


FATMA BETUL DINCASLAN

Available for post-doc/research opportunities in computational biology and bioinformatics

RESEARCH EXPERIENCE

2019
|
2023

NUS Research Scholar (Thesis Submitted)

Biomedical Eng., NUS (Supervisor: Lih Feng CHEOW)  Singapore
High-Throughput Total RNA-Sequencing of Single Cells


My PhD project was about the development of single cell high-throughput assay for total RNA sequencing, which could be easily applied on popular platforms like 10X Chromium. Later, I created a pipeline for total RNA-seq data analysis using open-source tools. I validated the assay on different cell lines and Peripheral Blood Mononuclear Cells (PBMCs).

High-Throughput Profiling of Secreting Single Cells

In this side project, we aimed to develop an assay to profile secreting vs. non-secreting cells of pancreatic islets upon certain stimuli. (Not Completed)

2016
|
2019

Master's Student

MBG, Bilkent University (Supervisor: Ozlen KONU)  Ankara, Turkey
Tissue Specific Transcriptome of Zebrafish in AChE Mutant Embryos

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

Role of mineralocorticoid receptor in breast cancer

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

TEACHING AND ASSISTANSHIPS


2020
|
2022

BN2301 Fundamental Biochemistry and Biomaterials for Bioengineers, NUS

Teaching Assistant (TA)  Singapore

2017
|
2018

MBG326 Introduction to Bioinformatics, Bilkent University

TA for introduction to bioinformatics and R/RStudio  Ankara, Turkey



CONTACT INFO

 fatmab.dincaslan@gmail.com

 [linkedin.com/fbdincaslan](https://www.linkedin.com/fbdincaslan)

 [researchgate.com/dincaslan](https://www.researchgate.com/dincaslan)

 github.com/dincaslan

 medium.com/dincaslan

For more information, please contact me via email.

SKILLS

Dry-Lab

Common bioinformatics databases/tools such as NCBI, Primer3, UCSC Genome Browser, Ensembl, Expression Atlas, STRING, GO/Panther.

Bulk and Single Cell Transcriptomics Data Analysis using Command Line Tools and R.

Wet-Lab

DNA and RNA isolation, q/PCR. Cell Culture and FACS basics. Library Preparation and Illumina Sequencing.

2017
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2018

- **MBG223 Molecular Genetics and MBG302 Molecular Biology of The Cell-II, Bilkent University**
MBG223 - TA for molecular cloning experiments: plasmid editing, restriction enzyme digestion, ligation and miniprep. MBG302 - TA for the cell culture experiments: scratch, kinase inhibition and crystal violet assays.

📍 Ankara, Turkey



EDUCATION

2019
|
2023

- **Ph.D. Candidate, Biomedical Engineering**
Thesis: Development of an Assay for High-Throughput Total RNA Sequencing of Single Cells

📍 NUS, Singapore

2017
|
2019

- **M.Sc., Molecular Biology and Genetics**
Thesis: Tissue Specific Transcriptome of Zebrafish in AChE Mutant Embryos

📍 Bilkent University, Ankara, Turkey

2011
|
2016

- **B.Sc., Molecular Biology and Genetics**
(First year is English Prep School) 📍 Bilkent University, Ankara, Turkey



AWARDS AND HONOUR

2019
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2023

- **NUS Research Scholarship**
NUS Biomedical Engineering

📍 Singapore

2022

- **eLife Ambassador**
Trainee of "learning and community-building"

📍 Earth

2020
|
2022

- **ISCB Student Council Active Member**
Part of virtual seminars (webinar) team of ISCB-SC and Organization team of Asian Student Council Symposium, #ASCS2022

📍 World

2018
|
present

- **ISCB-RSG Student Council Turkey**
Previously social media and website content team, symposium organization, now [Med&Omics](#)

📍 Turkey

2011
|
2016

- **Comprehensive Scholarship**
Awarded by Bilkent University

📍 Ankara, Turkey



OTHER INTERESTS

- Playing Basketball and Bullet Chess, Running, Indoor Climbing
- Reproducibility in Science and Open Science
- Learning via SoloLearn, Data Science, and Blogging about DataViz

Mentor, Bilkent and NUS

I one-on-one mentored a few of these undergrad students since 2017.

Highlights

I learnt the basics of programming during the undergrad years. Then, I used R for differential gene expression (DEG) analysis of bulk RNA-seq data, and data visualization -ggplot- during the grad school. Moreover, I learnt how to use linux/ubuntu server, and command line tools for data analysis during PhD.

Future Plans

I will continue supporting open-science, open-source, and ISCB-SC events.

PUBLICATIONS AND POSTERS

- High-Throughput Total RNA-Sequencing of Single Cells

Fatma Betul Dincaslan, Lih Feng Cheow

Oral Presentation for jointly hosted CSI-ENS Symposium: Single-Cell Res/volution 2023 (2023, Singapore)

- 1st ASCS: Expanding the ISCB Student Council Symposia to Asia

Aayush Grover, Arsalan Riaz, Syed Muktadir Al Sium, **Fatma B. Dincaslan**, Sanjana Fatema Chowdhury, Gabriel J Olguin-Orellana, R. Gonzalo Parra, Pradeep Eranti

F1000Research, DOI: 10.12688/f1000research.135767.1

- Lessons from a ten-year-long journey: building a student-driven computational biology society across Turkey

Yasin Kaya, Tülay Karakulak, Cemil Can Saylan, E. Ravza Gür, Engin Tatlıdıl, Sevilay Güleşen, **Fatma Betül Dinçaslan**, Handan Melike Dönertaş

F1000Research, DOI: 10.12688/f1000research.107886.1

- Functional analysis of co-expression networks of zebrafish *ace2* reveals enrichment of pathways associated with development and disease

Ayşe Gökçe Keskus, Melike Tombaz, Burcin İrem Arıcı, **Fatma Betül Dincaslan**, Afshan Nabi, Huma Shehwana, and Özlen Konu

Genome, DOI: 10.1139/gen-2021-0033

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

Fatma B. Dincaslan, Afshan Nabi, M. Efe Isilak, Ayşe G. Keskus, M. Ender Avcı, Michelle M. Adams, Özlen Konu

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

This resume was made with the R package [pagedown](#). Last updated on 2023-08-30.