

Ilayda Ilerten

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Highly driven and determined individual, seeking interdisciplinary labs in biology/systems biology.

Education

University of California, Santa Cruz, Extension School Certificate Program, Data Science and Data Analytics	2021 – 2022
Boğaziçi University, Istanbul, Turkey Bachelor in Science, Molecular Biology & Genetics and Physics Honor's Degree, (double major) GPA: 3.29/4.00	2014 – 2020
Yahya Akel Science High School, Mersin, Turkey	2010 – 2014

Skills

Molecular Biology	PCR & Multiplex PCR Cloning Immunofluorescence Western blotting Bradford assay Cell culture Transient transfection Lentiviral transduction FACS NGS Mass Spectrometry Confocal Microscopy Micropattern fabrication
Programming	Python R Matlab SQL Git Makefile ImageJ FlowJo Primer3Plus Recursion Trees Dynamic Programming Machine Learning
Languages	Turkish (Native) English (Professional Fluency) French (Beginner)

Research & Industry Experience

Research Assistant: Stanford University - Stanford, CA, USA August, 2021-
Biology Department June, 2022

PI: Jan Skotheim, Ph.D., Mentor: Michael C. Lanz, Ph.D.

- Investigated how a cell's physiology changes with its size through proteomic mass spectrometry.
- Analyzed proteomics datasets to reveal the scaling behaviour of thousands of proteins with cell size in budding yeast, human cell lines, and NCI60 human cancer line collection.
- Investigated the role of CyclinD protein in cell cycle and its interaction with Rb in RPE cells.
- Investigated how the cell speed and motility is affected by the cell size and cell cycle stage.

R&D Intern: BillionToOne Inc., Menlo Park, CA, USA Feb-Dec, 2020
Mentor: Patrick Ye, Ph.D. &

- Led the initial experiments for measuring the methylation profile of circulating tumor DNA in blood with a higher sensitivity than current detection methods.
- Led experiments and analysis of initial clinical study on pregnant women from India with high risk pregnancies of Down syndrome, and presented results at a company-wide meeting.
- Developed a bioinformatics algorithm for patient genotype identity check and implemented it into the company codebase.
- Designed and performed laboratory benchwork, and analyzed sequencing data to develop and validate Aneuploidy non-invasive prenatal test (ie. Down Syndrome).
- Performed and analyzed proof of concept experiments in the patent application of a next-generation sequencing based novel molecular counting technique.
Dilution tagging, US Patent Application Number: 16533444 and PCT/US19/45331.

Research intern: Pasteur Institute, Paris, France July-Sept, 2018
Membrane Trafficking and Pathogenesis
PI: Chiara Zurzolo, Ph.D., Mentor: Michael Henderson, Ph.D.

- Investigated the role of actin binding protein, IRTKS, in formation of tunneling nanotubes (TNTs) using mouse and human neuronal cell lines.
- Designed micropatterned PEGylated surfaces to study physical properties of TNTs.

Research intern: University of California, Irvine - Irvine, CA, USA July, 2017
John Tu & Thomas Yuen Center for Functional Onco-Imaging
PI: Gultekin Gulsen, Ph.D.

- Made printed circuit boards from scratch for a multi-modality imaging project to serve as a visualization assistant during tumor tissue removal surgeries.

Research Intern: Stanford University, Stanford, CA, USA July-Sept, 2016
Canary Center, BAMM Lab
PI: Utkan Demirci, Ph.D., Mentor: Murat Baday, Ph.D.

- Performed image analysis to observe cell response to extracellular matrix (ECM) stiffness using magnetic levitation device developed by the same research team.
- Performed image analysis to evaluate the efficiency of a newly developed microfluidic chip capable of detecting and capturing sperm cells from unprocessed bodily fluids.

Conference Presentations & Publications

- Dilution tagging: A novel method to quantify the abundance of nucleic acid species with high dynamic range. Presented at Advances in Genome Biology and Technology (AGBT) conference, Florida, USA, 2020.
- Co-authored to the manuscript: *'Increasing cell size remodels the proteome and promotes senescence'*. Submitted to *Nature* on 11/05/2021.
BioRxiv, doi: <https://doi.org/10.1101/2021.07.29.454227>

Teaching Experience

Trainer: BillionToOne., Menlo Park, CA, USA Oct-Dec, 2020

- Trained research associates in NGS related wetlab techniques

Teaching Assistant: Boğaziçi University, Istanbul, Turkey Sep-Dec, 2019

- BIO101 & BIO102; Cellular and Molecular Biology I and II

Scholarships

BillionToOne Inc. 2021

- Education Scholarship (\$25K)

Scientific and Technological Research Council of Turkey (TUBITAK) 2017 – 2020

- Liberal Arts Scholarship

Turkish Education Foundation (TEV) 2014 – 2017

- Higher Education Scholarship
Awarded to students who got in top 1% at the university entrance exam among ~2.3M students.

Volunteer Experience

Laboratory assistant: Tarsus Public Hospital, Tarsus, Turkey Feb, 2017

- Assistant at pathology and microbiology lab

Extracurricular Activities

Boğaziçi University Literature Club 2017 – 2018
Boğaziçi University Cycling Community 2017 – 2019
Triathlon, Santa Cruz, CA, USA 2019
Yoga tutor and practitioner 2020 – present