

# DILAN GOKYER

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## EDUCATION

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**Koç University School of Medicine (KUSOM), Istanbul, Turkey**

2013 - 2021

Graduated in May 2021, GPA: 3.26 / 4

The six year-long undergraduate program comprises three years of pre-clinical training followed by three years of clinical training at Koç University Hospital (KUH).

**Bornova Anatolian High School, Izmir, Turkey**

2009 - 2013

Graduation GPA: 92.4 / 100

## ACADEMIC AWARDS, SCHOLARSHIPS AND CERTIFICATES

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**Friends of Prentice Grant Recipient**

2023 - 2025

Project titled “Gene therapy as a potential therapeutic option for women with single-gene mutations that cause reproductive dysfunction”. Co-PI/Mentor: Elnur Babayev, MD, MSc.

**Constance Campbell Trainee Travel Award**

Oct 2024

Awarded in recognition of my contributions and to support my two presentations at the ASRM Scientific Congress and Expo, held October 19-23, 2024.

**Undergraduate Scholarship Award**

2013 - 2021

Granted a scholarship covers 50% of annual tuition for the entire medical education after reached the top 0.05% of the two million university applicants yearly.

**Frontiers in Reproduction and Stem Cells**

2018

Awarded full scholarship for one-week course combining lectures and laboratory sessions on reproductive medicine held at Koç University Translational Medicine Research Centre sponsored by UNESCO and Turkish Society of Reproductive Medicine.

**Basic Life Support Educator Certificate**

2017

Awarded by the Department of Anaesthesiology and Reanimation, Koç University School of Medicine to authorize teaching BLS to high school students for 2 consecutive years.

**First Place Poster Award, University of Cambridge**

09/2017

Awarded during the European Symposium of Amgen Scholars Europe Program

**Summer Research Scholarship**

Summer 2017

Received a full scholarship to conduct research as part of the Amgen Scholars Europe Program at the University of Cambridge, granted by the Amgen Foundation and the Erasmus International Program.

**Professional and Research Exchange Training, Poland**

10/2016

Awarded a full scholarship to participate in a one-week course in Poland organized by the European Medical Students' Association (EMSA), focused on enhancing knowledge of the basic principles of scientific research, including data collection and scientific writing.

**Summer Research Scholarship**

2016 - 2019

Received a full scholarship to conduct research at Harvard University in the summer of 2016, and at Yale University in the summer of 2018 and spring of 2019, granted by KUSOM.

**Dean's Honor Roll, Koç University (KU)**

2015

Awarded yearly to students with GPA above 3.50

**WORK EXPERIENCE**

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**Babayev Lab, Northwestern University, USA**

2022-Present

Postdoctoral Research Fellow / Lab Manager in the laboratory of Asst. Prof Elnur Babayev, currently working on understanding the potential causal relationships between epigenome status and ovarian aging, with the ultimate goal of developing interventions to counteract these changes to improve gamete quality, reproductive longevity and fertility outcomes. We utilize established epigenetic analysis tools, including DNA methylation, chromatin accessibility and DNA-protein interaction, and aim to combine these with transcriptomic analysis, such as RNA-seq. I have also served as a clinical research coordinator, where I am responsible for recruiting and consenting patients for various clinical studies. In this role, I collect and process patient samples, including cells, tissues, bodily fluids, and follicular fluids, ensuring meticulous handling for translational research. In addition to conducting research projects, I am assisting the PI with everyday tasks and perform general laboratory management.

**Zernicka-Goetz Lab, University of Cambridge, UK**

2021- 2022

Research Associate / Senior Research Laboratory Technician in the laboratory of Prof. Magdalena Zernicka-Goetz, worked on the determination of differences in pre-implantation development between male and female mouse and human embryos. Gained research experience in mice genotyping, transgenic mice colony management, mouse embryo collection, culture, fixation, immunostaining and microinjection as well as various molecular biology techniques, in addition to supporting PI and the lab manager in everyday tasks and providing technical assistance to the research group including experimental support in two other ongoing projects, media and buffer preparation, ordering and restocking reagents/consumables.

**VOLUNTEER RESEARCH EXPERIENCE**

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**Ratner's Lab, Yale University, School of Medicine, USA**

2018 - 2020

Research fellow in the laboratory of Assoc. Prof. Elena Ratner, worked on revealing the correlation between BRCA2 gene mutation and PI3K-Akt pathway activity in ovarian cancer cells. Became proficient in cell culture, flow cytometry and western blotting. Granted a full scholarship for expenses by KUSOM.

**Amgen Scholars Europe Program, University of Cambridge, UK** Summer 2017  
Investigated the molecular factors controlling TCF7L2, which is the primary transcriptional effector of Wnt pathway activity in APC mutated colorectal cancer cells. Worked in the laboratory of Dr. Marc de la Roche as a part of Amgen Scholars Programme. Mainly practiced in quantitative protein expression and purification, cloning, cell culture and immune-fluorescence microscopy.

**Translational Research Laboratory in Reproductive Medicine, KU, Turkey** 2016 - 2018  
Undergraduate researcher in the laboratory of Prof. Ozgur Oktem, researching how follicle stimulating hormone stimulation affects bone morphogenetic protein levels in luteinized vs non-luteinized human granulosa cells: Cov434, KGN and HGrC.

**Molecular Neurosurgery Laboratory, Harvard Medical School** Summer 2016  
**Massachusetts General Hospital, USA**  
Worked on photodynamic enhancement of oncolytic human herpes simplex virus therapy for glioblastoma under the supervision of Prof. Hiroaki Wakimoto. Independently performed laser irradiation, cell culture, confocal immunofluorescence microscopy and PCR and RT-PCR techniques. Presented my research at the end of the placement. Granted a summer-research scholarship by KUSOM.

**Brain Cancer Research and Therapy Laboratory, KU, Turkey** 2015 - 2017  
Undergraduate researcher in the laboratory of Prof. Tugba Bagci Onder, focusing on epigenetic modifier enzymes and their effects on GBM sensitization to TRAIL. Developed skills in cloning and western blot techniques.

## PRESENTATIONS

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### **Phthalates are detected in the follicular fluid of adolescents and oocyte donors with associated changes in the cumulus cell transcriptome**

Poster Presentation at American Society of Reproductive Medicine (ASRM), Denver, US 10/2024

### **Immediate oocyte microenvironment is altered in adolescents compared to oocyte donors**

Poster Presentation at American Society of Reproductive Medicine (ASRM), Denver, US 10/2024  
Poster Presentation at Upper Midwest Summit for Reproductive Sciences, Chicago, US 10/2023

### **Cumulus cell expansion is impaired with advanced reproductive age due to loss of matrix integrity and reduced hyaluronan.**

Poster Presentation at Reproductive Aging Conference, Chicago, US 03/2023

### **C/EBP- $\alpha$ is a novel symmetry-breaking, trophectoderm inducing mouse embryos**

Poster Presentation at Santa Cruz Developmental Biology Meeting, CA, US 07/2022

### **The Role of AKT and NHEJ Pathways in the Sensitivity of BRCA2-Mutated Epithelial Ovarian Cancer to PARP Inhibitors**

Poster Presentation at Society of Gynecologic Oncology Annual Meeting, Toronto, CA 03/2020

### **Self-refinement of Oncogenic Wnt Pathway Activity through Unique Regulation of TCF7L2 Expression**

Oral Presentation at 26<sup>th</sup> Istanbul International Medical Student Congress 05/2018  
Oral Presentation at Koç University School of Medicine Annual Research Days 04/2018

Oral and Poster Presentation at Annual Symposium of Amgen Scholars Program Europe, University of Cambridge, UK 09/2017

**Photodynamic Enhancement of Oncolytic HSV Therapy for Glioblastoma**

Oral Presentation at Harvard Medical School, Massachusetts General Hospital, Boston, US 09/2016

**The Inhibition of Suv39H1-induced H3K9 Methylation by Epigenetic Modifier Drug Chaetocin Increases TRAIL-induced Glioblastoma Cell Apoptosis**

Oral Presentation at Koç University School of Medicine Annual Research Days 04/2016

**PUBLICATIONS**

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**Gokyer, D.**, Laws, M. J., Kleinhans, A., Riley, J. K., Flaws, J. A., & Babayev, E., Phthalates are detected in the follicular fluid of adolescents and oocyte donors with associated changes in the cumulus cell transcriptome. *F&S Science*, 2024, <https://doi.org/10.1016/j.xfss.2024.10.009>.

**Gokyer, D.**, Akinboro, S., Zhou, L. T., Kleinhans, A., Laronda, M. M., Duncan, F. E., Riley, J. K., Goldman, K. N., & Babayev, E., The oocyte microenvironment is altered in adolescents compared to oocyte donors, *Human Reproduction Open*, Volume 2024, Issue 3, 2024, hoae047, <https://doi.org/10.1093/hropen/hoae047>

Zhou L. T., **Gokyer D.**, Madkins K., Beestrum M., Horton D.E., Duncan F. E., Babayev E. The Effects of Heat Stress on the Ovary, Follicles and Oocytes: A Systematic Review. Submitted. 2024

Liang M, Lamba A, **Gokyer D**, King C, Meglicki M, Luisa Pardiñas M, José de Los Santos M, Yan Cg, Zernicka-Goetz M. Using deep learning predict sex of human embryos. Submitted. 2024

Babayev E, Suebthawinkul C, **Gokyer D**, Parkes WS, Rivas F, Pavone ME, Hall AR, Pritchard MT, Duncan FE. Cumulus expansion is impaired with advanced reproductive age due to loss of matrix integrity and reduced hyaluronan. *aging Cell*. 2023 Oct 18:e14004. doi: 10.1111/accel.14004.

Shimizu K, Kahramanian A, Jabbar MADA, Turna Demir F, **Gokyer D**, Uthamacumaran A, Rajan A, Saad MA, Gorham J, Wakimoto H, Martuza RL, Rabkin SD, Hasan T, Wakimoto H. Photodynamic augmentation of oncolytic virus therapy for central nervous system malignancies. *Cancer Lett*. 2023 Sep 28;572:216363. doi: 10.1016/j.canlet.2023.216363.

Plana Carmona M, Meglicki M, Wei X, Iwamoto-Stohl L, **Gokyer D**, Lamba A, Zernicka-Goetz M, Thomas Graf., *C/EBP- $\alpha$  is a novel symmetry-breaking, trophoctoderm inducing mouse embryos*. Poster Presentation at *Santa Cruz Developmental Biology Meeting, CA, USA 2022*.

Yildiz S, Turkgeldi E, Kalafat E, Keles I, **Gokyer D**, and Ata B. Do live birth rate and obstetric outcomes vary between immediate and delayed embryo transfers following freeze-all cycles? *Journal of Gynecology Obstetrics and Human Reproduction*. 2021 Dec; 50(10):102224. Pubmed PMID: 34506996

Yildiz S, Turkgeldi E, Kalafat E, **Gokyer D**, Keles I, and Ata B. P-692 Are live birth rate and obstetric outcomes different between immediate and delayed embryo transfers following a freeze-all cycle? A retrospective study combined with a meta-analysis. *Human Reproduction*. 2021 Aug 6; 36(Supplement\_1):deab130.691.

Xiong A, **Gokyer D**, Shapiro-Franklin N, Lin Z P, Ratner E S, The role of AKT and NHEJ pathways in the sensitivity of BRCA2-mutated epithelial ovarian cancer to PARP inhibitors, *Gynecologic Oncology*, Volume 159, Supplement 1, 2020, Page 146, ISSN 0090-8258. Poster Presentation at Society of Gynecologic Oncology Annual Meeting, Toronto, CA 2020.

## **PROFESSIONAL ACTIVITIES**

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**Clinical Externship at Urogynecology Division, Northwestern University** September 2024  
Completed a five-week hands-on clinical externship under the supervision of Dr. Oluwateniola Brown in the Urogynecology Division. During this time, I was actively involved in seeing patients both in the operating room and the outpatient clinic. My responsibilities included assisting with surgeries, participating in patient care by taking histories, presenting patients, and performing physical exams under her supervision.

**Science Policy Outreach Taskforce (SPOT) – Science with Seniors** 2023 - Present  
Gave the presentation titled 'Fertility Preservation in Kids and Adolescents: Why and When?' twice per year at different senior homes in Chicago as part of the Science with Seniors Program, a SPOT initiative where graduate students and postdocs in STEM-related fields seek to enhance exposure to science in voting-age populations.

**Laboratory Assistant, ReproSTEM Program, Northwestern University** 2023 - 2024  
Assisted with laboratory sessions during the ReproSTEM program at Northwestern, equipping 8–10 CPS Science teachers with knowledge and experience in reproductive tissue engineering over 6 days throughout the school year, helping them develop conceptual and technical skills to create a unit or component for their high school classes.

**Trainee Representative, Upper Midwest Summit for Reproductive Sciences (UMSRS)** 10/2023  
Served on the organizing committee of the UMSRS at Northwestern University, where I reviewed ten abstracts, assisted in the preparation of the venue, and supported the speakers.

**Co-chair, Reproductive Aging Conference, Chicago** 04/2023  
Co-chaired first session of the conference titled “Infertility, Aging, and Health” with senior co-chair Kara Goldman, MD.

**Member, American Society of Reproductive Medicine** 2022 - Present  
Actively engaged in communities such as the Fertility Preservation and Health Disparities Special Interest Groups, as well as the Women's Council, participating in discussions, training courses, and collaborative initiatives to advance knowledge and address critical issues in reproductive medicine.

**Instructor at Human Reproduction Practical Class, University of Cambridge** 2022  
Demonstrated the practical class on the subject of ‘Reproduction: Mother and Fetus’ to teach students how to determine the sex of rat fetuses by dissecting and staining the amniotic membrane (sex chromosome - Barr Body detection in the nuclei of amnion cells).

**Sexual and Reproductive Health Sub-committee, University of Cambridge** 2021- 2022  
Member in the sub-committee of the Students for Global Health Cambridge society. Taken part in the organising streams on sexual wellbeing, the World Aids Day, global causes of maternal mortality.

- Member, Cambridge Reproduction Strategic Research Initiative (SRI)** 2021- 2022  
Member of the Reproduction SRI that explores the urgent challenges posed by reproduction today by approaching reproduction collectively and across disciplines.
- Instructor at Communication Skills Lessons, Koç University Hospital** 2021  
Formulated and instructed interactive lessons on breaking bad news and handling sensitive issues delivered to medical students in their first clinical year.
- Department of Public Health, Koç University Hospital** 2020  
Conducted weekly informative health sessions with Syrian refugees during the coronavirus COVID-19 pandemic in collaboration with Human Resource Development Foundation in Istanbul.
- Standardized Patient in Objective Structured Clinical Exams (OSCE)** 2019 - 2020  
Selected by Koç University School of Medicine to participate as standardized patients in OSCEs delivered to students in their first clinical year.
- Lecturer, EMSA Summer School on Reproduction** 08/2019  
Gave a lecture on Population Theory of Thomas Maltus in the International Summer School on Reproductive Medicine at KU and organized the embryology and andrology laboratory sessions held at KUH.
- Clinical Rotation at OBGYN Department in American Hospital** 09/2018  
Done 4 weeks-long elective rotation in the Reproductive Endocrinology and Infertility Unit.
- Simulation Tutor for Peer Education, KU Simulation Center** 2017 - 2019  
Conducted peer-to-peer teaching through a relevant course for junior medical students on patient safety, medical professionalism, and communication in collaboration with Copenhagen University School of Medicine.
- Vice President, KU Medical Research Community** 2016 - 2019  
Organized 5 journal clubs and presented 3 studies. Participated in the organization committee of CRISPR Symposium and worked in the CRISPR Knockout Workshop at KUH during the symposium.
- Public Health Project on Smoking Cessation** 2015 - 2017  
Developed a project with students from New York University (NYU) Public Health Department, aiming to bring students different perspective on smoking cessation at campuses of NYU and KU.
- Turkish Medical Students' International Committee (TurkMSIC)** 2014 - 2015  
Organized meetings and activities to raise awareness on reproductive health and contraception methods, handed out organ donation cards, performed blood pressure screenings in Istanbul.
- Local Coordinator, KU- EMSA Student Club** 2013 - 2015  
Participated in the organization committee of the International Summer School on Neuroscience at KU in August 2014 and 2015.
- Vice President, KU Medical Students' Association** 2014 - 2015

Coordinated the EMSA and TurkMSIC activities for KUSOM students including the Teddy Bear Hospital project at Doga Daycare Center in Sariyer, where medical students role-play as 'teddy doctors' during mock consultations with children who act as caregivers for their teddy bears.

## **VOLUNTEER AND SOCIAL ACTIVITIES**

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**Mentor at Girl Forward, Chicago, USA** 2023 - Present  
Mentoring a 16-year-old girl resettled through the refugee resettlement program by supporting her to enhance her adaptation to a new country and assist her in achieving her goals.

**Volunteer at Almost Home Kids, Chicago, USA** 2023 – Present  
Almost Home Kids helps transition children with complex medical needs from the hospital to home using a unique community care approach. As a volunteer, I spend time with the children, playing games, reading stories, or offering comfort as needed.

**Greater Chicago Food Depository, Chicago, USA** 2022 - Present  
Repacking the donated and purchased food received in bulk quantities into manageable sizes for distribution to participating food pantries, soup kitchens, and shelters in Cook County.

**Volunteer Emergency Ambulance Crew, St. John's Ambulance, Cambridge, UK** 2021- 2022  
Responded to emergency and non-emergency situations and was responsible for transporting both ambulatory and non-ambulatory patients during weekly 5-hour shifts.

**Performer, CUTAZZ Dance Society, University of Cambridge, UK** 2021-2022  
Performed in three different dance styles in the CUTAZZ Annual Show: intermediate jazz, advanced commercial, advanced street. Awarded to the most hardworking dancer award in advanced street.

**Koç University Child and Adolescent Mental Health Association (KUCALM)** 2018 - 2021  
Participated in Child Life Programme in which various group activities planned to raise the morale of the hospitalized children throughout the year through social activities and promotion of mental well-being.

**Performer and Instructor, Berlin Salsa Congress** 10/2017  
Performed a show with Cuban Mambo Dance Team and run a workshop on Salsa ON2 Partnerwork.

**23 April Annual Children's Festival, KU Volunteers Club** 2014-2017  
Participated in the organization committee of the April 23 Children's Festival for three years. The event hosted children from the Istanbul Child Protection Institution, students from schools around Sariyer, children of Koç University staff, and children with Down Syndrome, who enjoyed a full day of various activities on campus.

**Fundraising for Down's Syndrome Association Turkey** 11/2016  
Participated in the 2016 Istanbul Avrasya Marathon to raise money for children with Down Syndrome.

**Koç University Little Heart Project (KUMYUP), KU Volunteers Club** 2014 - 2016  
Participated in a project with the Istanbul Child Protection Institution aimed at teaching orphans about the concepts of 'bonding and separating.' This was a half-day responsibility every Saturday for a full semester over the course of two years.

**Koç University Work Study Programme**

2014 - 2016

Worked in the public relations office, leading campus tours and providing information about the medical school and student life at KU to prospective students.

**Global Citizenship Member, AIESEC - Volunteering Organization**

Summer 2014

Voluntarily participated in the 'Jing Po Community Project' in Taiwan, aimed at exposing local children to different cultures and teaching them English over the course of 8 weeks.

**Social and International Latin Dancer**

2013 - Present

Worked actively in KU Dance Club organization committee of dance festivals and performed in Social Latin dance shows yearly at KU Dance Festival held between 2014 and 2018.

**Advanced Open Water Diver**

2013- Present

Qualified by Professional Association of Diving Instructors (PADI) in Australia

**LANGUAGES**

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<b>Turkish</b>	Native language
<b>English</b>	Full professional proficiency
<b>Spanish</b>	Beginner