


Zafeiropoulos Haris



Bioinformatics, Systems Biology, Microbial Ecology

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Social Network

 Github Profile
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Languages

 English ● ● ● ● ●
 French ● ● ● ● ●

Coding Skills

 Unix / Linux / AWK ● ● ● ● ●
 Python 3.0 ● ● ● ● ●
 Matlab ● ● ● ● ●
 R / Rstudio ● ● ● ● ●
 C++ ● ● ● ● ●
 HTML / CSS / JS ● ● ● ● ●
 Docker & Singularity ● ● ● ● ●
 REST API ● ● ● ● ●

Math and Stats

 Linear Algebra ● ● ● ● ●
 Constraint-based modelling ● ● ● ● ●

Research projects - working Experience

2018 - currently **PREGO: Process, environment, organism (PREGO)** PhD
PREGO is a systems-biology approach to elucidate ecosystem function at the microbial dimension.

2019 - present **ELIXIR-GR** technical support
ELIXIR-GR is the Greek National Node of the ESFRI European RI ELIXIR, a distributed e-Infrastructure aiming at the construction of a sustainable European infrastructure for biological information.

2018 - 2020 **RECONNECT** PhD
RECONNECT is an Interreg V-B "Balkan-Mediterranean 2014-2020" project. It aims to develop strategies for sustainable management of Marine Protected Areas (MPAs) and Natura 2000 sites.

Education

PhD candidate

2018 - 2022 **Microbial communities through the lens of high throughput sequencing, data integration and metabolic networks analysis** University of Crete, Biology department
Building of bioinformatics and computational tools to elucidate underlying mechanisms governing microbial communities

Dissertation IMBBC - HCMR
Investigating the community structure, ecosystem functioning and microbial interactions using data integration and knowledge aggregation methods along with metabolic networks analysis

Graduate studies

2016 - 2018 **M.Sc. in Bioinformatics** University of Crete, School of Medicine
grade: 9.1/10.0

Master Thesis IMBBC - HCMR
eDNA metabarcoding for biodiversity assessment: Algorithm design and bioinformatics analysis pipeline implementation

2011 - 2016 **B.Sc. in Biology** National & Kapodistrian University of Athens
grade: 6.2 / 10.0

Bachelor Thesis School of Science, department of Biology
Morphology, morphometry and anatomy of species of the genus *Pseudamnicola* in Greece

Publications

2022 **PREGO: A Literature and Data-Mining Resource to Associate Microorganisms, Biological Processes, and Environment Types**
Zafeiropoulos, H., Paragkamian, S., Ninidakis, S., Pavlopoulos, G., A., Jensen, L., J., Pafilis, E.
Microorganisms 10, no. 2 (2022): 293, DOI: 10.3390/microorganisms10020293

2021 **0s & 1s in marine molecular research: a regional HPC perspective**
Zafeiropoulos, H., Gioti A., Ninidakis S., Potirakis A., ..., & Pafilis E.
GigaScience, 9(3), p.giab053

2021 **Geometric Algorithms for Sampling the Flux Space of Metabolic Networks**
Chalkis, A., Fisikopoulos, V., Tsigaridas, E. & Zafeiropoulos, H.
37th International Symposium on Computational Geometry (SoCG 2021), 21:1-21:16, 189

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My so-far research

- 2021 **The Santorini Volcanic Complex as a Valuable Source of Enzymes for Bioenergy**
Polymenakou, P.N., Nomikou, P., Zafeiropoulos, H., Mandalakis, M., Anastasiou, T.I., Kiliass, S., Kyrpides, N.C., Kotoulas, G. & Magoulas, A. Energies, 14(5), p.1414.
- 2020 **PEMA: a flexible Pipeline for Environmental DNA Metabarcoding Analysis of the 16S/18S ribosomal RNA, ITS & COI marker genes**
Zafeiropoulos, H., Viet, H.Q., Vasileiadou, K., Potirakis, A., Arvanitidis, C., Topalis, P., Pavloudi, C. & Pafilis, E GigaScience, 9(3), p.giaa022

Selected presentations

- 2021 **Bioinformatics Open Source Conference (BOSC) - online** BOSC2021
dingo: A python library for metabolic networks sampling & analysis
- 2021 **1st DNAQUA International Conference - online** DNAQUA
PEMA v2: addressing metabarcoding bioinformatics analysis challenges
- 2020 **Federation of European Microbiological Societies (FEMS) - online** FEMS2020
"Mining literature and -omics (meta)data to associate microorganisms, biological processes and environment types"
- 2020 **PyData Global - online** PyData2020
"Geometric and statistical methods in systems biology: the case of metabolic networks"
- 2019 **8th International Barcode of Life Conference @ Trondheim, Norway** iBOL
"P.E.M.A.: a Pipeline for Environmental DNA Metabarcoding Analysis"

Awards

- 2021 **Google Summer of Code** GSoC
Project title: From DNA sequences to metabolic interactions: building a pipeline to extract key metabolic processes
- 2021 **European Molecular Biology Organization Short-Term Fellowship** EMBO
Project title: "Exploiting data integration, text-mining and computational geometry to enhance microbial interactions inference from co-occurrence networks"
- 2020 **Federation of European Microbiological Societies Meeting Attendance Grant** FEMS
for joining the "Metagenomics, Metatranscript- omics and multi 'omics for microbial community studies" Physalia course
- 2019 **Short Term Scientific Mission (STSM) @ DNAqua-net COST action** DNAqua-net
Project title A comparison of bioinformatic pipelines and sampling techniques to enable benchmarking of DNA metabarcoding. Report.
- 2018 **Best Poster Award @ Hellenic Bioinformatics conference** HBIO
for PEMA: a Pipeline for Environmental DNA Metabarcoding Analysis

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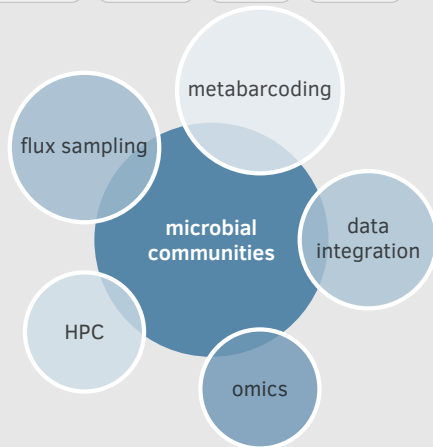
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About Me

I am studying microbial ecology & ecosystem functioning by exploiting knowledge aggregation & data integration techniques. My interests focus on systems biology, metabolic modelling and microbial interactions.

My so-far research

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Barskills



Coding/programming



Scientific writing



Microbial ecology



Memberships



Mikrobiokosmos



International Society of Microbial Ecology

References

Pafilis
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