

# Dr. AMAL BOUZID

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## EDUCATION

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- **Ph.D.**, Sciences and Technology; Biological Engineering.  
*“Identification of genomic and epigenomic hearing impairment biomarkers for therapeutic perspectives”* - Graduated very honorable  
Laboratory of Molecular and Cellular Screening Processes, Centre of Biotechnology of Sfax, Sfax, Tunisia. (Dec 2014–Apr 2019)
- **Engineer**, Biotechnology/Biological Engineering  
National School of Engineers of Sfax, University of Sfax, Tunisia. (Sep 2011–Jun 2014)
- **Certificate to accomplish Preparatory of the Engineers Studies**, Biology Preparatory Institute of the Engineers Studies, Sfax, Tunisia. (Sep 2009–Jun 2011)
- **High school certificate in Experimental Sciences**, Graduated with honor: Very Good, Secondary School 15 November 1955, Sfax, Tunisia. (Jun 2009)

## RESEARCH EXPERIENCE

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- **Post-Doctoral Research Associate**, Bioinformatics and Functional Genomics Research Group, Sharjah Institute for Medical Research, University of Sharjah, United Arab Emirates. (Apr 2021-Present)

Role: Conduct bioinformatics analysis on omics data.

- **Post-Doctoral Research**, Laboratory of Molecular and Cellular Screening Processes, Centre of Biotechnology of Sfax, Sfax, Tunisia. (Mai 2019–Dec 2020)

Role: Identify common genetic and epigenetic components in the development of otosclerosis in a Tunisian population.

- **Exchange Research-Internship** at the Institute of Life Sciences, Bhubaneswar, India. (21 Sep-07 Oct 2018)

Role: Statistical analysis, Meta-analysis, Dissections and microscopic observations of mouse otic capsule, DNA/RNA extraction from blood and stapes tissues.

- **Doctoral Fellow-Internship** at Biobix, lab of Bioinformatics and Computational Genomics, Department of Mathematical Modelling, Statistics and Bioinformatics, Faculty of Bioscience Engineering, Ghent University, Ghent, Belgium. (Oct 2016-Feb 2017)

Role: Bioinformatics and High-Throughput data analysis.

- **Doctoral Fellow-Training** at ProfileXpert, platform of genomics and microgenomics, Claude Bernard University, Lyon, France.

Role: Next Generation sequencing (Exome, RRBS) and gene expression microarray data analysis. (01-31 May 2016)

- **Engineering-Internship**: Laboratory of Molecular and Cellular Screening Processes, Centre of Biotechnology of Sfax, Sfax, Tunisia. (Jan–Jun 2014)

Project: “Identification of Presbycusis Biomarkers by Transcriptomic analysis”.

## COURSES/WORKSHOPS

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- **ICGEB Course: Bacillus thuringiensis genome sequencing: from DNA extraction to annotation through NGS technology**, Centre of Biotechnology of Sfax, Sfax, Tunisia. (4-13 Nov 2018).
- **Workshop Protein modeling, Molecular docking and Drug Design**, Faculty of Medicine of Sfax, Tunisia. (10-12 May 2018).
- **First and Second Tunisian Zebrafish Workshop**, Sfax, Tunisia. (17-20 Apr 2017 and 24-26 Apr 2018).
- **Applied High-throughput Analysis Course**, *Exchange Program in Bioinformatics (master’s level)*, Faculty of Bioscience Engineering, Ghent University, Ghent, Belgium. (Oct 2016-Feb 2017).
- **Molecular Techniques Course**, *Exchange Program in Bioscience Engineering: Cell and Gene Biotechnology (master’s level)*, Faculty of Bioscience Engineering, Ghent University, Ghent, Belgium. (Oct 2016-Feb 2017).
- **An introduction to the Linux Command Shell**, Centre of Biotechnology of Sfax, Sfax, Tunisia (Jun-Jul 2016).
- **ICGEB Course: Bioinformatics: Computer Methods in Molecular and Systems Biology**, Trieste, Italy. (23-27 May 2016).
- **An introduction to basic statistical concepts and R programming**, Centre of Biotechnology of Sfax, Sfax, Tunisia. (Jun-Jul 2015).
- **Workshop Agilent Feature Extraction Software**, ISBST, Tunis, Tunisia. (16-18 Dec 2014).

## TEACHING ACTIVITIES

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- **Co-Supervising of a Master student**, ISSEPS, Jan-Nov 2019  
Entitled “Research of genetic biomarkers of performance and sports injuries and evaluation of their polymorphisms in the Tunisian population”.
- **Teaching: lab-work on “High-throughput Technologies”**, Higher Institute of Biotechnology of Sfax, Sfax, Tunisia, 2017-2018 and 2018-2019
- **Teaching: lab-work on “Genomics”**, Higher Institute of Biotechnology of Sfax, Sfax, Tunisia, 2017– 2018
- **Pedagogical training**, National School of Engineers of Sfax, Tunisia, 2016

# ACADEMIC HONORS AND AWARDS

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- Highest Level of Distinction for a Ph.D., University of Sfax, Tunisia (2019)
- Awarded Internship Fellow, Institute of Life Sciences, India (2018)
- Excellence Award: the first best poster presentation in Health Biotechnology session, the 16th International Days of Biotechnology, Tunisia (2017)
- Awarded an Erasmus+ Scholarship, Ghent University, Belgium (2016-2017)
- Awarded an ICGEB grant, ICGEB Trieste, Italy (2016)
- University First/Second Rank, National School of Engineers of Sfax, Tunisia (2011–2014)
- Mayor's Award for Excellence, High school certificate in Experimental Sciences, Tunisia (2009)

# FIELDS OF SPECIALIZATION

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- **Topics:**

Biotechnology, Human genetics, Genetic of multifactorial diseases, Molecular Biology, Molecular diagnostics, Genomics, Epigenomics (DNA methylation), Transcriptomics, Gene expression regulation, Zebrafish animal model, OMICs Data Analysis, Statistical Genetics.

- **Technical Knowledge:**

Gene expression Microarrays, CGH Microarrays, Next Generation Sequencing (Illumina Technology), Genetic linkage and association studies, DNA sequencing, Genotyping, RNA/DNA isolation, PCR, Real Time PCR, In-situ Hybridization, Dissections and microscopic observations.

- **Bioinformatics**

R/Bioconductor, Biological data bank searching, Microarray analysis, Next Generation Sequencing analysis, Biological processes and network analysis, Docking...

# LIST OF PUBLICATIONS

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## **Accepted Papers**

1. Souissi A, Ben Said M, Ben Ayed I, Elloumi I, **Bouزيد A**, Mosrati MA, Hasnaoui M, Belcadhi M, Idriss N, Kamoun H, Gharbi N, Gibriel AA, Tlili A, Masmoudi S. *Novel Pathogenic Mutations and Further Evidence for Clinical Relevance of Genes and Variants Causing Hearing Impairment*. Journal of Advanced Research. 2021 Jan 12. doi.org/10.1016/j.jare.2021.01.005
2. Ben Ayed I, Ouarda W, Frikha F, Kamoun F, Souissi A, Ben Said M, **Bouزيد A**, Elloumi I, M. Hamdani T, Gharbi N, Baklouti N, Guirat M, Boujelbene I, kharrat N, Abdelhedi F, Belguith N, Keskes L, Gibriel AA, Kamoun H, Triki C, M. Alimi A, Masmoudi S. *SRD5A3-CDG: Identification and Characterisation of a Novel Missense Mutation with Development of Dysmorphic Facial Recognition Based Computer System*. Am J Med Genet A. 2021 Jan 6. doi: 10.1002/ajmg.a.62065

3. **Bouزيد A**, Uthman AT, Al-Rawi NN, Al-Rawi NH. *Neutrophil Extracellular Traps in Coronavirus Infection: Interaction Network Analysis*. Sys Rev Pharm Nov-Dec 2020;11(11):1091-1101.
4. Ben Ayed I, Ouarda W, Frikha F, Kamoun F, Souissi A, Ben Said M, **Bouزيد A**, Elloumi I, M. Hamdani T, Gharbi N, Baklouti N, Guirat M, Boujelbene I, kharrat N, Abdelhedi F, Belguith N, Keskes L, Gibriel AA, Kamoun H, Triki C, M. Alimi A, Masmoudi S. *SRD5A3-CDG: Identification and Characterisation of a Novel Missense Mutation with Development of Dysmorphic Facial Recognition Based Computer System*. Am J Med Genet A. 2021 Jan 6. doi: 10.1002/ajmg.a.62065
5. **Bouزيد A**, Tekari A, Jbeli F, Chakroun A, Hansdah H, Souissi A, Singh N, Mosrati MA, Achour I, Ghorbel A, Charfeddine I, Ramchander PV, Masmoudi S. *Osteoprotegerin gene polymorphisms and otosclerosis: an additional genetic association study, multilocus interaction and meta-analysis*. BMC Med Genet. 2020 Jun 3;21(1):122. doi: 10.1186/s12881-020-01036-8.
6. Hansdah K, Singh N, **Bouزيد A**, Priyadarshi S, Ray CS, Desai A, Panda KC, Choudhary JC, Narayan Biswal C, Tekari A, Masmoudi S, Ramchander PV. *Evaluation of Genetic Association and mRNA Expression of COL1A1, BMP2 and BMP4 genes in the Development of Otosclerosis*. Genet Test Mol Biomarkers. 2020 Jun;24(6):343-351. doi: 10.1089/gtmb.2019.0235.
7. Baanannou A, Rastegar S, **Bouزيد A**, Gerber V, Takamiya M, Souissi A, Jrad O, Strähle U, Masmoudi S. *Gene duplication and functional divergence of the zebrafish otospiralin genes*. Dev Genes Evol. 2019 Dec 14. doi: 10.1007/s00427-019-00642-8.
8. **Bouزيد A**, Smeti I., Chakroun A, Loukil S, Gibriel AA, Grati M, Ghorbel A, Masmoudi S. *CDH23 Methylation Status and Presbycusis Risk in Elderly Women*. Front Aging Neurosci. 2018 Aug 7;10:241. doi: 10.3389/fnagi.2018.00241.
9. **Bouزيد A**, Smeti I, Dhouib L, Roche M, Achour I, Khalfallah A, Gibriel AA, Charfeddine I, Ayadi H, Lachuer J, Ghorbel A, Petit C, Masmoudi S. *Down-expression of P2RX2, KCNQ5, ERBB3 and SOCS3 through DNA hypermethylation in elderly women with presbycusis*. Biomarkers. 2018 May-Jun;23(4):347-356. doi: 10.1080/1354750X.2018.1427795.
10. Imtiaz A, Belyantseva IA, Beirl AJ, Fenollar-Ferrer C, Bashir R, Bukhari I, **Bouزيد A**, Shaukat U, Azaiez H, Booth KT, Kahrizi K, Najmabadi H, Maqsood A, Wilson EA, Fitzgerald TS, Tlili A, Olszewski R, Lund M, Chaudhry T, Rehman AU, Starost MF, Waryah AM, Hoa M, Dong L, Morell RJ, Smith RJH, Riazuddin S, Masmoudi S, Kindt KS, Naz S, Friedman TB. *CDC14A phosphatase is essential for hearing and male fertility in mouse and human*. Hum Mol Genet. 2018 Mar 1;27(5):780-798. doi: 10.1093/hmg/ddx440.

### **Under Review Papers**

11. **Bouزيد A**, Chelly A, Tekari A, Singh N, Hansdah H, Chakroun A, Jbeli F, Ghorbel A, Charfeddine I, Ramchander PV, Masmoudi S. *Genetic and Epigenetic effects in modulating the RANKL gene with Otosclerosis among Tunisians*. (Under review in *Bone*).

12. Chelly A, **Bouzid A**, Kammoun I, Zghal F, Masmoudi S, Chtourou H, Rebai A. Association of ACTN3 R577X (rs1815739) polymorphism with sports performance: A meta-analysis. (Under review in *Sports Health-A Multidisciplinary Approach*).

13. Ben Ayed I, **Bouzid A**, Kammoun F, Souissi A, Jallouli O, Mallouli S, Loukil S, Aloulou H, Jbeli F, Aouichaoui S, Abid D, Abdelhedi F, Triki C, Kamoun H, Masmoudi S. *8q11.2 microdeletion syndrome: report a new case and delineation of the HEY1 as a potential candidate gene in the neurodevelopmental and cardiac defects*. (Under review in *Journal of Human Genetics*).

14. Ben Ayed I, Bouchaala W, **Bouzid A**, Feki W, Souissi A, Ben Nsir S, Ben Said M, Samouda T, Majdoub F, kharrat I, Kamoun F, Elloumi I, Kamoun H, Tlili A, Masmoudi S, Triki C. *Further Insights Into The Spectrum Phenotype of TRAPPC9 and CDK5RAP2 genes, segregating independently in a large Tunisian family with intellectual disability and microcephaly*. (Under review in *European Journal of Medical Genetics*).

15. Priyadarshi S, Hansdah K, Singh N, **Bouzid A**, Sundar Ray C, Panda KC, Biswal NC, Desai A, Choudhury JC, Tekari A, Masmoudi S, Ramchander PV. *Genetic and Molecular Contributions of 1 RELN in the Development of Otosclerosis*. (Under review in *npj Genomic Medicine*).

16. Tekari A, Baanannou A, Ben Akacha R, **Bouzid A**, Jrad O, Boukhris I, Chouayekh H, Masmoudi S. *Inositol hexakisphosphate inhibits bone mineralization in early developing zebrafish*. (Submitted to *Calcified Tissue International*).

17. Ben Said M, Ben Ayed I, Hmida D, Elloumi I, Souissi A, **Bouzid A**, Hassnaoui M, Idriss N, Aloulou H, Hadj Kacem F, Charfi Triki C, Kammoun Feki F, Kamoun H, Masmoudi S. *Custom Targeted Next Generation Sequencing Identifies Novel Mutations Expanding the Molecular spectrum of Hearing Impairment*. (Submitted to *Journal of Molecular Diagnostics*).

18. Yahia A, Ben Ayed I, Hamed AA, Mohammed NI, Elseed MA, Bakhiet MA, Guillot-Noel L, Abozar F, Adil R, Emad S, Siddig RA, Musallam MA, Eltazi IZM, Omer ZMBM, Maarroof OM, Soussi A, **Bouzid A**, Kmiha S, Kamoun H, Salih MA, Ahmed EA, Elsayed L, Masmoudi S, and Stevanin G. *Genetic diagnosis in Sudanese and Tunisian families with syndromic intellectual disabilities through exome sequencing and data sharing*. (Under review in *BMC Psychiatry*).

### **Manuscript in preparation**

19. Tekari A, **Bouzid A**, Masmoudi S. *Biomolecular markers for Otosclerosis* (In preparation for *Bone*).

## **REFeree FOR JOURNALS**

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- Frontiers in Genetics.
- PLOS ONE
- Genetic Testing and Molecular Biomarkers.

## SCIENTIFIC MEETINGS

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- e-Poster Communication in the **European Human Genetics Virtual Conference 2020**, June 6-9, 2020.
- Poster Communication in the **17th International Days of Biotechnology (IDB 2018)**, 20-23 December 2018, *Sousse, Tunisia*.
- Oral Communication in **Otolaryngology (ARO) ARO 41st Mid Winter Meeting**, 9-14 February 2018, *San Diego, California, USA*.
- Poster Communication in the **16th International Days of Biotechnology (IDB 2017)**, 18-22 December 2017, *Hammamet, Tunisia*.
- **The first meeting of the consortium in human genetics of Sfax**, 15 May 2017, *Sfax, Tunisia*.
- Oral Communication in the **third edition of the International Conference of Engineering Sciences for Biology and Medicine**, 4-7 May 2017, *Sfax, Tunisia*.
- Poster Communication in the **22nd National Symposium for Applied Biological Sciences**, KU, 7 February 2017, *Leuven, Belgium*.
- Poster Communication in the **Contests of the Best Innovative Projects in Medical Biotechnology**, 24-26 February 2016, *Sfax, Tunisia*.
- **Elsevier publisher training**: “Author workshop in collaboration with CNUDST”, 02 December 2015, *Sfax, Tunisia*.
- Oral communication in the **international conference of Engineering Sciences for Biology and Medicine**, 01-03 May 2015, *Monastir, Tunisia*.
- **Tunisian-French Seminar Researches in molecular genetics of Human Diseases**, 09-10 May 2014, *Sfax, Tunisia*.

## MEMBERSHIP: Conference Committees/Professional/Association

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- **Organization of the First** (April 2017) and **the Second** (April 2018) **Tunisian Zebrafish Workshop**, with Tunisian-Germany Tunger project, *Sfax, Tunisia*.
- **Organization of the international conference of Engineering Sciences for Biology and Medicine**, May 2015, *Monastir, Tunisia*.
- 2020-2022: **Member in the Federated Research Project** entitled “Decision support based on the analysis of Genomes in Tunisian covid-19 patients”, Centre of Biotechnology of Sfax, *Tunisia*.
- 2017-2019: **Member in the Valorization of Research Results Project** entitled “Kits based on high-throughput technologies for the molecular diagnosis of genetic diseases in the North African population”, Centre of Biotechnology of Sfax, *Tunisia*.
- 2017-2019: **Member in the Tunisian-Indian project** entitled “Identification of major genetic and epigenetic components in the otosclerosis molecules”, Centre of Biotechnology of Sfax, *Tunisia*.
- 2016-2020: **Member** (the biological identity group: DNA Biometric) **in the Federated Research Project** entitled “Multimodal Biometric Platform of Prevention against Terrorism”, Centre of Biotechnology of Sfax, *Tunisia*.

- 2016-2018: **Member in the Tunisian-Germany Tunger Project** entitled “Implementation of Zebrafish core facility: towards the characterization of novel Human hearing loss genes and screening of therapeutic molecules”, Centre of Biotechnology of Sfax, *Tunisia*.
- 2015-2017: **Member** “Vice-Secretary” in the Tunisian Association of PhDs and Doctorates in Science (**ATDocS**).

## REFERENCES

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References	Institutions	E-mails
Prof. Saber Masmoudi	Laboratory of Molecular and Cellular Screening Processes, Centre of Biotechnology of Sfax, Sfax, Tunisia	<a href="mailto:saber.masmoudi@cbs.rnrt.tn">saber.masmoudi@cbs.rnrt.tn</a>
Prof. Tim De Meyer	Biobix, Lab of Bioinformatics and Computational Genomics, Department of Mathematical Modelling, Statistics and Bioinformatics, Faculty of Bioscience Engineering, Ghent University, Ghent, Belgium	<a href="mailto:Tim.DeMeyer@ugent.be">Tim.DeMeyer@ugent.be</a>
Prof. PV. Ramchander	Institute of Life Sciences, Bhubaneswar, India	<a href="mailto:pramchander@yahoo.com">pramchander@yahoo.com</a>

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