Elif DATLI

(She/Her/Hers)

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EDUCATION

Yeditepe University Istanbul, Turkey

September 2022-Present

PhD in Biotechnology, GPA: 3.82/4.00

Integrated PhD Candidate (Qualification Exam: 95/100)

Research Field: Thyroid and Parathyroid glands, organoids, adult stem cells, transplant medicine. Advisor: Prof. Dr. Gamze TORUN KÖSE, PI: Prof. Dr. Gamze TORUN KÖSE & Prof. Dr. Erhan AYŞAN

Yeditepe University Istanbul, Turkey

2017-2022

BSc in Genetics and Bioengineering, GPA: 3.73/4.00

Thesis Title: Rational Design and Development of Radiolabeled Molecules with High Selectivity for Targeting the Tumor Microenvironment in PET Imaging Systems (TÜBİTAK 2247 Project) Advisor: Prof. Dr. Fikrettin ŞAHİN

- Valedictorian student
- Graduated with High Honors (GPA: 3.5+) / High Honor Track

PUBLICATIONS

- Gürhan, G., Sevinç, K., Aztekin, C. et al. A chromatin-focused CRISPR screen identifies USP22 as a barrier to somatic cell reprogramming. Commun Biol 8, 454 (2025). https://doi.org/10.1038/s42003-025-07899-y

RESEARCH EXPERIENCES

Istanbul Bilgi University, Department of Genetics and Bioengieering Istanbul, Turkey

September 2025- Present

- Working as Full-Time Research Assistant (Teaching-Focused)

  I am currently I supervising student laboratories for Molecular Biology and Genetic Engineering courses. I provide hands-on training in Drosophila maintenance and crossing, as well as fundamental molecular biology

techniques, including blue-white screening, mammalian cell culture, DNA isolation, cDNA synthesis, and PCR.

Universidade de Coimbra, Faculdade de Medicina Coimbra, Portugal

May 2025

- Participated in Erasmus+ Blended Intensive Programme (BIP) titled "Translational Research in Multidrug Resistance (MDR)

Gained advanced, hands-on experience in high-level laboratory techniques, including Transmission Electron Microscopy (TEM), Flow Cytometry, and Nanoparticle Tracking Analysis (NTA). Participated in practical workshops to enhance bioinformatic skills using tools such as Orange, Molecular Docking, and AlphaFold. The program focused on the integration of Bioinformatics, Big Data Analysis, and AI technologies into clinical and experimental approaches against Multidrug Resistance.

Yeditepe University, Thyroid & Parathyroid Organoid Research Laboratory Istanbul, Turkey

September 2024- Present

- Working as PhD candidate, advisor: Prof. Dr. Gamze TORUN KÖSE, Lab PIs: Prof. Dr. Gamze TORUN KÖSE & Prof. Dr. Erhan AYŞAN

I am currently working at the Thyroid–Parathyroid Organoid Laboratory at Yeditepe University, where our research focuses on regenerative approaches for thyroid and parathyroid disorders using patient-derived cells, 3D culture systems, and organoid models. Within this framework, my doctoral project investigates stem/progenitor cell populations isolated from human thyroid tissues and their directed differentiation potential under specialized 3D culture and encapsulation conditions.

Koç University, Koç University Research Center for Translational Medicine (KUTTAM)

Istanbul, Turkey

February 2022 - June 2022

- Worked as a research intern at TO Lab: Investigation of Epigenetic Mechanisms in Somatic Cell Reprogramming, advisors: Prof. Dr. Tamer Tevfik ÖNDER

I focused on investigating the barrier role of a histone deubiquitinase enzyme in human somatic cell reprogramming to pluripotency using a CRISPR-Cas9 knockout approach. I performed protein expression analyses and validated CRISPR-Cas9 editing efficiency.

Yeditepe University, Molecular Diagnostic Laboratory *Istanbul, Turkey*
August 2020 – February 2022

- Worked as an undergraduate research assistant, advisors: Prof. Dr. Fikrettin ŞAHİN & Dr. Nezaket TÜRKEL

Worked on projects that aimed to investigate the potential anti-oncogenic effects of boronic compounds and unrevealing their specific impact on YAP, LATS2, CRAD, and CDX2. Specifically, those trials were conducted on renal cell carcinoma, colorectal carcinoma, and lung cancer. Awarded with the Scientific and Technological Research Council's 2209 Research Project Support Program for Undergraduate Students with the project "Effects of L and S Isoforms of Wnt5a Protein on Proliferation, Apoptosis Behaviors, and Rate of β-catenin Gene Expression of Lung and Pancreatic Cancer Cells". I was also selected as a STAR Scholar for six months in the TUBITAK-STAR project *"Rational Design and Development of Radiolabeled Molecules with High Selectivity for Targeting the Tumor Microenvironment in PET Imaging Systems."* from which my
Responsible for the planning, instruction, and regulation of applied laboratory courses (Genetic Engineering I & II, Molecular Biology). Taught practical skills in fundamental and advanced molecular biology techniques, including Drosophila culture, DNA/RNA isolation, agarose gel electrophoresis, cDNA synthesis, qPCR, and Blue-White Screening.

TUBITAK (The Scientific and Technological Research Council of Türkiye) MAM - GMBE
Kocaeli, Turkey
July 2020 – August 2021

- Worked as an undergraduate summer intern at Animal Genetics and Reproduction Biology Lab, advisor: Dr. Arzu EKİZ TAŞ

During my internship, I worked with Dr. Arzu Ekiz Taş, primarily contributing to a project focused on the structure of IgG molecules. I also gained hands-on experience in embryo culturing while working with Dr. Tolga Akkoç.

Acıbadem University *Kocaeli, Turkey*
July 2020 – August 2021

- Worked as an undergraduate summer intern at Medical Microbiology Lab, advisor: Prof. Dr. Tanıl KOCAGÖZ

I participated in studies under the supervision of Prof. Dr. Tanıl Kocagöz, focusing on a TUBITAK-supported project analyzing the penicillin resistance mechanisms of specific bacterial strains. I also assisted a fellow student's project, where I gained hands-on experience with molecular techniques such as phage display.

TEACHING EXPERIENCE

- **BIOE 323 (Genetic Engineering I) Course Responsible (Istanbul Bilgi University, 2025):** Planned and executed the entire laboratory curriculum, including developing experiment protocols and delivering hands-on instruction. Managed all aspects of the course, including experiment monitoring, attendance tracking, and the comprehensive evaluation of student lab reports. Key techniques taught included Drosophila culture and genetic crossing.
- **BIOE 321 (Molecular Biology) Course Responsible (Istanbul Bilgi University, 2025):** Planned and executed the entire laboratory curriculum, including developing experiment protocols and delivering hands-on instruction. Managed all aspects of the course, including experiment monitoring, attendance tracking, and the comprehensive evaluation of student lab reports. Key techniques taught focused on molecular biology, including Blue-White Screening, DNA/plasmid and RNA isolation, qPCR, agarose gel electrophoresis, and bacterial culture.
- **GBE 111 (Biology I) Laboratory TA (Yeditepe University, 2025):** Prepared lab manuals, lab equipment and chemicals, slides, quizzes, and lab final exam for the experiments within the syllabus. Evaluated lab reports.
- **GBE 404 (Molecular Biology II) Laboratory TA (Yeditepe University, 2024):** Prepared lab manuals, slides, quizzes, and lab final exam for the experiments within the syllabus. Worked as the main instructor for the experiment "Qualitative Analysis of DNA Fragmentation by Agarose Gel Electrophoresis to Track Apoptosis.
- **GBE 301 (Biochemistry I) Laboratory TA (Yeditepe University, 2023):** Prepared slides, lab equipment, and chemicals. Worked as the main instructor of the experiment titled "Sepration of Spinach Pigments by Thin Layer Chromatography (TLC).
- **GBE 302 (Biochemistry II) Laboratory TA (Yeditepe University, 2022):** Prepared lab manuals, slides, quizzes, and lab final exam for the experiments within the syllabus.

CERTIFICATIONS & CONGRESSES

- Poster Presenter at BIOMED 2025 "Biomedical Science and Technology Symposium", "*Differentiation Tendency of Thyroid Stem Cells Obtained from Explant Culture Dependent on the Ionic Microenvironment in 3D Culture Systems*", 2025.
- Certificate of Course Completion, Python for Biologists, BioHelp Learning, 2025.
- Certificate of Course Completion, Erasmus+ BIP, "*Translational Research in Multidrug Resistance",* Universidade de Coimbra, 2025.
- Certificate of Attendance and Participation in Organization Committee, Bioinforange Bioinfocongress IV, 2023.
- Certificate of Course Completion, "*General Laboratory Safety*", KUTTAM (Koç University Research Center for Translational Medicine), 2022.
- Certificate of Attendance, "Medical Biotechnology Congress", Acıbadem University School of Medicine, 2020.
- Certificate of Attendance and Participation in Organization Committee, Yeditepe University International Genetics and Bioengineering Congress, 2018.

HONORS & AWARDS

- TUBITAK 2211 Fellowship, since 2022
- Dean's High Honor List/ High Honor Roll, 2022
- Highest-Ranked Student in Genetics & Bioengineering Department Class of 2022
- Koç University Summer Research Program (KUSRP) Fellow, 2022
- TÜBİTAK 2209 Fellow, 2020
- TÜBİTAK STAR Fellow, 2020
- Full Scholarship to cover bachelor's Tuition fee from Faculty of Engineering, Department of Genetics and Bioengineering, Yeditepe University, 2017-2022
- Government Scholarship for passing Boarding and Scholarship Exam (PYBS), 2010-2018

EXTRACURRICULAR ACTIVITIES

- ÇODER, Project Designing Committee, Member, 2020-Present
- Yeditepe University Debate Society, Member, 2017-2019
- Bioinforange, Member and Content Creator, 2022 - 2023
- Yeditepe University Biotechnology Society, Member, 2017-2020
- Rawing, Flag Football Player (2018-2019), Flute, Ukulele, Watercolor Painting, Translator, Analog Photography, Camping, Writing, Amateur Climber, Ceramic Designing, Yoga
- Yeditepe University Office of Individual and Academic Development Department, Peer-to-Peer Tutor, 2022

SKILL HIGHLIGHTS

- Gel Electrophoresis
- Annexin V/ Cell Cycle
- Cell Viability Assays (MTS, MTT, WST-1)
- Mammalian Cell Culture
- Primary Mammalian Cell Culture
- Enzymatic and explant cell isolation from mammalian tissues
- Bacterial Culturing
- Blue-White Screening
- Western Blotting
- Real-Time PCR
- 3D Cell Culture (Organoid/Spheroid)
- Cryotome/Tissue Sectioning
- ICC/IHC
- MATLAB
- Image Lab
- ImageJ
- Microsoft Office
- Phyton (Beginner)
- RStudio

- Flow Cytometry
- Transfection
- Human Primary Tissue Culture
- Confocal Microscopy
- H&E Staining
- IF
- CRISPR/Cas9 Screening (T7 Assay)
- Dialysis
- RNAi
- Spheroid Encapsulation
- Spheroid Sectioning
- Plasmid Transformation
- Protein Quantification Assays
- Colorimetric Assays
- Live Cell Imaging
- Scientific Figure Design
- SDS-PAGE
- Primer designing
- FACS

HOBBIES

- Rawing
- Playing Ukulele & Flute
- Camping
- Flag Football Player (2018-2019)
- Translator
- Analog Photography
- Writing
- Amateur Climber
- Yoga

LANGUAGES

- Turkish (Native Language)
- English (YÖKDİL: 98,75/100)
- Spanish (Beginner)

REFERENCES

- **Professor Tamer Tevfik ÖNDER**, School of Medicine, Koç University 34450, Sarıyer, Istanbul, Turkey
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  E-Mail: tonder@ku.edu.tr
- **Professor Gamze TORUN KÖSE**, Institute of Biotechnology, Yeditepe University 34450, Sarıyer, Istanbul, Turkey
  Phone: +90 216 578 1617
  E-Mail: gamzekose@yeditepe.edu.tr
- **Professor Fikrettin ŞAHİN**, Head of the Department of Genetics and Bioengineering, Faculty of Engineering, Yeditepe University, 34755, Ataşehir, Istanbul, Turkey
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