

# FATMA BETUL DINCASLAN

## Currently a PhD Student at NUS

The field I am currently working on is called single cell assay development. I am recently working on two different projects regarding the single cell sequencing and its application on microfluidics systems.

## EDUCATION

- 2019  
|  
2023
- **PhD. Student, Bomedical Engineering**  
National University of Singapore 📍 Singapore
    - Working on single cell assay development for various interests
  - **M.Sc.in Molecular Biology and Genetics**  
Bilkent University 📍 Ankara, Turkey

Thesis: Tissue Specific Transcriptome of Zebrafish in AChE Mutant Embryos
  - **B.Sc. in Molecular Biology and Genetics**  
Bilkent University 📍 Ankara, Turkey
  - **English Preperation School**  
Bilkent University 📍 Ankara, Turkey
  - **Math and Science**  
Sami Yangin Anatolian High School 📍 Kayseri, Turkey

## RESEARCH EXPERIENCE

- 2019-  
2023
- **NUS Research Scholar**  
(Currently) Biomedical Engineering, NUS 📍 Singapore
    - Development of single cell high throughput assays/protocols.



## CONTACT INFO

✉ [fatmab.dincaslan@gmail.com](mailto:fatmab.dincaslan@gmail.com)  
**in** [linkedin.com/fbdincaslan](https://www.linkedin.com/fbdincaslan)  
☐ [researchgate.com/dincaslan](https://www.researchgate.com/dincaslan)  
 [github.com/dincaslan](https://github.com/dincaslan)  
 [medium.com/dincaslan](https://medium.com/dincaslan)

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.

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 dissect, genotype the fish tissues and embed them in OCT. Besides I bred appropriate zebrafish lines for the next steps of the project.

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

- Being a research assistant in this project, 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 isolating RNA, making cDNA, 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.

### Senior Project and Internships

Investigation of allergen specific immunotherapy on patients with bee-venom allergy

- I experienced PBMC isolation (2015 - Fall, Bilkent University, Turkey - Supervisor: Ihsan GURSEL).

The relationship between some of Mesp family genes and other known somitogenesis genes in zebrafish vertebrae development

- I did lots of in situ hybridization experiments with zebrafish embryos to study somitogenesis (2015 - Summer, Albert Einstein College of Medicine, NY, USA - Supervisor: Ertugrul Ozbudak).



## TEACHING AND ASSISTANSHIPS

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



## 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
- 2016 • **Graduated with Honour for BSc Degree**  
Bilkent University Molecular Biology and Genetics 📍 Ankara, Turkey
- 2011-2016 • **Comprehensive Scholarship**  
Awarded by Bilkent University 📍 Ankara, Turkey
- 2016 • **Writer at Biomedya**  
Turkish web-based magazine on synthetic biology and life sciences  
📍 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)

**Fatma B. Dincaslan**<sup>1</sup>, Afshan Nabi<sup>1\*</sup>, M. Efe Isilak<sup>2</sup>, Ayse G. Keskus<sup>2</sup>, M. Ender Avcı<sup>5</sup>, Michelle M. Adams<sup>2,3,4</sup>, Ozlen Konu<sup>1,2,3</sup>