

Stefanos N. Fragkoulis, Ph.D.

Bioinformatics Data Scientist | Computational Biologist | PRINCE2 Certified

Athens, Greece | [Website](#) | [Email](#) | [LinkedIn](#) | [GitHub](#) | [ORCID](#)

PROFESSIONAL SUMMARY

Bioinformatics Data Scientist and Computational Biologist with a Ph.D. in Biology and an M.Sc. in Applied Bioinformatics. Specializes in architecting reproducible data pipelines and executing advanced statistical modelling, demonstrated by engineering robust workflows to process and analyse longitudinal genomic datasets. Translates high-dimensional data into actionable insights using robust technical expertise in Python and R, complemented by extensive experience, executing quantitative analysis across 3 national and 3 international research consortia. Excellent communication skills, with a proven track record of scientific dissemination, authoring 12 peer-reviewed publications and delivering 11 conference presentations. Complements advanced data processing skills with PRINCE2-certified project management capabilities, having successfully coordinated evaluation lifecycles for 1,017 research proposals and a scientific portfolio exceeding €19 million.

TECHNICAL SKILLS

- **Programming:** R (Tidyverse, Bioconductor, ggplot2, dplyr), Python (Pandas, NumPy, Biopython, Matplotlib), Bash/Shell scripting
- **Bioinformatics:** Automated pipeline architecture, NGS data processing, sequence analysis, Network Analysis, Genome Assembly, Differential Expression (DESeq2), BEDTools
- **Statistics & ML:** Advanced statistical modelling, multivariate analysis (PCA, CVA, clustering K-means), regression, feature extraction, variance component & heritability estimation, geometric morphometrics, data visualization
- **Data Engineering:** High-dimensional data processing, QC & data integrity protocols, reproducible research, version control (Git), agile project management
- **Project Management:** PRINCE2 certified, stakeholder coordination, cross-functional team leadership
- **Software:** RStudio, PyCharm, ImageJ, MorphoJ, tps SERIES, STATISTICA, Microsoft Office Suite
- **Languages:** Greek (native), English (fluent), Italian (basic)

PROFESSIONAL EXPERIENCE

Science Officer & Panel Coordinator (Life Sciences) | Oct 2022 – Present

Hellenic Foundation for Research and Innovation (HFRI) | Athens, Greece

- **Directed end-to-end evaluation** of 1,017 research proposals across 8 Life Sciences funding panels, overseeing a total portfolio exceeding €19 million
- **Managed evaluation committees** of 5–20 academic researchers, coordinating a large network of national and international peer reviewers from the global scientific community
- **Optimised operational workflows** by identifying review process bottlenecks, providing structural instruction on drafting individual and consensus reports while troubleshooting procedural roadblocks to improve delivery timelines
- **Converted complex evaluation requirements** into executable milestones, serving as the primary operational liaison for panel leadership

Senior Data Analyst & Research Scientist | Jun 2012 – Mar 2022

University of Crete (H2020 PerformFISH, FP7, ACES+, NSRF 2010-2014, 2014-2020) | Heraklion, Greece

- **Executed quantitative data analysis and statistical modelling** for major international research consortia, including the €7M EU H2020 PERFORMFISH project
- **Established data quality control** and morphometric measurement protocols tracking morpho-anatomical abnormalities across thousands of finfish samples, ensuring 100% data integrity for downstream genomic and statistical analysis
- **Synthesised high-dimensional outputs** into actionable scientific reports, co-authoring 12 peer-reviewed publications in high-impact journals (i.e., Scientific Reports)
- **Supervised and mentored** undergraduate and graduate students in laboratory protocols and analytical methodologies
- **Delivered** 11 presentations at national and international scientific conferences

KEY RESEARCH & BIOINFORMATICS PROJECTS

Genome Organization Analysis Pipeline | June 2025 – present

BSRC Alexander Fleming Pipeline | Athens, Greece

- **Engineered an end-to-end bioinformatics data pipeline** in R to process, clean, and analyse longitudinal genomic datasets comprising over 350,000 observations

July 2026

- **Applied advanced statistical methodologies and network analysis** to uncover complex genome organization patterns, reducing high-dimensional data into actionable variables
- **Designed programmatic data visualizations** using ggplot2 to translate multi-layered genomic networks into clear insights for technical presentations

PerformFISH (Horizon 2020) | June 2017 – December 2020

University of Crete | Heraklion, Greece

- **Engineered an end-to-end research pipeline** that bridged hands-on life sciences with computational analytics, managing the complete research lifecycle from rigorous biological sampling to complex data extraction and preprocessing
- **Implemented analytical workflows** to process complex morphological and biological datasets, leveraging advanced statistical modelling and data visualization to translate raw biological metrics into actionable scientific insights
- **Transformed complex biometric data** into strategic assets for consortium stakeholders, synthesizing advanced analytics to deliver 3 high-profile technical publications

EDUCATION

- **M.Sc. in Applied Bioinformatics & Data Analysis | Nov 2024 – Mar 2026**
Democritus University of Thrace, Dept. of Molecular Biology & Genetics, Greece
- **Ph.D. in Biological Sciences | Jun 2016 – Jan 2021**
University of Crete, Biology Department, Greece
- **M.Sc. in Environmental Biology | Oct 2012 – Nov 2014**
University of Crete, Biology Department, Greece
- **B.Sc. in Biology | Oct 2005 – Mar 2012**
University of Patras, School of Science, Department of Biology, Greece

SELECTED PUBLICATIONS

- **Peer-Reviewed Literature:** Authored 12 peer-reviewed publications (**8 as first author**) in high-impact international scientific journals, specializing in statistical modelling, feature extraction, and biological data analysis
- **Conference Presentations:** Delivered 11 oral and poster presentations at national and international scientific conferences, successfully translating complex biometric and computational concepts into clear insights for diverse audiences

Key Journal Text Selections

- **Fragkoulis S., Kerasovitis D., Batargias C. & Koumoundouros G. (2021) Body-shape trajectories and their genetic variance component in Gilthead seabream (*Sparus aurata* L.). *Scientific Reports* – Extracted complex biometric features to model quantitative genetic indices and variance components**
- **Fragkoulis S. & Koumoundouros G. (2021) Simple morphometrics for predicting lordosis-induced deviations of body-shape in reared Gilthead seabream (*Sparus aurata* L.). *Journal of Fish Diseases* – Developed predictive morphological models for deformity detection, translating physical traits into quantifiable predictive metrics**
- **Fragkoulis S., Batargias C., Kolios P. & Koumoundouros G. (2019) Genetic parameters of the upper-jaw abnormalities in Gilthead seabream *Sparus aurata*. *Aquaculture* – Designed and executed the end-to-end data analysis for a longitudinal study on deformity recovery and morphological adaptation**

CERTIFICATIONS & PROFESSIONAL DEVELOPMENT

- **The Complete Python Developer** - Udemy (2025)
- **Machine Learning Track** - Galaxy Training Academy (June 2025)
- **PRINCE2® Foundation Certificate in Project Management** - AXELOS / PeopleCert (June 2023)
- **Data Science: Foundations using R** - Coursera / Johns Hopkins University (September 2022)
- **First Aid / CPR / AED** - Hellenic Red Cross (July 2025)

PROFESSIONAL MEMBERSHIPS

- **International Society for Computational Biology (ISCB), Professional Member (July 2025 – present)**

LEADERSHIP & VOLUNTEERING

Volunteer Samaritan Cadet | Hellenic Red Cross (Rescuers & First Aid Corps) | Oct 2025 – Present

- Logged 170 hours of field medical standby coverage at high-profile public and athletic events
- Appointed as Operational Manager/Team Leader for 3 specific deployments, coordinating on-field volunteer squads and managing crisis response logistics under high pressure