



Emre Kara

Date of birth: 25/10/2000 | **Nationality:** Turkish | **Gender:** Male | **Phone number:** (+90) 5533103537 (Mobile) |

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WORK EXPERIENCE

02/08/2024 – 13/10/2024 Tübingen, Germany

ERASMUS+ INTERN FRIEDRICH MIESCHER LABORATORY OF THE MAX PLANCK SOCIETY

Supervisor: Dr. Luisa F. Pallares

Erasmus+ Internship in Evolutionary Genomics of Complex Traits

- **Wing Morphology Analysis:** Conducted detailed studies on wing morphology in *Drosophila melanogaster*, examining the genetic basis of phenotypic variations.
- **Negative Geotaxis Assay:** Performed advanced behavioral assays to analyze age-related locomotor decline in *Drosophila* as a model for neurodegeneration.
- **CG5246 Knock-out Experiments:** Performed comprehensive phenotyping to assess genetic impacts in CG5246 knock-out *Drosophila* strains.
- **Molecular Evolution Research:** Investigated evolutionary dynamics across populations, applying molecular models to understand selective pressures and genetic adaptation.
- **Data Analysis in RStudio:** Employed statistical analysis and data visualization in RStudio to ensure robust interpretation of complex phenotypic datasets.

02/08/2024 – 13/10/2024 Tübingen, Germany

ERASMUS+ INTERN MAX PLANCK INSTITUTE FOR BIOLOGY

Supervisor: Research Scientist Sebastien Colin

Erasmus+ Internship in Expansion Microscope (ExM) Technique

- **Expansion Microscopy (ExM):** Applied advanced ExM techniques to study cellular structures at nanoscale resolution, enhancing spatial visualization of ciliate cells.
- **Ciliate Cell Imaging:** Conducted specialized research on ciliate cell morphology, preparing samples for high-resolution imaging to capture intricate cellular details.
- **Image Analysis and Processing:** Analyzed complex image datasets using specialized software, extracting quantitative data on cellular structures.
- **Confocal Microscopy:** Operated confocal microscopes to obtain high-definition images, optimizing protocols for accurate data acquisition in cellular imaging.

16/06/2023 – 19/09/2023 Tübingen, Germany

ERASMUS+ INTERN FRIEDRICH MIESCHER LABORATORY OF THE MAX PLANCK SOCIETY

Supervisor: Dr. Luisa F. Pallares

Erasmus+ Internship in Evolutionary Genomics of Complex Traits

- **Independent Project Management:** Designed and executed a self-led research project, gaining experience in setting objectives, managing timelines, and troubleshooting experimental challenges.
- **Population Genetics and Molecular Biology:** Conducted hands-on research on complex traits in *Drosophila*, focusing on genetic diversity and phenotypic expression.
- **Phenotyping:** Utilized phenotyping techniques to analyze and categorize trait variations, supporting the study's genetic data with high-resolution phenotypic details.
- **Statistical Analysis in RStudio:** Applied statistical models in RStudio to interpret complex datasets, enhancing the accuracy of genomic analyses.
- **Skill Development:** Advanced proficiency in data science applications and programming, acquiring skills critical for genomic research and future studies.

01/02/2024 – 01/08/2024 İstanbul, Türkiye

TÜBİTAK STAR INTERN EURASIA INSTITUTE OF EARTH SCIENCES

Supervisor: Prof. Dr. Emrah Çoraman

STAR Internship at the Scientific and Technological Research Council of Turkey (TÜBİTAK)

- **Independent Research Contribution:** Contributed to the project "Anatolian Sister Taxa: Comparative Population Genomic Analysis of Secondary Contacts of Sister Bat Taxa in Anatolia," conducting analyses on population genetics and species interaction.
- **Genomic Analysis Procedures:** Acquired hands-on experience in pre- and post-genomic analysis using the National Center for High Performance Computing, developing a thorough understanding of genomic workflows.
- **Unix and Bash Scripting:** Gained practical skills in Unix and Bash scripting for data processing, enhancing computational efficiency for genomic data analysis.
- **Project Management Skills:** Developed skills in managing a complex research timeline and coordinating with cross-functional research teams.

EDUCATION AND TRAINING

2019 – 2024 Istanbul

BACHELOR OF SCIENCE (B.SC.) Istanbul Technical University

Graduated with honors (GPA: 3.34/4.0) in Molecular Biology and Genetics, completing a thesis on stress responses in *Schizochytrium* sp. S31 and *Rhodotorula glutinis*. Developed strong skills in molecular biology, biochemistry, and microbiology techniques during my B.Sc.

Relevant Laboratory Skills:

- **Molecular Biology Techniques:** DNA libraries, Sonication and DNA Extraction, PCR, RT-PCR, and qPCR, Total RNA isolation, Flow Cytometry
- **Biochemistry and Protein Analysis:** Western Blot, SDS-PAGE, Protein Isolation and Purification, ELISA, CoIP
- **Microbiology:** Microbial Growth Curves, Antibiotic Resistance & Selection
- **Analytical Techniques:** Polarimetry, Enzyme Kinetics, FPLC and His-tag (IMAC) chromatography
- **Cell Biology:** Translation and Transfection, Karyotype Analysis

Field of study Molecular Biology and Genetics | **Final grade** 3,34/4 (4 is the best) | **Level in EQF** EQF level 6 |

Thesis Stress Responses in *Schizochytrium* sp. S31 and *Rhodotorula glutinis*.

Istanbul, Türkiye

BACHELOR OF SCIENCE (B.SC.) Istanbul Technical University

Pursuing a double major in Chemistry (GPA: 3.19/4.0) to gain a deeper understanding of molecular biology, with a thesis on molecular docking and quantum mechanics of drug-protein interactions.

Relevant Laboratory Skills:

- **Analytical Chemistry:** Turbidimetry, Refractometry, Fluorescence Spectroscopy, Raman and IR Spectroscopy, Atomic Absorption Spectroscopy (AAS)
- **Chromatography Techniques:** Paper Chromatography, High-Performance Liquid Chromatography (HPLC), Gas Chromatography (GC)
- **Electrochemical Analysis:** Potentiometry, Conductometry, Capillary Electrophoresis
- **Organic Chemistry and Physical Chemistry Techniques:** Proficient in performing and analyzing various organic reactions

Field of study Chemistry | **Final grade** 3.19/4 (4 is the best) | **Level in EQF** EQF level 6 |

Thesis Molecular Docking and Quantum Mechanics of Drug-protein Interactions.

DIGITAL SKILLS

Python | R, RStudio | MATLAB | Unix | Bash (scripting) | Beginner HTML/CSS | PyMOL | Microsoft Word | Microsoft Office

MANAGEMENT AND LEADERSHIP SKILLS

Co-founder of Beeology

As a co-founder and the General Editor of Istanbul Technical University's only biology journal, *Beeology*, I aimed to enhance science communication in Turkey and increase the interest of new MBG students in the field. I built a team from scratch, developed my leadership skills, and served as General Editor for two years, editing all articles. I collaborated with design and sponsorship teams to launch the first issue and later joined the supervisory board to oversee the journal's ongoing operations.

● **CONFERENCES AND SEMINARS**

Istanbul
International ITU MBG Student Club Congress

Served as a Board Member of the Istanbul Technical University Molecular Biology and Genetics Student Club for two years. Contributed to organizing the 15th and 16th International ITU MBG Student Club Congresses, managing event logistics, coordinating with speakers, and enhancing engagement for an audience of students and professionals in the field.

● **COMMUNICATION AND INTERPERSONAL SKILLS**

Author at DijitalX

As an avid writer with three years of experience, I've authored over 20 captivating articles featured on DijitalX. My work has collectively garnered over 185,000 views, reflecting my commitment to bridging the gap between complex scientific concepts and curious minds. Through science writing, I aim to enhance science communication and make science accessible, engaging, and relatable to the public. You can explore my articles: <https://www.dijitalx.com/author/emre-kara/>

Link <https://www.dijitalx.com/author/emre-kara/>

● **LANGUAGE SKILLS**

Mother tongue(s): **TURKISH**
Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ENGLISH	C1	C1	C1	C1	C1
GERMAN	A1	A2	A1	A1	A1

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

● **SOCIAL AND POLITICAL ACTIVITIES**

Istanbul
Author at Ari24

Istanbul
Member of Turkish Society of Biologists

Istanbul
Member of TEMA Foundation

● **VOLUNTEERING**

Istanbul
"Ver Bi Pati" Volunteer
