# Barış Salman

## Curriculum Vitae

barslmn@gmail.com +90 534 387 84 20
barissalman.xyz (Under Construction)

## technical skills

### • Wet Lab

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|---|---|
| **DNA/RNA/Protein** | Isolation, quantative/qualitative PCRs, Blotting, Cytogenetics and Karyotyping |
| **Functional Studies** | Cell Culture, *in vivo* models, Microscopy |
| **Genetic Engineering** | Recombinant DNA technologies |

### • Computers

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|---|---|
| **Development** | Python, R, Unix Shell |
| **Workflow** | Linux, Doom Emacs, Git, Jupyter |
| **Writing** | Orgmode, Zotero, Bibtex, LaTeX |
| **Web Development** | Django, Javascript |

### • Bioinformatics

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| **Sequencing** | WGS, WES, Panels, RNAseq, scRNAseq, Sanger |
| **Micro-arrays** | Genotyping, Expression |

### • Data Analyses

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| **Analysis** | Python Scientific Toolkit(numpy, pandas, scipy etc.), R language, Shell Scripting, Bioinformatic tools<br>Machine Learning, PCA, Clustering |
| **Statistics and Probability** | Hypothesis testing, Bayesian Theorem, Data distributions |
| **Visualization** | Matplotlib, Plotly/Dash, LaTeX |

# education

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|---|---|---|
| **Doctorate, 2021–2024** | Genetics, Institute of Health Sciences, İstanbul University, Turkey | **GPA 3.5** |
| **Thesis** | Work in progress | |
| **Adviser** | Prof. Dr. Sibel Uğur İşeri | |
| **Notable Courses** | Advanced Molecular Genetics, Mendelian and non Mendelian Diseases, Chromosomal Diseases, Systems Biology | |
| **Master, 2016–2019** | Genetics, Institute of Health Sciences, İstanbul University, Turkey | **GPA 2.14** |
| **Thesis** | Study of Split Hand/Foot Malformation with Genomic Techniques and Bioinformatic Approaches | |
| **Adviser** | Assoc Prof. Dr. Sibel Uğur İşeri | |
| **Notable Courses** | Bioinformatics, Genetic Counseling, Medical Genetics, Hospital Rotation for Genetic Counseling | |
| **Bachelor, 2011–2016** | Molecular Biology and Genetics, İstanbul University, Turkey | **GPA 2.44** |
| **Thesis** | Metabolic Regulation in Prokaryotes with Small Non-Coding RNAs | |
| **Adviser** | Asst. Prof. Dr. Semian Karaer Uzuner | |
| **Notable Courses** | Methods Used in Molecular Biology(lab), Molecular Genetics, Genetic Engineering | |

## • Internships

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| **Cell Culture** | August 2016<br>IU Cerrahpasa Department of Medical Biology |
| **Genomics** | June-July 2015<br>IU A.S. Inst. of Expr. Medicine Department of Genetics |
| **Cytogenetics** | June-July 2014<br>IU Department of Medical Genetics |
| **Molecular Dynamics** | 2012-2013<br>IU Faculty of Science Quantum Technologies Laboratory |

## • Certificates

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| **Use and care of laboratory animals** | Mar 21 - Apr 08<br>IU HADYEK 46. Laboratory Animal Use Training |
| **Liquid handling robot** | 2-5 November 2021<br>Hamilton Venus Online Advanced Software Training |
| | 9-12 August 2021<br>Hamilton Venus Online Basic Software Training |

# jobs

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| **Company** | Refgen Biotechnology | Development of pipelines for NGS |
| **Date** | Mar 2021–Ongoing | Variant classification automatization |
| **Position** | Genetics and Bioinformatics Specialist | |

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|---|---|
| **Company** | Gen-Era Diagnostics |
| **Date** | Oct. 2018–Mar 2021 |
| **Position** | Genetics and Bioinformatics Specialist |

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|---|---|
| **Company** | Aktif Gen |
| **Date** | Jan. 2018–Oct 2018 |
| **Position** | R&D Personnel |

# publications

1. Oguz-Akarsu E, Salman B, Ugur-Iseri S, Baykan B. **An Extraordinary EEG Phenomenon Misdiagnosed as Nonconvulsive Status Epilepticus: Frequent Subclinical Periodic Discharges Terminated by Sudden Auditory Stimuli**. Clin EEG Neurosci. Published online October 5, 2022:15500594221129964. doi:10.1177/15500594221129965

2. Salman B., Yucesan E., Samanci B., Bilgic B., Hanagasi H., Gurvit H., Ozbek U., Ugur Iseri S. **Combined Analysis Of Linkage And Whole Exome Sequencing Reveals CIC As A Candidate Gene For Isolated Dystonia**. Journal of Istanbul Faculty of Medicine. 2021;84(4):457-463. doi:10.26650/IUITFD.2021.913346

3. Haryanyan G, Ozdemir O, Tutkavul K, Salman B et al. **The rare rs769301934 variant in NHLRC1 is a common cause of Lafora disease in Turkey**. J Hum Genet. 2021;66(12):1145-1151. doi:10.1038/s10038-021-00944-8

4. Akçakaya NH, Salman B, Görmez Z, et al. **A Novel and Mosaic WDR45 Nonsense Variant Causes Beta-Propeller Protein-Associated Neurodegeneration Identified Through Whole Exome Sequencing and X chromosome Heterozygosity Analysis**. Neuromolecular Med. 2019;21(1):54-59. doi:10.1007/s12017-018-08522-6

5. Bekdik Şirinocak P, Salman B, Kesim FY, Bebek N, Baykan B, Ugur İşeri SA. **Susceptibility to Juvenile Myoclonic Epilepsy Associated with the EFHC1 Gene: First Case Report in Turkey**. tnd. 2019;25(4):233-236. doi:10.4274/tnd.galenos.2019.61214

## in pipeline

- Exome sequencing reveals a treatable neurometabolic origin in two siblings with an undiagnosed form of neurodevelopmental disorder: From exon to neuron **(in review)**
- Clinical and genetic analyses in syndromic intellectual disability with primary microcephaly reveal biallelic and de novo variants in patients with parental consanguinity **(in review)**

- ELP2 Mutation Leads Developmental and Epileptic Encephalopathy: Case Report Consanguineous Family from Turkey and Review of Literature **(in review)**
- Variant Version Control: A Git Framework For Keeping Track Of Variant Annotation Changes **(in prep.)**

### • Collaborative

1. Niestroj LM, Perez-Palma E, Howrigan DP, et al. Epilepsy subtype-specific copy number burden observed in a genome-wide study of 17,458 subjects. Brain. 2020;143(7):2106-2118. doi:10.1093/brain/awaa171
2. Stevelink R, Luykx JJ, Lin BD, et al. Shared genetic basis between genetic generalized epilepsy and background electroencephalographic oscillations. Epilepsia. 2021;62(7):1518-1527. doi:10.1111/epi.16922
3. Leu C, Stevelink R, Smith AW, et al. Polygenic burden in focal and generalized epilepsies. Brain. 2019;142(11):3473-3481. doi:10.1093/brain/awz292
4. Koko M, Krause R, Sander T, et al. Distinct gene-set burden patterns underlie common generalized and focal epilepsies. EBioMedicine. 2021;72:103588. doi:10.1016/j.ebiom.2021.103588
5. Epi25 Collaborative. Electronic address: s.berkovic@unimelb.edu.au, Epi25 Collaborative. Ultra-Rare Genetic Variation in the Epilepsies: A Whole-Exome Sequencing Study of 17,606 Individuals. Am J Hum Genet. 2019;105(2):267-282. doi:10.1016/j.ajhg.2019.05.020
6. Epi25 Collaborative. Electronic address: jm4279@cumc.columbia.edu, Epi25 Collaborative. Subgenic intolerance, ClinVar, and the epilepsies: A whole-exome sequencing study of 29,165 individuals. Am J Hum Genet. 2021;108(10):2024. doi:10.1016/j.ajhg.2021.08.008

### • Posters

1. Susgun S., Kesim Y., Salman B., Yucesan E., Khalilov D., Sirin G., Baykan B, Bebek N., Iseri Ugur S., **Two candidates bi-allelic variant to neurodevelopmental disorder in a consanguineous family from Turkey**, ESHG 2022
2. Acar A., Say M., Salman B., Dulger M.V., **Comparison of Established Microsatellite Instability Detection Tools in Next Generation Sequencing**, ESHG 2021
3. Ugur Iseri S., Akçakaya N. H., Salman B., et al., **Exome Sequencing Identifies a FBXO38 Variant Inherited from a Mosaic Mother to cause Distal Hereditary Neuronopathy Type IID with Distinct Features**, ASHG 2017

### • Congresses

1. Investigation of Gene Variants Associated with Syndromic Intellectual Disability, 7. International Congress of Cerebral Palsy and Developmental Disorders, February 23-25 2018, Istanbul, Turkey

## projects

1. (in review) TUBITAK 1001 Project, **Advanced Molecular Autopsy Protocol for Sudden Deaths under 40 Years** Research Fellow

2. 2021-2022 TUBITAK 1501 Project, 3210420, **Modeling and Automatic Analysis of Genotype-Phenotype Related Copy Number Variations** Researcher
3. 2021-2022 Research Fund of Istanbul University, ONAP-37862, **Transcriptomics Approaches To Biomarker Potential Of B Cell Expression Analyses In Anti-Neuronal Antibody Related Autoimmune Epilepsy** Researcher
4. 2018-2019 Research Fund of Istanbul University, TYL-2018-30315, **Study of Split Hand/Foot Malformation with Genomic Techniques and Bioinformatics Approaches** Researcher
5. 2018–2018 TUBITAK 1512 Project, 3210420 **Development of Cloud Based Software for Next Generation Amplicon Sequencing Technologies**, Jan 2018- Oct 2018 Research Fellow
6. 2017-2018 Research Fund of Istanbul University, TDP-2017-25510, **Genetic Analyses of Progressive Myoclonic Epilepsy** Researcher
7. 2016–2018 TUBITAK 1001 Project, **Investigation of Epileptogenesis After Febrile Seizures** Research Fellow

## software

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| **VVC** | Variant Version Control **(in development)**<br>Tool for tracking changes in variant annotation using git. |
| **Dove** | Downstream VCF Evaluation<br>Tool for annotating VCF files, multi genome analysis and filtering variants. |
| **Pigeon** | Pipelining Genomic Operations<br>Tool for pipelining bioinformatics tools written considering NGS applications. |
| **Picus** | Pointed Interpretation of Clinical Variant Significance<br>Tool for classifying sequence variants according to ACMG/AMP criteria. |

## awards

III. Rare Neurological Diseases Symposium and Neurogenetics Course, **Second place project award**, Istanbul, Turkey, 2017

## congresses&courses

1. 2022 Turkish Society of Medical Genetics, Nov 9-13, **Genome-Level Evaluation of Copy Number Changes, One of the Important Risk Factors for Genetic Epilepsy** (Oral Presentation)

2. 2020 ESHG 2020, June 6-9, Virtual Conference, **GenerAVI: Variant Interpreter and Genetic Analysis Summary Generator** (Poster Presentation)
3. 2019 7th International Congress of the Molecular Biology Association of Turkey, Sep 27-29, Istanbul, Turkey, **PICUS: Pointed Interpretation of Clinical Variant Significance** (Poster Presentation)
4. 2019 Bioinformatics Days III, Gazi University Faculty of Medicine, May 25, Ankara, Turkey, **NGS Pipelines with Python** (Oral Presentation)
5. 2019 Erciyes University Faculty of Medicine Genetics Days, February 21-23, Kayseri, Turkey, **Making Sense of Human Genome with Databases and Bioinformatic Tools** (Oral Presentation)
6. 2018 IV. Rare Neurological Diseases Symposium and Neurogenetics Course, May 31-July 1, Istanbul, Turkey, **Analysis of Neurogenetics Data Interactive Training and Practice** (Instructor)
7. 2018 11. National Epilepsy Congress, May 3–6, 2018, Dalaman, Turkey, **Meta Analysis of *SCN1A* Gene Variants of 114 Patients from Epi25 Exome Data** (Oral Presentation)
8. 2018 7. International Congress of Cerebral Palsy and Developmental Disorders, February 23-25, Istanbul, Turkey, **Investigation of Gene Variants Associated with Syndromic Intellectual Disability**
9. 2017 53. National Neurology Congress, November 24–30, Antalya, Turkey, **Genomic Approaches to Intellectual Disability Case with Epilepsy** (Oral Presentation)
10. 2017 III. Rare Neurological Diseases Symposium and Neurogenetics Course, July 1–2, Istanbul, Turkey, **Profiling Anti-Epileptic Drug Resistance an Genetic Diagnosis with Epilepsy Panel** (Poster Presentation)

# general skills

## Languages

**Turkish** Mother Tongue

**English** Advanced — Fluent

These are the languages I am still learning

**French** Beginner — Basic words and phrases

**Japanese** Beginner — Basic words and phrases

**Latin** Beginner — Basic words and phrases