



# FATMA BETUL DINCASLAN

## RESEARCH EXPERIENCE

2019-  
2023

- **NUS Research Scholar**  
(Currently) Biomedical Engineering, NUS  Singapore
  - Development of single cell high throughput assays/protocols.

2016  
|  
2019

- **Master Student**  
Molecular Biology and Genetics, Bilkent University  Ankara, Turkey  
**Tissue Specific Transcriptome of Zebrafish in AChE Mutant Embryos**

- I analyzed tissue specificity (TS) of zebrafish, considering the dynamicity of gene expression, by using specific metrics such as Tau, Tsi. Then I applied the TS analysis on the mutant zebrafish embryos by using the publicly available datasets. I compared the effect of using different normalization methods on TS discovery as well. I performed qPCRs for in vivo confirmations after isolating the RNAs. I further investigated the relationship between ache and the retinal genes by using the tools like Gene Ontology (GO).

### **Role of AChE as a tumor suppressor together with P53**

- My role was to bred appropriate zebrafish lines dissect, genotype the fish tissues and embed them in OCT.


### **Identification of peridodontis disease related genes (collaboration w/Dentistry Department of Ankara University)**

- I assisted the dentistry students to perform both wet lab and bioinformatics analysis.


### **Role of Mineralocorticoid Receptor in Breast Cancer**

- My roles in the wet lab part were RNA isolation and qPCR; for the dry lab, development of easy to use pipeline with Seven Bridges CGC and available R packages for RNA-Seq data analysis, and data visualization.

2015 Fall

- **Investigation of allergen specific immunotherapy on patients with bee-venom allergy**  
Bilkent University - Supervisor: Ihsan GURSEL  Ankara, Turkey
  - I experienced PBMC isolation

2015  
Summer

- **The relationship between some of Mesp family genes and other known somitogenesis genes in zebrafish vertebrae development**  
Albert Einstein College of Medicine - Supervisor: Ertugrul Ozbudak  NY, USA
  - I did lots of in situ hybridization experiments with zebrafish embryos to study somitogenesis.



## CONTACT INFO

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For more information, please  
contact me via email.

## SKILLS

NGS data analysis (previous: bulk,  
recent: single).

Common bioinformatics tools such  
as NCBI, Blast, UCSC Genome  
Browser, Ensembl, Expression  
Atlas, Primer Design tools,  
STRING, GO/Panther, and cloud  
system such as Seven Bridges  
Cancer Genomics Cloud. Currently  
improving Linux skills to use  
HPC/Server systems.

Skilled in R.

MBG wetlab skills such as model  
organisms: zebrafish, rna-dna  
isolation, qPCR, in-situ  
hybridization, cell culture. Currently  
practicing sequencing.



## TEACHING AND ASSISTANTSHIPS

- 2020 • **BN2301 Fundamental Biochemistry and Biomaterials for Bioengineers, NUS**  
Teaching Assistant 📍 Singapore
- 2018 • **MBG326 Introduction to Bioinformatics, Bilkent University**  
Teaching assistant for introduction to bioinformatics and R programming 📍 Ankara, Turkey
- 2018 • **MBG302 Molecular Biology of The Cell-II, Bilkent University**  
Teaching assistant for molecular cloning experiments from plasmid editing, restriction enzyme digestion, and ligation to miniprep. 📍 Ankara, Turkey
- 2017 • **MBG326 Introduction to Bioinformatics, Bilkent University**  
Same above (2018 version) 📍 Ankara, Turkey
- 2017 • **MBG223 Molecular Genetics, Bilkent University**  
Teaching assistant for the cell culture experiments from cell opening, passaging to scratch assay, kinase inhibition and crystal violet assays. 📍 Ankara, Turkey
- 2018 | 2019 • **Webpage Assistant**  
KONU Lab, Bilkent Zebrafish Facility and Bilkent MBG Websites 📍 Ankara, Turkey



## EDUCATION

- 2019 | 2023 • **PhD. Student, Bomedical Engineering**  
National University of Singapore 📍 Singapore  
  
• I am currently working on two different projects regarding the single cell sequencing and its application on microfluidics systems.
- 2017 | 2019 • **M.Sc.in Molecular Biology and Genetics**  
Bilkent University 📍 Ankara, Turkey  
  
Thesis: Tissue Specific Transcriptome of Zebrafish in AChE Mutant Embryos
- 2012 | 2016 • **B.Sc. in Molecular Biology and Genetics**  
Bilkent University 📍 Ankara, Turkey
- 2012 • **English Preperation School**  
Bilkent University 📍 Ankara, Turkey
- 2011 • **Math and Science**  
Sami Yangin Anatolian High School 📍 Kayseri, Turkey



## AWARDS AND HONOUR

- 2019  
|  
2023 • **NUS Research Scholarship**  
NUS Biomedical Engineering 📍 Singapore
- 2019 • **Graduated with High Honour for MSc Degree**  
Bilkent University Molecular Biology and Genetics 📍 Ankara, Turkey
- 2020 -  
present • **ISCB Student Council Active Member**  
Virtual webinars team 📍 World
- 2018  
|  
present • **ISCB-RSG Turkey Student Council Active Member**  
Social media and website content creator 📍 Turkey
- 2016 • **Graduated with Honour for BSc Degree**  
Bilkent University Molecular Biology and Genetics 📍 Ankara, Turkey
- 2016 • **Writer at Biomedya**  
Turkish web-based magazine on synthetic biology and life sciences 📍 Turkey
- 2011-  
2016 • **Comprehensive Scholarship**  
Awarded by Bilkent University 📍 Ankara, Turkey



## OTHER INTERESTS

- Sports: Playing Basketball and Volleyball
- Art and Music: Charcoal, Reed Flute(Beginner)
- Games: Chess, Checker, Mind games such as Sudoku, Futoshiki, and so on.
- Computer related Angular JS, Machine Learning, Git, C++ via SoloLearn
- Other: Statistics shared by Conrad Hacketts, World Economic Forum, Economics and Forbes Magazine



## SELECTED PUBLICATIONS AND POSTERS

### A pipeline for examination of tissue-specificity of differentially expressed genes in zebrafish mutants: Application to AChE mutants

Poster for International Symposium on Health Informatics and Bioinformatics (HIBIT) (2018, Antalya, Turkey)

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