

# Joanna Garefalaki

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## Personal information:

Date of birth: March 1, 1990  
Nationality: Greek / American (dual Nationality)  
Gender: Female

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## Experience

### March 2020-present **Research Collaborator**

Molecular Microbiology/Immunology Laboratory ([Micromol](#)), Department of Biological Sciences, University of West Attica

### February 2020-present **Account and Sales Manager**

[Medical Gate Ltd.](#)

### December 2019-February 2020 **Laboratory Quality Assurance / Quality Control Assistant**

[Alfa Medical S.A.](#)

### October 2019-November 2020 **Bioinformatician**

Institute of Computer Science-Foundation for Research and Technology Hellas - FORTH ([ICS-FORTH](#))

## Education

### 2017-2019 **MSc. Student in Graduate program of Molecular Biology and Plant Biotechnology**

(Current grade: 9.41/10)

Department of Biology, University of Crete and Institutes of Molecular Biology/Biotechnology and Computer Science - FORTH

### 2013-2017 **Bachelor Degree in Biology**

(Grade: 7.04/10)

Department of Biology, University of Patras, Greece

**2009-2013 Bachelor Degree in Biomedical Laboratory Sciences**

(Grade: 7.2/10)

Department of Medical Laboratories, University of West Attica

## Graduate Research & Training

**October 2018-  
September 2019 MSc. Candidate, Graduate Student Researcher ICS-FORTH**

Master thesis in “**Population Genetics and Bioinformatics**” Laboratory (EvoLab) at Institute of Computer Science-FORTH (ICS-FORTH).

Group leader: Pavlos Pavlidis

**Master Thesis:** Evolutionary forces in the genomic neighborhoods of polymorphic Transposable Elements in plant populations.

(Grade: 10/10)

**April-September 2018 MSc. Student (Two-Month Rotations) IMBB/ICS-FORTH**

Laboratory of “ **Microbial pathogenicity and Plant Innate Immunity**” in Institute of Molecular Biology-Biotechnology-FORTH (IMBB-FORTH)

Group leader: Panagiotis Sarris

**Projects involved:** Cloning of putative virulence factors (effectors) of the pathogenic bacterium *Xylella*, into a transient expression system via *Agrobacterium*.

(Grade: 10/10)

“**Population Genetics**” Laboratory Institute of Computer Science FORTH.

Group leader: Pavlos Pavlidis

**Projects involved:** Phylogenetic Analysis of Plant Nucleotide Binding Leucine-Rich Repeat (NLR) proteins.

(Grade: 10/10)

“**Molecular Plant Biology**” Laboratory Department of Biology, University of Crete, Institute of Molecular Biology-Biotechnology-FORTH (IMBB-FORTH).

Group leader: Kriton Kalantidis

**Projects involved:** Screening for CRISPR/Cas9-induced DCL knock-out *Nicotiana benthamiana* plants

(Grade: 9.5/10)

## Undergraduate Research & Training

October 2016-  
September 2017

### Bachelor Thesis

University of Patras

Laboratory of "Cytogenetics", Department of Biology, University of Patras.

Group leader: George Mitsainas

**Topic:** Study of Robertsonian (Rb) Chromosomal diversity of the domestic mouse *Mus musculus domesticus* (Rodentia: Muridae) in the region of Attica.

(Grade: 10/10)

April 2013-October  
2013

### Undergraduate Intern

Sotiria General Hospital

**"Clinical Laboratory Diagnosis"** Laboratories of Biochemistry, Hematology, Microbiology, Cytology, Anatomical Pathology and Venipuncture at "Sotiria" General Hospital for Chest Diseases

**Project:** Experienced with all the fundamental technical skills which are basic part of the clinical examinations in biomedical laboratories.

### Bachelor Thesis

University of West Attica

March 2013-  
September 2013

Department of Medical Laboratories, University of West Attica.

Group leader: Anna Matzouratou

**Topic:** Review of Genetic Engineering of T-cells and their use against human diseases.

## Personal Skills

### Practical laboratory skills and abilities

#### *Molecular Biology techniques*

- Well qualified in genomic DNA extraction, Polymerase Chain Reaction-PCR, Gel electrophoresis
- Molecular cloning and Bacterial transformation
- Plant Genetic Modification - Agroinfiltration
- ELISA assay

#### *Anatomy and Zoology*

- Highly skilled in animal, manipulation and anatomy

- Animal sample collection (fieldwork)

#### *Cytogenetics*

- Direct bone marrow and testes chromosomal preparation, Chromosome extraction
- Implementation of G- and C- banding chromosome staining techniques
- Preparation and study of karyotypes, Microscopy (optical and stereoscopic)

#### *Microbiology*

- Fundamental microbiology practices (media preparation and autoclaving media and relevant equipment, preparation of streak and spread plates, use of selective media to separate bacteria from mixed culture, cell staining, etc.)

#### *Clinical chemistry*

- All the fundamental technical skills which are basic part of the clinical examinations

**Programming** Python • R • Bash

**Image Analysis** Adobe Photoshop CS2

**Operating Systems** Windows • Linux • OS • MS-DOS

**Software packages/Tools and Applications** MS Office, SPSS, SerialCloner, SnapGene, Picard GATK, Samtools, Bowtie2, BEDOPS, Bedtools2, PLINK, HummerAlign, Belvu, MUSCLE, MAFFT, PAML, MrBayes, JModelTest, PAUP, Dendroscope, Raxml, LateX

**Greek** (native)

**Languages** **English** Certificate of Proficiency in English (C2) University of Michigan. May 2013.

**Spanish** Diploma de Español como lengua extranjera (Nivel B2) Instituto Cervantes. February 2011.

Excellent communication skills, patient, responsible, able to grasp new concepts quickly and efficiently.

#### **Abilities**

#### **Teaching experience**

**Teaching assistant** [University of Crete](#)

**May 2020** **Guest Lecturer at Webinar about SARS-CoV-2.** Virology Class, Department of Biological Sciences, University of West Attica.

**January 2019-March 2019** Undergraduate Laboratory Course of “Methods for the functional analysis of biological macromolecules” ([BIO251](#)), Department of Biology

**November 2018-  
December 2018** Undergraduate Laboratory Course of “Fundamental methods of cellular and genetic analysis” ([BIO208](#)), Department of Biology.

**October 2014-June  
2015** Biology courses for high school level Biology at the Community Evening School of Municipality of Patra

### Preprints

• **Population genomics insights into the recent evolution of SARS-CoV-2.** Maria Vasilarou, Nikolaos Alachiotis, Joanna Garefalaki, Apostolos Beloukas, Pavlos Pavlidis

doi: <https://doi.org/10.1101/2020.04.21.054122>

### Poster Presentations

• **Evolutionary forces in the genomic neighborhoods of polymorphic Transposable Elements in plant populations.** Joanna Garefalaki, Pavlos Pavlidis. 12<sup>th</sup> Forth Scientific Retreat: FORTH/ICE-HT Conference Center Stadiou St., Platani Patras, Greece, October 14-16 2019

• **The traits of contact zones between different chromosomal races of *Mus musculus domesticus* (Rodentia: Muridae) in two Robertsonian (Rb) systems of Greece.** Joanna Garefalaki, Konstantina Chorba, George P. Mitsainas.

6th International Conference of Rodent Biology and Management and 16th Rodens et Spatium : Potsdam, Germany, 3-7 September 2018

### Workshops & Seminars

- EvoKE 2019 Meeting in Mediterranean Institute for Life Science (MedILS), Split, Croatia
- 7th International Young Scientists Conference in Computational Science ICS-FORTH Heraklion July 2018
- Biosafety Seminar IMBB-FORTH March 2018
- 1<sup>st</sup> 2<sup>nd</sup> and 3<sup>rd</sup> Greek Medical Laboratory Technologists Conference
- 12<sup>th</sup> National Clinical Chemistry Conference University of Patras 2014
- Annual Educational Retreat "Sotiria" General Hospital 2013
- 7th Scientific Retreat of the National Association of Medical Laboratory Technologists: "Quality Control in the Clinical Laboratory" Athens 2013

### Awards

2<sup>nd</sup> Award for Presentation “**Population genomics insights into the recent evolution of SARS-CoV-2**” at the 8th Panhellenic Meeting of AIDS & Hepatitis 2020.

### Other Activities-Volunteering

- Volunteer at ANIMA Wildlife Conservation Society

- Science Communication: Participation in Science Communication events (Researchers Night 2017, Patras Science Festival 2017)
- Amateur Astronomy (Volunteer at the 10th National Campaign of Amateur Astronomers in Greece)
- Drum player in Batala music group
- Volunteer as a Biology Teacher for High School level Biology at the Community Evening School of Municipality of Patra (2014-2015)
- Blood Donor