

Curriculum Vitae Zemzem Firas

Personal data

Birth : 13/10/1998

Nationality : Tunisian

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Linkedin : <https://www.linkedin.com/in/firaszemzem/>

Researchgate : researchgate.net/profile/Firas-Zemzem

ORCID : <https://orcid.org/0009-0004-7791-6364>

Portfolio : <https://zemzemfiras1.github.io/Portfolio/>

Langues : Arabic, French, English

Note : Limb-girdle muscular dystrophy type 2A (LGMD2A)

Diploma

Currently : PhD student,

Laboratory of Cytogenetics, Molecular Genetics and
Biology of Reproduction CHU Farhat Hached Sousse,
Higher institute of Biotechnology of Monastir,
University of Monastir, Tunisia

2020-2022 : Master Degree in Genetic, Biodiversity & Valorisation

Higher Institute of Biotechnology of Monastir, Tunisia

2017-2020 : Bachelor's Degree in fundamental life science :

Molecular and Cellular Biology

Higher Institute of Biotechnology of Monastir, Tunisia

2017 : Post High School Technical Degree (Experimental Sciences)

Scientific research

Coetzer, K.C., **Zemzem, F.**, Akurut, E. et al. RareInsight simplifies the communication of genetic results for rare disease patients. *Sci Rep* 15, 24442 (2025).

<https://doi.org/10.1038/s41598-025-09744-y>

Foddha H, Seo GH, Lee H, **Zemzem F**, Khelil AH, et al. (2020) Exome sequencing reveals a homozygous frameshift variant in CAPN3 in a Tunisian patient with a neuromuscular disorder. *Ann Mol Genet Med* 6(1): 001-004. DOI:<https://dx.doi.org/10.17352/amgm.00001>



Professional experience

2024 : Awarded Second place in African Society for Bioinformatics and Computational Biology Omics Codeathon April 2024 Developing an open-source, interactive Shiny dashboard tailored to both clinicians and patients aiming to facilitate Data finding and reporting.

<https://github.com/omicscodeathon/rareinsight>

2023 : Participation at ASBCB Omics Codeathon - October 2023

Prediction of novel antimicrobial resistant genes in *Acetivobacter baumannii* using Machine Learning, Homology Modelling and Molecular Docking

<https://www.asbcb.org/event/codeathon/asbcb-omics-codeathon-october-2023>

2022 : Master's subject : Analysis of the effect of mutations on protein's stability using bioinformatic tools

Predicting the effect of mutations using classic predictive tools

Simulating native and mutant proteins by molecular dynamics using GROMACS

Competences

- Redaction of reports
- Bibliography for scientific reports
- Use of : Windows, Linux
- Data Bank used : NCBI, GenBank, Refseq, OMIM, Uniprot, PDB, STRING, PhosphoSitePlus ...
- Software used : GROMACS, PYMOL, VMD, USCF CHIMERA, BIOVIA DSV, AutoDock Vina, Avogadro ...
- Software used : Microsoft word, Microsoft excel, Microsoft powerpoint, LibreOffice Writer
- Language : Python, R, Bash
- Nextflow
- NGS Analysis

Training & Workshops

2025 : « Ensembl Train the Trainer workshop »

« Genomics for Educators - Wellcome connecting science »

« Train the Trainer- Design Genomics and bioinformatics Training - Wellcome connecting science »

« Gene Therapy, Towards a new era of medicine »

« Policy Advocacy in Genetics and Genomics- Pan-African PGS Education and Research Initiative PAPERI »

« Genomics our way - an introduction to Genomics Research with indigenous australians online course » « Genetic Counselling workshop - Human Genome Meeting »

2024 : « Advancing north African bioeconomy through

biodiversity genomics - African BioGenome Project »
 « In-Silico Drug Design and Repurposing for Rare Diseases workshop - IPT Tunisia »
 « Data sharing and databases Workshop-TSHG »
 « Attendance in the 1st Congress of the Tunisian Society of Human Genomics-TSHG »
 « The Next Generation Sequencing Competence Network Summer School »
 « the eLwazi - Open Data Science Platform (eLwazi-ODSP) Research Data Management Course »
 « Accepted in arabs Neuroscience Course »
 « Interpreting Genomics Variation course-future Learn »
 « Fundamentals of Data Science in Precision medicine and cloud computing- Stanford Medicine »
 « Being a Nextflow Ambassador »
 « Genomics science and data careers with wellcome sanger institute »
 « Introduction to functional Genomics -Jackson Lab » « 36th Course on Clinical Genomics and NGS organized by ESHG »
 « Second place in African Society for Bioinformatics and Computational Biology Omics Codeathon April 2024 » « Participation in the Malaysia-Japan Bilateral workshop on Bioinformatics and Bioresources. »
 « Analysis and interpretation of ngs data in Clinics 4 weeks training »
 « The era of genetically modified humans (gene therapy and its applications)workshop»
 « Attended the International Parkinson's Conference (Parkinson's-2024 »
 « Member of Tunisian Society of Human Genomics - TSHG »
 « Member of DINS-SOCIO GENOMICS Federated Research Project »
 « 2nd Saudi Rare Disease Summit »
 « Seminar "Biotools Nanopore Day »
2023 : « Python Essentials 1 Course Cisco Networking Academy »
 « 2023 Genome Sequencing Bioinformatics Course | H3ABioNet | Wellcome connecting Science »
 « Bioinformatics For Biologists : An Introduction To Linux, Bash Scripting, And R »
 « Python For DataScience | Great Learning »
 « Bioinformatics For Biologists : Analysing And Interpreting Genomics Datasets | Wellcome Connecting Science »
 « A practical Guide For Sars-Cov-2 Whole Genome Sequencing | Wellcome Connecting Science And Cog-Train

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2022 : « Pitching d'un projet »

2021 : « In Silico Molecular Docking »

« Next Generation Sequencing »

2020 : « Phylogénie Workshop »

2019 : «Debate competition « OGM pour ou contre »

« Du BMC au Pitching »

« Practical molecular graphics and visualization »

« Practical comparative structural modeling »

Training in The laboratory LR11ES41 : Génétique,
Biodiversité et Valorisation des Bioressources