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Avisa Maleki

Current Position

PhD candidate at University of Catania, Department Of Mathematics and Computer Science,Italy (Combine Group)

EDUCATION

University of catania,

Computer science department

(2021-)

PhD candidate in computer science

Thesis decription: The implementation of a computational infrastructure based on genetic algorithms able to give some insights in the prediction of new VoC about SARS-CoV-2

Islamic Azad University,

Tehran Medical Sciences

(2016 - 2019)

M.Sc in Molecular Genetics

Degree mark: 95/110

Thesis Topic: "Clustering RecA and AAA protein family sequences to protein subfamilies based on sequence similarity and investigating sequence and structural properties in these subfamilies and their ATP cofactor binding sites"

Supervisors: Dr. Hossein Fahimi, Dr. Mohammad Taghizadeh

Islamic Azad University,

Tehran Medical Sciences

(2012 - 2016)

B.Sc in Biochemistry

RESEARCH INTERESTS

- Molecular genetics
- Drug design by in-silico methods (especially vaccine)
- Molecular evolution
- Protein Modeling

SELECTED COURSES

Summer 2016
- Bioinformatics and Drug design
  Technology Institute of Viravigen and Biocamp Lab

Spring 2016
- Nucleic Acid Extraction PCR
  Electrophoresis microbiology
  Technology Institute of Viravigen and Biocamp Lab

PUBLICATIONS

- Maleki A, Russo G, Parasiliti Palumbo GA, Pappalardo F. In silico design of recombinant multi-epitope vaccine against influenza A virus. BMC bioinformatics. 2021 Nov;22(14):1-8.
- Palumbo GA, Maleki A, Italia SA, Russo G, Pappalardo F. Uncertainty quantification and sensitivity analysis for in silico trial platform: a preliminary application on UISS-MS. In2021 IEEE International Conference on Bioinformatics and Biomedicine (BIBM) 2021 Dec 9 (pp. 3299-3302). IEEE.
- Russo G, Crispino E, Maleki A, Di Salvatore V, Pappalardo F. Beyond the state of the art of reverse vaccinology: predicting vaccine efficacy with the Universal Immune System Simulator for influenza.
- Di Salvatore V, Maleki A, Russo G, Sgroi G, Palumbo GA, Pappalardo F. A multi-step and multi-scale bioinformatic approach to investigate potential source of cross-reactive immunity against SARS-CoV-2 UK variant. In2021 IEEE International Conference on Bioinformatics and Biomedicine (BIBM) 2021 Dec 9 (pp. 3303-3307). IEEE.
- Maleki A, Fahimi H, Taghizadeh M. Determining Difference in Evolutionary Variation of Bacterial RecA proteins vs 16SrRNA Genes by using 16s_Toxonomy Tree. Iranian Journal of Medical Microbiology. 2019 May 10;13(1):32-43.
- Maleki A, Ras-Carmona A, Di Salvatore V, Russo G, Crispino E, Pappalardo F. Genetic algorithm application for the prediction of potential SARS-CoV-2 new variant of concern. In2022 IEEE International Conference on Bioinformatics and Biomedicine (BIBM) 2022 Dec 6 (pp. 3549-3551). IEEE.

Conference as attendencee

- 2022 attendance to 6th Barcelona VPH summer school (Accepted for Poster Presentation)
- 2021 attendance to the 5th International Workshop on Computational Methods for the Immune System Function (CMISF 2021) (Oral presentation)
- 2019 International student Biotechnology congress (Accepted for Poster presentation

PROFESSIONAL SKILLS

Bioinformatics software	**Experimental**
❖ python in bioinformatics **(**beginner**)** ❖ Epitope perdiction: T-cell, B-cell ❖ 3D structure analysis: Hyperchem**,** Chimera ❖ Alightment: Jalview, Mega ❖ In-silicoColoning: snapgene ❖ Docking: Molegro, PYRX ❖ Immune Simulation: UISS ❖ Immunology analysis ❖ Primer design: gene runner	❖ DNA Extracting: phenol chloroform and salting out) ❖ PCR ❖ Karyotype ❖ RTq- PCR ❖ Electrophoresis ❖ PCR-RFLP ❖ CDNA Synthes ❖ ARMS and TETRA-ARMS PCR ❖ Sanger sequencing ❖ Elisa ❖ Coloning

LANGUAEGE SKIILS

- Persian Native
- English Ielts: 6.5 / Speaking 7 - Reading 6.5 - Listening 6 Writing 6

WORK EXPERIENCE

2021 Research Fellowship at University of Catania, Department of Drug and Health Sciences (Combine Group)
https://www.combine-group.org/team

2019 Employee at GenIran Reaserch Lab (PCR – Primer Designer)

https://www.geniranlab.ir/english-geniran

OTHER ACTIVITIES

- Reading book
- Gathering with friends
- Yoga

Volunteer work

- Mahak institute: Teaching English language to children who have cancer.
  Membership No: 91112929
  Website: https://mahak-charity.org/main/index.php/en/home-en

REFERENCES

- **Francesco Pappalrdo**

Associate professor, Department of Drug and Health Sciences

University of Catania

Email: francesco.pappalardo@unict.it

- **Giulia Russo**

Assistant professor, Department of Drug and Health Sciences

University of Catania

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