeting, GSK Biologicals (Rixensart, Belgium)
2022	Masters' Research Days (JIM) - Departments of Chemistry and Live Sciences, NOVA School of Science and Technology (Caparica, Portugal). Feb. 10-11.

LANGUAGES

Portuguese: Native
English: Advanced user (IELTS Band 8.0)
Spanish: Intermediate user (DELE B1, Instituto Cervantes)
French: Novice user

NON-ACADEMIC TRAINING

Oct. 2024 - **Ensuring More Accurate, Generalisable, and Interpretable Machine Learning Models for Bioinformatics**, SIB Swiss Institute of Bioinformatics
Feb. 2024 - **Introduction to GPU Programming**, SIB Swiss Institute of Bioinformatics
Jun. 2023 - **ELITMa - ELIXIR Training Programme in Management - Modules 1 & 2**, ELIXIR
Feb. 2022 - **ELIXIR Train the Trainer**, ELIXIR
Oct. 2022 - **Learn the Basics of Regular Expressions Course**, Codecademy
Aug. 2022 - **Learn Bash Scripting Course**, Codecademy
Jun. 2022 - **Learn C Course**, Codecademy
Jan. 2021 - **COVID-19: collection techniques, detection methods, and protection measurements**, National Institute of Health Dr. Ricardo Jorge (Portugal) + Portuguese Red Cross (NAU platform)
Jan. 2021 - **Learn R Course**, Codecademy
Feb. 2019 - **Curiosity, Communication, Conflict management & Emotional Intelligence**, Unlimited Future
Jan. 2018 - **ELB18F – Entry Level Bioinformatics Course**, Gulbenkian Training Programme in Bioinformatics, Calouste Gulbenkian Foundation
May. 2017 - **Public Speaking Course**, Speak & Lead
2016 - **AEJ Entrepreneurship Academy**, Associação Industrial Portuguesa

PROFESSIONAL MEMBERSHIPS

Ordem dos Biólogos (Portuguese College of Biologists), Full Member. Professional license ID: 3795.

IDENTIFIERS

ORCID iD: 0000-0003-4638-2879
Ciência ID: D019-5596-42E2
Web of Science ResearcherID: AAE-9440-2021
Scopus ID: 57932405100

EXTERNAL LINKS

Hyperlinks to other external profiles are available at <https://links.giloliveira.net>.