

INFORMAZIONI PERSONALI

Dallali Hamza

PhD in Biological Engineering | Bioinformatician

ESPERIENZA
PROFESSIONALEFebruary 2022 – September
2025

Postdoctoral researcher

Laboratory of Biomedical Genomics and Oncogenetics, Institut Pasteur de Tunis, Tunis, Tunisia

- Research projects:
 - Investigation of the genetic aetiology of monogenic diabetes in the Tunisian population by analysis of whole exome sequencing data.
 - Exome-wide association study on type 2 diabetes in Tunisia.
 - Shotgun metagenomics analysis for the identification of the microbiome species associated with type 2 diabetes in the Tunisian population.

Research subjects: Human Genetics, Bioinformatics, Biostatistics, Metagenomics.

September 2022

Research intern

Department of Computational Biology, Institut Pasteur Paris, France.

Internship in the frame of PHINDaccess project (<https://cordis.europa.eu/project/id/811034>).

- Research subject: Bioinformatic analysis of shotgun metagenomics sequencing data:
 - Quality control of shotgun metagenomics sequencing data
 - Optimisation of the pipeline for the taxonomic classification from shotgun metagenomics sequencing data.

Research subjects: Bioinformatics, Biostatistics, Metagenomics.

September 2020 – January 2022

Research Engineer

Laboratory of Biomedical Genomics and Oncogenetics, Institut Pasteur de Tunis, Tunis, Tunisia.

Research project: Investigation of the genetic aetiology of diabetes in the Tunisian population by whole exome sequencing analysis.

Research subjects: Human Genetics, Bioinformatics.

May - November 2016

Research intern

Research Unit of Metabolic and Cardiovascular Diseases, CSS Mendel Institute, Rome, Italy.

Alternation internship in the frame of thesis.

- Research subject: Genetic investigation of suspected Tunisian MODY patients by means of Next Generation Sequencing (NGS):
 - Training on Next Generation sequencing workflow including experiment design, library preparation, settings configuration of the Illumina MiSeq NGS platform.
 - Bioinformatic analysis of NGS data to identify deleterious variants associated with diseases.

Research subjects: Human Genetics, Bioinformatics, Genetic investigation of atypic diabetes.December 2015 – September
2020

PhD student

Laboratory of Biomedical Genomics and Oncogenetics, Institut Pasteur de Tunis, Tunis, Tunisia.

- Thesis title: Investigation of monogenic and multifactorial forms of diabetes and its complications in the Tunisian population.

Research subjects: Human Genetics, Molecular aetiology of diabetes, Bioinformatics.

February - September 2015

Research intern

Laboratory of Biomedical Genomics and Oncogenetics, Institut Pasteur de Tunis, Tunis, Tunisia.
Graduation project internship carried out in the frame of a project funded by the European commission (FP7-Proposal No. 279171-1): Genetic and environmental factors of insulin resistance syndrome and its long-term complications in immigrant Mediterranean populations (MEDIGENE).

- Project: Association study of HNF1A gene polymorphisms with the metabolic syndrome in the Tunisian population:
- Genotyping of genetic variants using KASPar technology.
- Statistical analysis of genotyping data.

Research subjects: Human Genetics, Molecular biology, Bioinformatics, Biostatistics.

ISTRUZIONE E FORMAZIONE

December 2015 - September 2020

PhD in Biological Engineering

First Class Honours

National Institute of Applied Sciences and Technology (INSAT), Tunisia.

- Thesis title: Investigation of monogenic and multifactorial forms of diabetes and its complications in the Tunisian population.
- Research subjects: Human Genetics, Molecular aetiology of diabetes, Bioinformatics, Biostatistics.

September 2010 - October 2015

Engineer's degree in Industrial Biology

National Institute of Applied Sciences and Technology (INSAT), Tunisia.

- Courses in: Biostatistics, molecular biology, genetic engineering, bioinformatics, bio-process engineering, microbiology, project management.

COMPETENZE PERSONALI

Lingua madre Arabic

Altre lingue

	COMPRESIONE		PARLATO		PRODUZIONE SCRITTA
	Ascolto	Lettura	Interazione	Produzione orale	
French	C1	C1	C1	C1	C1
English	B2	C1	B2	B2	C1

TOEIC English Proficiency Certification, C1, 14/12/2018

Livelli: A1/A2: Utente base - B1/B2: Utente intermedio - C1/C2: Utente avanzato
[Quadro Comune Europeo di Riferimento delle Lingue](#)

Competenze comunicative

- I have good English communication skills, thanks to pre and postdoctoral internships in Italy, France and Germany.

Competenze organizzative e gestionali

- Organization and project management skills: Involvement in the conception, management and the execution of many projects through my doctoral thesis and my postdoctoral journey.
- Laboratory management: I obtained a certificate on "Laboratory Practice/Good Clinical Laboratory Practice" upon attending a course at Institut Pasteur de Tunis (Tunisia), between 14 and 17 August 2017.
- Leadership: I obtained a certificate on "Leadership and Management in Health" delivered

upon the completion of an hybrid course by the University of Washington, USA between September and December 2019.

Competenze professionali

- * Molecular biology: DNA extraction from the whole blood, PCR, Electrophoresis, Sanger sequencing, Genotyping using the KasPAR technology.
- * OMICS data analysis:
 - Whole exome sequencing analysis: quality control, variant calling and annotation, copy number variation analysis.
 - Metagenomics: taxonomic classification and analysis of shotgun microbiome data.
 - Ancient DNA analysis: quality control, contamination estimation, population genetics analysis (PCA, admixture analysis), pairwise relatedness analysis, haplogroup identification.
- * Familiarity with bioinformatic tools for interpreting variants in clinical genetics.
- * Statistical genetics:
 - Genome wide association analysis: single-variant analysis, gene-based association analysis, pathway-based association analysis.
 - Meta-analysis of genetic association studies.
- * Programming skills:
 - Bash: +++
 - R: +++
 - Python: +
- * Experience with working in Linux HPC environments using the SLURM scheduler.
- * Familiarity with conda management system and Jupyter notebook for reproducible research.

Competenze Informatiche

- Familiarity with office suite tools (Word, Excel, PowerPoint).
- Familiarity with the operating systems: Windows 10, Ubuntu, Debian.

Patente di guida

B

ULTERIORI INFORMAZIONI

Pubblicazioni (n=28)

▪ First author articles (n=4)

1- **Dallali H**, Boukhalfa W, Kheriji N, Fassatoui M, Jmel H, Hechmi M, Gouiza I, Gharbi M, Kammoun W, Mrad M, Taoueb M, Krir A, Trabelsi H, Bahlous A, Jamoussi H, Messaoud O, Abid A, Kefi R. The first exome wide association study in Tunisia: identification of candidate loci and pathways with biological relevance for type 2 diabetes. *Front Endocrinol (Lausanne)*. 2023 Dec 19;14:1293124. doi: 10.3389/fendo.2023.1293124. PMID: 38192426; PMCID: PMC10773763.

2- **Dallali H**, Hechmi M, Morjane I, Elouej S, Jmel H, Ben Halima Y, Abid A, Bahlous A, Barakat A, Jamoussi H, Abdelhak S, Kefi R. Association of HNF1A gene variants and haplotypes with metabolic syndrome: a case-control study in the Tunisian population and a meta-analysis. *Diabetol Metab Syndr*. 2022 Feb 2;14(1):25. doi: 10.1186/s13098-022-00794-0. PMID: 35109885.

3- **Dallali H**, Kheriji N, Kammoun W, Mrad M, Soltani M, Trabelsi H, Hamdi W, Bahlous A, Ben Ahmed M, Mahjoub F, Jamoussi H, Abdelhak S, Kefi R. Multiallelic Rare Variants in BBS Genes Support an Oligogenic Ciliopathy in a Non-obese Juvenile-Onset Syndromic Diabetic Patient: A Case Report. *Front Genet*. 2021 Oct 6; 12:664963. doi: 10.3389/fgene.2021.664963. PMID: 34691137; PMCID: PMC8526562.

4- **Dallali H**, Pezzilli S, Hechmi M, Sallem OK, Elouej S, Jmel H, Ben Halima Y, Chargui M, Gharbi M, Mercuri L, Alberico F, Mazza T, Bahlous A, Ben Ahmed M, Jamoussi H, Abid A, Trischitta V, Abdelhak S, Prudente S, Kefi R. Genetic characterization of suspected MODY patients in Tunisia by targeted next-generation sequencing. *Acta Diabetol.* 2019 May;56(5):515-523. doi: 10.1007/s00592-018-01283-5. Epub 2019 Jan 17. PMID: 30656436.

▪ **Second author articles (n=4)**

5- Kheriji N, **Dallali H**, Gouiza I, Hechmi M, Mahjoub F, Mrad M, Krir A, Soltani M, Trabelsi H, Hamdi W, Bahlous A, Ben Ahmed M, Jamoussi H, Kefi R. Whole-exome sequencing reveals novel variants of monogenic diabetes in Tunisia: impact on diagnosis and healthcare management. *Front Genet.* 2023 Dec 14;14:1224284. doi: 10.3389/fgene.2023.1224284. PMID: 38162681; PMCID: PMC10757615.

6- Ghedira K, **Dallali H**, Ardhaoui M, Bouslema Z, Hamdi Y, Feki Ben-Salah S, Chelbi H, Atri C, Chaouch M, Dekhil N, Rais A, Azouz S, Gharbi M, Guerfali F, Hkimi C, Kamoun S, Ksouri A, Moumni I, Ouragini H, Bsibes R, Afifi Z, Youssfi K, Ben Hassine H, Hadhri N, Mardassi H, Othman H, Khamessi O. PHINDaccess Hackathons for COVID-19 and Host-Pathogen Interaction: Lessons Learned and Recommendations for Low- and Middle-Income Countries. *Biomed Res Int.* 2023 Oct 10;2023:6638714. doi: 10.1155/2023/6638714. PMID: 37854792; PMCID: PMC10581832.

7- Hechmi M, **Dallali H**, Gharbi M, Jmel H, Fassatoui M, Ben Halima Y, Bahri S, Bahlous A, Abid A, Jamoussi H, Barakat A, Kefi R. Association of rs662799 variant and APOA5 gene haplotypes with metabolic syndrome and its components: a meta-analysis in North Africa. *Biosci Rep.* 2020 Aug 28;40(8):BSR20200706. doi: 10.1042/BSR20200706. PMID: 32725151; PMCID: PMC7426633.

8- Charfeddine C, **Dallali H**, Abdessalem G, Ghedira K, Hamdi Y, Elouej S, Landoulsi Z, Delague V, Lagarde A, Levy N, El-Amraoui A, Boubaker MS, Abdelhak S, Mokni M. Identification of a CDH12 potential candidate genetic variant for an autosomal dominant form of transgrediens and progrediens palmoplantar keratoderma in a Tunisian family. *J Hum Genet.* 2020 Apr;65(4):397-410. doi: 10.1038/s10038-019-0711-4. Epub 2020 Jan 7. PMID: 31911611.

▪ **Third author articles (n=4)**

9- Hemissi I, Boussetta S, **Dallali H**, Hellal F, Durand G, Voegelé C, Ayed H, Zaghib S, Naimi Z, Ayadi M, Chebil M, McKay J, Le Calvez-Kelm F, Ouerhani S. Development of a custom next-generation sequencing panel for the determination of bladder cancer risk in a Tunisian cohort. *Mol Biol Rep.* 2022 Feb;49(2):1233-1258. doi: 10.1007/s11033-021-06951-4. PMID: 34854013.

10- Romdhane L, Mezzi N, **Dallali H**, Messaoud O, Shan J, Fakhro KA, Kefi R, Chouchane L, Abdelhak S. A map of copy number variations in the Tunisian population: a valuable tool for medical genomics in North Africa. *NPJ Genom Med.* 2021 Jan 8;6(1):3. doi: 10.1038/s41525-020-00166-5. PMID: 33420067; PMCID: PMC7794582.

11- Lahbib S, Trabelsi M, **Dallali H**, Sakka R, Bourourou R, Kefi R, Mrad R, Abdelhak S, Gaddour N. Novel MED12 variant in a multiplex Fragile X syndrome family: dual molecular etiology of two X-linked intellectual disabilities with autism in the same family. *Mol Biol Rep.* 2019 Aug;46(4):4185-4193. doi: 10.1007/s11033-019-04869-6. Epub 2019 May 16. PMID: 31098807.

12- Kefi R, Hechmi M, **Dallali H**, Elouej S, Jmel H, Halima YB, Nagara M, Chargui M, Fadhel SB, Romdhane S, Kamoun I, Turki Z, Abid A, Bahri S, Bahlous A, Gomis R, Baraket A, Grigorescu F, Normand C, Jamoussi H, Abdelhak S. Association of apolipoprotein A5 gene variants with metabolic syndrome in Tunisian population. *Ann Endocrinol (Paris)*. 2017 Jul;78(3):146-155. doi: 10.1016/j.ando.2017.01.005. Epub 2017 Jun 16. PMID: 28624160.

▪ Other co-author articles (n=16)

13- Jmel H, Boukhalfa W, Gouiza I, Seghaier RO, **Dallali H**, Kefi R. Pharmacogenetic landscape of pain management variants among Mediterranean populations. *Front Pharmacol*. 2024 May 15;15:1380613. doi: 10.3389/fphar.2024.1380613. PMID: 38813106; PMCID: PMC11134176.

14- Mkaouar R, Riahi Z, Marrakchi J, Mezzi N, Romdhane L, Boujemaa M, **Dallali H**, Sayeb M, Lahbib S, Jaouadi H, Boudabbous H, Zekri L, Chargui M, Messaoud O, Elyounsi M, Kraoua I, Zaouak A, Turki I, Mokni M, Boucher S, Petit C, Giraudet F, Mbarek C, Besbes G, Halayem S, Zainine R, Turki H, Tounsi A, Bonnet C, Mrad R, Abdelhak S, Trabelsi M, Charfeddine C. Current phenotypic and genetic spectrum of syndromic deafness in Tunisia: paving the way for precision auditory health. *Front Genet*. 2024 Apr 22;15:1384094. doi: 10.3389/fgene.2024.1384094. PMID: 38711914; PMCID: PMC11072975.

15- Gouiza I, Hechmi M, Zioudi A, **Dallali H**, Kheriji N, Charif M, Le Mao M, Galai S, Kraoua L, Ben Youssef-Turki I, Kraoua I, Lenaers G, Kefi R. Expanding the genetic spectrum of mitochondrial diseases in Tunisia: novel variants revealed by whole-exome sequencing. *Front Genet*. 2024 Jan 12;14:1259826. doi: 10.3389/fgene.2023.1259826. PMID: 38283147; PMCID: PMC10811255.

16- Boukhalfa W, Jmel H, Kheriji N, Gouiza I, **Dallali H**, Hechmi M, Kefi R. Decoding the genetic relationship between Alzheimer's disease and type 2 diabetes: potential risk variants and future direction for North Africa. *Front Aging Neurosci*. 2023 Jun 5;15:1114810. doi: 10.3389/fnagi.2023.1114810. PMID: 37342358; PMCID: PMC10277480.

17- Hechmi M, Charif M, Kraoua I, Fassatoui M, **Dallali H**, Desquirit-Dumas V, Bris C, Goudenège D, Drissi C, Galai S, Ouerhani S, Procaccio V, Amati-Bonneau P, Abdelhak S, Ben Youssef-Turki I, Lenaers G, Kefi R. Next-generation sequencing of Tunisian Leigh syndrome patients reveals novel variations: impact for diagnosis and treatment. *Biosci Rep*. 2022 Sep 30;42(9):BSR20220194. doi: 10.1042/BSR20220194. PMID: 36093993; PMCID: PMC9508526.

18- Mkaouar R, Riahi Z, Charfeddine C, Chelly I, Boudabbous H, **Dallali H**, Bonnet C, Hechmi M, Bekri S, Zitouna N, Zekri L, Tounsi A, Kefi R, Marrakchi J, Messaoud O, Kraoua I, Maalej S, Turki Ben Youssef I, Ben Hmid A, Giraudet F, Bouchoucha S, Tebib N, Besbes G, Petit C, Mrad R, Abdelhak S, Trabelsi M. Alpha-mannosidosis in Tunisian consanguineous families: Potential involvement of variants in GHR and SLC19A3 genes in the variable expressivity of cognitive impairment. *PLoS One*. 2021 Oct 6;16(10): e0258202. doi: 10.1371/journal.pone.0258202. PMID: 34614013; PMCID: PMC8494324.

19- Charfeddine C, Laroussi N, Mkaouar R, Jouini R, Khayat O, Redissi A, Mosbah A, **Dallali H**, Chedly Debbiche A, Zaouak A, Fenniche S, Abdelhak S, Hammami-Ghorbel H. Expanding the clinical phenotype associated with NIPAL4 mutation: Study of a Tunisian consanguineous family with erythrokeratoderma variabilis-Like Autosomal Recessive Congenital Ichthyosis. *PLoS One*. 2021 Oct 20;16(10): e0258777. doi: 10.1371/journal.pone.0258777. PMID: 34669720; PMCID: PMC8528321.

- 20- Jaouadi H, Bouyacoub Y, Chabrak S, Kraoua L, Zaroui A, Elouej S, Nagara M, **Dallali H**, Delague V, Levy N, Benkhalifa R, Mechmeche R, Zaffran S, Abdelhak S. Multiallelic rare variants support an oligogenic origin of sudden cardiac death in the young. *Herz*. 2021 Apr;46(Suppl 1):94-102. English. doi: 10.1007/s00059-019-04883-1. PMID: 31970460.
- 21- Boujemaa M, Hamdi Y, Mejri N, Romdhane L, Ghedira K, Bouaziz H, El Benna H, Labidi S, **Dallali H**, Jaidane O, Ben Nasr S, Haddaoui A, Rahal K, Abdelhak S, Boussen H, Boubaker MS. Germline copy number variations in BRCA1/2 negative families: Role in the molecular etiology of hereditary breast cancer in Tunisia. *PLoS One*. 2021 Jan 27;16(1):e0245362. doi: 10.1371/journal.pone.0245362. PMID: 33503040; PMCID: PMC7840007.
- 22- Bouchoucha S, Chikhaoui A, Najjar D, **Dallali H**, Khammessi M, Abdelhak S, Nessibe N, Shboul M, Kircher SG, Al Kaissi A, Yacoub-Youssef H. Clinical and Genetic Heterogeneity in Six Tunisian Families With Horizontal Gaze Palsy With Progressive Scoliosis: A Retrospective Study of 13 Cases. *Front Pediatr*. 2020 Apr 16;8:172. doi: 10.3389/fped.2020.00172. PMID: 32373565; PMCID: PMC7179758.
- 23- Jaballah-Gabteni A, Tounsi H, Kabbage M, Hamdi Y, Elouej S, Ben Ayed I, Medhioub M, Mahmoudi M, **Dallali H**, Yaiche H, Ben Jemii N, Maaloul A, Mezghani N, Abdelhak S, Hamzaoui L, Azzouz M, Boubaker S. Identification of novel pathogenic MSH2 mutation and new DNA repair genes variants: investigation of a Tunisian Lynch syndrome family with discordant twins. *J Transl Med*. 2019 Jun 27;17(1):212. doi: 10.1186/s12967-019-1961-9. PMID: 31248416; PMCID: PMC6598283.
- 24- Ben Haj Ali A, Amouri A, Sayeb M, Makni S, Hammami W, Naouali C, **Dallali H**, Romdhane L, Bashamboo A, McElreavey K, Abdelhak S, Messaoud O. Cytogenetic and molecular diagnosis of Fanconi anemia revealed two hidden phenotypes: Disorder of sex development and cerebro-oculo-facio-skeletal syndrome. *Mol Genet Genomic Med*. 2019 Jul;7(7):e00694. doi: 10.1002/mgg3.694. Epub 2019 May 23. PMID: 31124294; PMCID: PMC6625148.
- 25- Jmel H, Romdhane L, Ben Halima Y, Hechmi M, Naouali C, **Dallali H**, Hamdi Y, Shan J, Abid A, Jamoussi H, Trabelsi S, Chouchane L, Luiselli D, Abdelhak S, Kefi R. Pharmacogenetic landscape of Metabolic Syndrome components drug response in Tunisia and comparison with worldwide populations. *PLoS One*. 2018 Apr 13;13(4):e0194842. doi: 10.1371/journal.pone.0194842. PMID: 29652911; PMCID: PMC5898725.
- 26- Ben Rekaya M, Naouali C, Messaoud O, Jones M, Bouyacoub Y, Nagara M, Pippucci T, Jmel H, Chargui M, Jerbi M, Alibi M, **Dallali H**, Bashamboo A, McElreavey K, Romeo G, Barakat A, Zghal M, Yacoub-Youssef H, Abdelhak S. Whole Exome Sequencing allows the identification of two novel groups of Xeroderma pigmentosum in Tunisia, XP-D and XP-E: Impact on molecular diagnosis. *J Dermatol Sci*. 2018 Feb;89(2):172-180. doi: 10.1016/j.jdermsci.2017.10.015. Epub 2017 Nov 2. PMID: 29169765.
- 27- Pezzilli S, Ludovico O, Biagini T, Mercuri L, Alberico F, Lauricella E, **Dallali H**, Capocefalo D, Carella M, Miccinilli E, Piscitelli P, Scarale MG, Mazza T, Trischitta V, Prudente S. Insights From Molecular Characterization of Adult Patients of Families With Multigenerational Diabetes. *Diabetes*. 2018 Jan;67(1):137-145. doi: 10.2337/db17-0867. Epub 2017 Oct 9. PMID: 28993341.
- 28- Landoulsi Z, Benromdhan S, Ben Djebara M, Damak M, **Dallali H**, Kefi R, Abdelhak S, Gargouri-Berrechid A, Mhiri C, Gouider R. Using KASP technique to screen LRRK2 G2019S mutation in a large Tunisian cohort. *BMC Med Genet*. 2017 Jul 6;18(1):70. doi: 10.1186/s12881-017-0432-5. PMID: 28683740; PMCID: PMC5501550.

Conferenze

- 07 – 11 April 2019, Tunis (Tunisia) 13th H3Africa Consortium Meeting

Oral presentation: Targeted Next Generation Sequencing applied for the molecular characterization of MODY patients in Tunisia.

- 19 - 23 March 2018, Juva (Finland) Maghrebien-Finnish Biotechnology Symposium 2018

Oral presentation: Association of HNF1A gene variants with the metabolic syndrome in the Tunisian population: a case/control study and a Meta-analysis.

Riconoscimenti e premi

- Recipient of the Excellence MOBIDOC postdoctoral fellowship (February 2022 – May 2024), granted by the Tunisian Ministry of Higher Education and Scientific Research.
- Second prize for oral communication at the 13th H3Africa consortium meeting (07 – 11 April 2019, Tunis, Tunisia).

Corsi &
Certificazioni

- November 2019 – May 2022 Institut Pasteur de Tunis, Tunisia

- Training in the frame of the PHINDaccess project (Strengthening Omics data analysis capacities in pathogen-host interaction) (<https://cordis.europa.eu/project/id/811034>):

Courses in database development, Linux, Python, R & Rstudio, NGS data analysis (whole exome sequencing, whole genome sequencing, RNA-seq), epigenomics and gene regulation, functional genomics, metagenomics, Docker, Nextflow, SLURM.

- September – December 2019 Faculty of medicine of Tunis, Tunisia

Hybrid course: Leadership and Management in Health (University of Washington, USA).

Dati personali

Autorizzo il trattamento dei miei dati personali ai sensi del Decreto Legislativo 30 giugno 2003, n. 196 "Codice in materia di protezione dei dati personali".

Il sottoscritto dichiara di essere consapevole che il presente *curriculum vitae* sarà pubblicato sul sito istituzionale dell'Ateneo, nella Sezione "Amministrazione trasparente", nelle modalità e per la durata prevista dal d.lgs. n. 33/2013, art. 15.

Data
02/10/2025

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