

CURRICULUM VITAE

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NAME: Ioanna Karamichal, Ph.D

FIELD: Biochemistry-Biotechnology, Bioinformatics

EDUCATION/TRAINING:

INSTITUTION AND LOCATION	DEGREE	MM/YY	FIELD OF STUDY
Max-Planck institute for Biology & Eberhard Karls University of Tübingen, Germany	Ph.D (cum laude)	11/18	Applications of Molecular Biology, Cell Biology, and Bioinformatics in Protein Evolution
MedTech StartUp School & Eberhard Karls University of Tübingen, Germany	Certificate	11/17	Lean MedTech Business Development
National and Kapodistrian University of Athens (NKUA) & Biomedical Research Foundation of the Academy of Athens, Greece	Master (9.1)	10/12	Bioinformatic analysis of Protein Evolution in pathogenic bacteria
University of Thessaly, Greece & the Cancer Research Center (DKFZ), Germany	Diploma (7.0)	07/08	Applications of Cell Biology and Biochemistry in Cancer Treatment

Positions & Employment

2024 - Present Postdoctoral Researcher and Academic Associate in Bioinformatics at the Biometrics Laboratory of the Department of Agriculture, Crop Production & Rural Environment of the University of Thessaly, Volos

2024 - Present Co-Founder and CEO of the StartUp MI-factor, which is being currently established, and has been awarded with the first prize by the startup accelerator Next Stage, but also awarded prizes by the Association of Women Entrepreneurs of Greece (SEGE) and the National Bank of Greece with the distinction of being between the 20 best business ideas of the NBG Business Seeds competition, MI-factor is being supported by KEMEL, Thessaloniki

2024 - Present Academic Associate in Bioinformatics, Databases, Plant Biotechnology and Systems Biology at the Department of Agricultural Biotechnology and Oenology of the Democritus University of Thrace, Drama

2019 - 2024 Postdoctoral Research Associate, Institute of Applied Biosciences of the Centre for Research and Technology Hellas (INAB\CERTH), Thessaloniki

2022 - 2024 Academic Associate for Bioinformatics at the Department of Medicine of the University of Ioannina

2024 Academic Associate for the course "from the Genome to Evolution", Department of Medicine, University of Ioannina

2022 - 2023 Executive Manager and consultant, Embiodiagnostics, Athens

2020 - 2023 Executive Director, Mobase (Spin-off of CERTH), Thessaloniki

- 2017** Responsible for two projects of the MedTech StartUp School in Tuebingen, Germany (RiskTree and BreedTree Genetics)
- 2011 - 2012** Postgraduate Researcher, Agricultural University of Athens (AUA)
- 2008-2009** Head of Quality Control of Biochemical Analyses, Biopathological-Microbiological Laboratory of Konstantinou, Thessaloniki

Honors & Grands

- 2025 - Present** Principal Investigator of the BioProWRAP project, funded by the European Program CLIMAAAX, as a subcontractor of the Region of Eastern Macedonia and Thrace, in collaboration with Professor Nakas and the University of Thessaly
- 2024** First prize for the under-establishment start-up MI-factor, by the startup accelerator Next Stage and the company Doppler
- 2019 -2024** Research funding from the INTERREG program (2014-2020), the RESEARCH – CREATE – INNOVATE program (European Regional Development Fund of the EU under the NSRF 2014 -2020), the Horizon Europe and Biodiversa+ programs
- 2024** Distinction of the scientific proposal MicroFire during the #Her_Research competition organized by the Association of Women Entrepreneurs of Greece (SEGE)
- 2024** Qualification to the Second Phase of the 15th NBG Seeds Innovation & Technology Competition of the National Bank of Greece after the distinction of the scientific proposal MicroFire in the #Her_Research competition organized by the Association of Women Entrepreneurs of Greece (SEGE) in the framework of the international exhibition for digital technology and innovation, Beyond
- 2014 - 2018** Scholarship from the International Doctoral Program offered by the Max-Planck society
- 2011 - 2012** Research funding via the AVIVA from the French National Centre for Scientific Research (CNRS)
- 2008** Travel grand at the Cancer Research Center of Germany (DKFZ)

Scientific work

Scientific Journals

1. Lagiotis G, **Karamichali I**, Astrinaki M, Bibi A, Despoina V, Nteve G, Kollias A, Manolikaki I, Skodra C, Michailidis M, Manioudaki M, Iakovidis M, Ganopoulos I, Koubouris G, Molassiotis A, Bazakos C, Kafentzopoulos D, Madesis P (2024) High-resolution gene expression atlases of two contrasting major Greek olive (*Olea europaea* L.) tree cultivars for oil and table olive production. *Physiologia Plantarum* (doi.org/10.1111/ppl.14600)
2. Stavridou E, **Karamichali I**, Siskas E, Bosmali I, Osanthanunkul M, Madesis P (2024) Identification of Sex-Associated Genetic Markers in *Pistacia Lentiscus* Var. Chia for Early Male Detection. *Genes* (doi.org/10.3390/genes15050632)
3. Avramidou E, **Karamichali I**, Tsiripidis I, Abraham EM (2024) Diversity Levels under Different Grazing Intensities in Semi-Wet Grasslands. *Land* (doi.org/10.3390/land13040488)

4. Poulaki EG, **Karamichali I**, Lianos O, Alexopoulos V, Dimitrakas V, Amourgis GG, Tjamos SE (2024) Exploring the Biocontrol Potential of Rocket (*Eruca Sativa*) Extracts and Associated Microorganisms against Verticillium Wilt. *Journal of Applied Microbiology* (doi.org/10.1093/jambio/lxae070)
5. Elissaios M*, **Karamichali I***, Stefanidou E, Boutsika A, Tsitsigiannis DI, Paplomatas E, Madesis P, Zambounis A (2024) Insights into the Transcriptional Reprogramming of Peach Leaves Inoculated with *Taphrina Deformans*. *Plants*, *shared first authorship (doi.org/10.3390/plants13060861)
6. Stavridou E, **Karamichali I**, Lagiotis G, Patsea E, Osathanunkul M, Madesis P (2022) Seasonal Shifts in Soil Microbiome Structure Are Associated with the Cultivation of the Local Runner Bean Variety around the Lake Mikri Prespa. *Biology* (doi: 10.3390/biology11111595)
7. Stavridou E, Giannakis I, **Karamichali I**, Kamou NN, Lagiotis G, Madesis P, Emmanouil C, Kungolos A, Nianiou-Obeidat I, Lagopodi AL (2021) Biosolid-amended soil enhances defense responses in tomato based on metagenomic profile and expression of pathogenesis-related genes, *Plants* (doi: 10.3390/plants10122789)
8. Xanthopoulou A, Moysiadis T, Bazakos C, Karagiannis E, **Karamichali I**, Stamatakis G, Samiotaki M, Manioudaki M, Michailidis M, Madesis P, Ganopoulos I, Molassiotis A, Tanou G (2021) The perennial fruit tree proteogenomics atlas: a spatial map of the sweet cherry proteome and transcriptome, *The Plant Journal* (doi: 10.1111/tpj.15612)
9. Anthoons B, **Karamichali I**, Schrøder-Nielsen A, Drouzas AD, De Boer H, Madesis P (2021) Metabarcoding reveals low fidelity and presence of toxic species in short chain-of-commercialization of herbal products. *Journal of Food Composition and Analysis* (doi: 10.1016/j.jfca.2020.103767)
10. Adlakha J, **Karamichali I**, Sangwallek J, Deiss S, Bär K, Coles M, Hartmann MD, Lupas AN, Hernandez Alvarez B. (2019) Characterization of MCU-Binding Proteins MCUR1 and CCDC90B - Representatives of a Protein Family Conserved in Prokaryotes and Eukaryotic Organelles. *Structure* (doi:10.1016/j.str.2018.11.004)
11. Hartmann MD, Mendler CT, Bassler J, **Karamichali I**, Ridderbusch O, Lupas AN, Hernandez Alvarez B. (2016) α/β coiled coils. *Elife* (doi: 10.7554/eLife.11861)
12. **Karamichali I**, Koumandou VL, Karagouni AD, Kossida S (2014), Frequent gene fissions associated with human pathogenic bacteria. *Genomics* (doi: 10.1016/j.ygeno.2014.02.001)

Conference Proceedings

13. Karapetsi L, **Karamichali I**, Pantelidis G, Drogoudi P, Madesis P, 2022. SNPs identification and association study of fruit quality genes from selected whole-genome sequenced peach cultivars grown in Greece. *Acta Horti* (doi: 10.17660/ActaHortic.2022.1352.39)

Deliverables

1. **Karamichali I**, Stefanidou E, Arseniou SD, Nakas C, Kargiotidis E, Hassanidou M, Chatzopoulos O, Chouvardas K, 2025. Deliverable Phase 1 – Climate Risk Assessment for the Project: Biodiversity Protection through Wildfire Risk Associated Planning “BioProWRAP.” Version 1. Zenodo. (<https://doi.org/10.5281/ZENODO.16981091>)

Patents

1. Association of Chios Mastic Producers, Madesis P, Stavridou E, **Karamichali I**. Patent for the protection of developed genetic markers of genetic sex identification of young Chios mastic plants.

Selected Presentations and Posters at Conferences

1. **Karamichali I.**, Stefanidou E., Chouvardas K., Arseniou S., Chatzopoulos O., Skerletopoulos L., Mavridis S., Kyrkoudi F., Chasanidou M., Kargiotidis E., Topsidis C., C. Nakas (2025) Biodiversity Protection through Wildfire Risk Associated Planning «BioProWRAP», CLIMAAX workshop, 11-12/06, Barchelona, Spain
2. Stefanidou E., Testempasis S., **Karamichali I.**, Katsenios N., Chatzitipi D., Pavlou A., Efthimiadou A., Madesis P. (2025) Sclerotinia sclerotiorum biocontrol in Vicia faba L: evaluating a novel Bacillus subtilis phytoprotective application, BotrySclero Congress, 25-30/05 (Poster)
3. Stefanidou E., Katsenios N., **Karamichali I.**, Efthimiadou A., Madesis P. (2024) Molecular interactions between Vicia faba L. cultivars and Plant Growth Promoting Rhizobacteria (PGPR), utilized as yield enhancing “plant probiotics”. ICPMI 2024 : International Conference on Plant-Microbe Interactions, 22-23/07, Berlin, Germany (Poster)
4. **Karamichali I.**, Madesis P. (2022) Glutathione Transfer Atlas (GSTs), Evolution, Identification and Characterization. *18th Panhellenic Conference of the Hellenic Scientific Society for Plant Genetic Improvement*, 5-8/10/2022, Volos, Greece (Poster)
5. **Karamichali I** (2021) NGS data analysis: Bioinformatics to study and protect local cultivars and varieties, while developing novel agro-food sustainability tools, *La Red de Cuerpos Académicos y Grupos de Investigación “Herramientas de Biotecnología para una Agricultura Sustentable”*, 13-15 Oct. Mexico City (Virtual), México (Talk)
6. Bastien A, **Karamichalis I**, Schrøder-Nielsen A, Drouzas A, de Boer H, Madesis P (2021) Metabarcoding and Bar-
HRM as tools for verifying and authenticating plant products. 10th Panhellenic Ecology Conference, Ioannina - Greece, 14/10/2021-17/10/2021 (Poster).
7. Lagiotis G, Stavridou E, **Karamichali I**, Madesis P (2021) DNA-based species identification and authentication of agri-food products from the North Aegean islands and Cyprus, *Murcia Food Brokerage Event*, 17-20 May, Murcia (Virtual), Spain (Poster)
8. Pana E, Madesis P, Takavakoglou V, Stavridou E, Kiosi E, Lagiotis G, **Karamichali I** (2019) Agri-Innovation and Authenticity of Local Products: Identifying Challenges and Opportunities for SMSs using a Bottom Up Approach. *13th Chemistry Conference of Cyprus-Greece*, 31 Oct – 3 Nov, Nicosia, Cyprus (Poster)
9. **Karamichali I**, Adlakha J, Hartmann MD, Hernandez Alvarez B, Lupas AN (2017) MempromCC: A new family of membrane-attached coiled coils in prokaryotes and mitochondria. *Alpbach Workshop: Coiled-Coil, Fibrous Repeat Proteins*, 3-8/9 Austria (Poster)
10. **Karamichali I**, Diallinas G, Karagouni AD, Kossida S (2011) Fusion – fission events during the evolution of human bacterial pathogens. *Conference of the Biomedical Research Foundation of the Academy of Athens*, 24-25/6, Greece (Poster)

Code

1. **Karamichali I**, Petrou N, Madesis P, Hilioti Z (2024) ZFNsearch: Identify possible ZFN sequence patterns in any genome. GitHub (Source code, github.com/ikaramichali/ZFNsearch, DOI: 10.5281/zenodo.11369976)

Participation in research projects

2025-Present

Principal Investigator of the BioProWRAP project on behalf of the University of Thessaly and the Region of Eastern Macedonia and Thrace, who received funding under the CLIMAAAX program (Horizon Europe program funded under grant agreement No 101093864)

Participation with: Biometrics Laboratory, Department of Agriculture, Crop Production & Rural Environment, University of Thessaly (UTH), Volos, in collaboration with Professor Nakas.

2024

"Laboratory analyses to extract the results of the deliverables of the FLEXIZYME project", Horizon Europe project received funding under grant agreement No 101157528

Participation with: Institute of Applied Life Sciences (INEB)/Centre for Research and Technology Hellas (CERTH), Thessaloniki

2023-2024

"Laboratory analyses to extract the results of the THEROS project", Horizon Europe project received funding under grant agreement No 101083579

Participation with: Institute of Applied Life Sciences (INEB)/Centre for Research and Technology Hellas (CERTH), Thessaloniki

2023

"Support for the studies of the agri-food sector and the needs of its bodies in the cross-border area of Greece - North Macedonia. Support in the feasibility study of the acceleration program and the creation of the educational material of the project – RENAISSANCE, INTERREG program Greece-Republic of North Macedonia (2014-2020) coming from the European Regional Development Fund (ERDF)

Participation with: Institute of Applied Life Sciences (INEB)/Centre for Research and Technology Hellas (CERTH), Thessaloniki

2023

"Study of the agri-food sector and the needs of stakeholders in the cross-border region – Bu4Inno", INTERREG program Greece - Bulgaria (2014-2020) from the European Regional Development Fund (ERDF)

Participation with: Institute of Applied Life Sciences (INEB)/Centre for Research and Technology Hellas (CERTH), Thessaloniki

2022

"Database of microbial flora and chemical composition of new products – CHEESEHERBS", a program within the framework of the action RESEARCH – CREATE – INNOVATE, which is co-financed by the European Regional Development Fund of the EU under the NSRF (2014 -2020)

Participation with: Institute of Applied Life Sciences (INEB)/Centre for Research and Technology Hellas (CERTH), Thessaloniki

2022

"Study and statistical analysis of genomic and metagenomic outcomes – ExoPeach2Health", a program in the framework of the action RESEARCH – CREATE – INNOVATE, which is co-financed by the European Regional Development Fund of the EU under the NSRF (2014 -2020)

Participation with: Institute of Applied Life Sciences (INEB)/Centre for Research and Technology Hellas (CERTH), Thessaloniki

2022

"New technologies and innovative approaches in relation to agri-food and tourism to enhance regional excellence in Western Macedonia – AGROTOUR", a program in the framework of the action RESEARCH – CREATE – INNOVATE, which is co-financed by the European Regional Development Fund of the EU under the NSRF (2014 -2020)

Participation with: Institute of Chemical Processes and Energy Resources (CPERI)/Centre for Research and Technology Hellas (CERTH), Ptolemaida-Thessaloniki

2020-2021

"Development of methodologies for the quality control of adulteration of olive products, using modern analysis and chemometric techniques – HOLEA", INTERREG program (2014-2020) coming from the European Regional Development Fund (ERDF)

Participation with: Institute of Applied Life Sciences (INEB)/Centre for Research and Technology Hellas (CERTH), Thessaloniki

2020

"Genetic comparison of selected local fruit tree varieties different in terms of their resistance and quality characteristics, with the aim of developing molecular markers through new generation sequencing - FruitTrees2Safequard", a program in the framework of the action RESEARCH – CREATE – INNOVATE, which is co-financed by the European Regional Development Fund of the EU under the NSRF (2014 -2020)

Participation with: Institute of Applied Life Sciences (INEB)/Centre for Research and Technology Hellas (CERTH), Thessaloniki

2019-2020

"Strengthening the cultivation of mastic trees with the use of innovative molecular methods - mast4trees", a program in the framework of the action RESEARCH – CREATE – INNOVATE, which is co-financed by the European Regional Development Fund of the EU under the NSRF (2014 -2020)

Participation with: Institute of Applied Life Sciences (INEB)/Centre for Research and Technology Hellas (CERTH), Thessaloniki

2019

"ITHACA: Training of Farmers in Information Technology", a program within the framework of the action RESEARCH – CREATE – INNOVATE, which is co-financed by the European Regional Development Fund of the EU under the NSRF (2014 -2020)

Participation with: Institute of Applied Life Sciences (INEB)/Centre for Research and Technology Hellas (CERTH), Thessaloniki

2019

"AGRO-IDENTITY: Identification of authenticity and strengthening the competitiveness of local traditional products of the agri-food sector", Greece-Cyprus Operational Programme (2014-2020) from the European Regional Development Fund (ERDF)

Participation with: Institute of Applied Life Sciences (INEB)/Centre for Research and Technology Hellas (CERTH), Thessaloniki

2011-2012

"Non-transgenic molecular vaccines to enhance antiviral resistance in plants" AVIVA program of the French National Research Center (CNRS)

Participation with: Agricultural University of Athens (AUA), Athens

Additional Information

Business Development

2024- Present

Co-Founder and General Manager (CEO) of StartUp MI-factor, which is active in monitoring and improving soil health using genetic analysis methods and the development of innovative precision microbial solutions using Machine Learning and environmental applications.

2020-2023

Co-founder and Business Development Manager of the Spin-off of the Center for Research and Technology Hellas (CERTH) Mobase, which is active in the genetic identification and traceability of agri-food products.

2022-2023

Consultant and Executive General Manager of the company Embiodiagnostiki Ltd., during the transitional period of its transformation into the first Spin-off of the National and Kapodistrian University of Athens (NKUA) under the name Genosophy IKE, which is active in the field of human genetic testing and nutrigenetics.

Volunteer Work-Memberships

2022 - Present Mentor of young women active in sciences, on behalf of the Greek Women in STEM Initiative

2022 - Present Reviewer, GENE

2020 - Present Reviewer, Biochemical Genetics

2017-2019 Member of the Sustainability PhD student Initiative, University of Tübingen, Germany

2017-2017 Author of the science related journal NeuroMag

2015-2017 Elected representative of doctoral students of the Max-Planck Institute for Biology, Tübingen, Germany

2023 - Present Member, Amyotrophic Lateral Sclerosis Association "ALS Hellas"

2011 - Present Member, European Plant Science Organization (EPSO)

Foreign Languages

Greek	Native
English	Excellent
German	Some