

Education

University of Kentucky

Lexington, KY

Doctor of Philosophy, Biology. GPA : 4

12/2026

Thesis: Investigating genome evolution of lamprey species and phylogeny of programmed DNA elimination.

Characterizing early developmental molecular profile of sea lamprey to gain better understanding of their programmed DNA loss process.

Training Focus: Molecular Genetics, Molecular Evolution, Bioinformatics, and Computational Biology.

Istanbul University

Istanbul, Türkiye

Bachelor of Science cum laude, Molecular Biology and Genetics. GPA : 3.36

08/2020

Thesis: [10.13140/RG.2.2.18462.15685](#)

Training Focus: Molecular Biology, Molecular Genetics, Cancer Biology, and Bioinformatics.

Maria Curie-Skłodowska University

Lublin, Poland

Erasmus+ exchange program

12/2018 – 07/2019

Bachelor of Science, GPA: 3.93

Biology and Biotechnology

Experience

University of Kentucky , Department of Biology

Lexington, KY

Graduate Teaching and Research Assistant

01/2021 – Present

- *Principal Investigator:* Dr. Jeremiah J. Smith
- Working on several projects including "Genome evolution of lamprey species and phylogeny of germline restricted chromosomes in sea lamprey" and "Characterizing the mechanism that initiates and drives the process of programmed DNA elimination".
- Full-time

PeerBie Inc.

San Francisco, CA

Business Development Associate

03/2020 – 01/2021

- Worked with other associates to develop a customer friendly environment and clientele for a business management application.
- Peerbie.com
- Remote

University of Kentucky, Department of Biology

Lexington, KY

Visiting Scholar

01/2020 – 03/2020

- *Principal Investigator:* Dr. Jeremiah J. Smith
- Bachelor's final thesis: "Development of a computational pipeline to assess patterns of evolutionary conservation and divergence across the lamprey genome"
- Full-time

CFA Society Istanbul

Istanbul, Türkiye

Data Science Intern

02/2019 – 01/2020

- Processed data from investment professionals to help develop strategies for new investments in startup companies in Europe.
- Part-time

Istanbul University
IT Staff

Istanbul, Türkiye
09/2017 – 02/2019

- Helped maintain network systems between official workplaces and classrooms within the university.
- Helped train new staff for the IT department.
- Part-time

Important Note: As a part of my Bachelor of Science education, I worked as an Intern Molecular Biologist at Istanbul University Molecular Biology and Genetics department for 3 months and at Cukurova University College of Medicine Medical Genetics Department (AGENTEM) for 13 months.

Publications

Functional Analyses of Histone Methyltransferases in Sea Lamprey Embryos Undergoing Programmed DNA Elimination

Kaan I. Eskut, Claire Scott, Cody Saraceno, Vladimir A. Timoshevskiy, Zachary D Root, Jeramiah J Smith
bioRxiv 2026.01.08.698478; doi: <https://doi.org/10.64898/2026.01.08.698478>

Waldridge OM, **Eşkut Kİ**, Smith JJ, Cassone VM. Phylogeny of Core Molecular Components of Metazoan Circadian Clocks. Journal of Biological Rhythms. 2025;0(0). doi:10.1177/07487304251390623

Glutamine-Dependent Slc25a39–Nrf2 Axis Couples Mitochondrial Dynamics with Metabolic Reprogramming to Establish Myogenic Commitment

Brian Kelly, Chia-Hua Wu, **Kaan I. Eskut**, Elizabeth McCauley, Sajina Dhungel, Samantha Pavlecic, Grace Bieghler, Jelena Perovanovic, Dean Tantin, Jakub Famulski, Jeramiah Smith, Chintan Kikani
bioRxiv 2025.10.02.680066; doi: <https://doi.org/10.1101/2025.10.02.680066>

V.A. Timoshevskiy, N. Timoshevskaya, **K.I. Eşkut**, K. Rajandran, & J.J. Smith, Biparental inheritance of germline-specific chromosomes in the sea lamprey and their roles in oocytes, Proc. Natl. Acad. Sci. U.S.A. 122 (24) e2421883122, <https://doi.org/10.1073/pnas.2421883122> (2025).

Nataliya Timoshevskaya, **Kaan İ. Eşkut**, et al. "An Improved Germline Genome Assembly for the Sea Lamprey Petromyzon Marinus Illuminates the Evolution of Germline-Specific Chromosomes." Cell Reports, vol. 42, no. 3, Mar. 2023, p. 112263. <https://doi.org/10.1016/j.celrep.2023.112263>.

Presentations

2025 Biology of Genomes. "Evolutionary insights from germline-specific chromosomes of lamprey and hagfish genomes". May 6 - May 10, 2025. Cold Spring Harbor Laboratory, Cold Spring Harbor, NY.

2023 Society for Developmental Biology 82nd Annual Meeting Poster Presentation. "Programmed DNA Loss and Genome Evolution in Cyclostomes". July 20 - July 23, 2023. Chicago, IL.

2022 Aquatic Models of Human Disease Conference (AQMHD) poster presentation. "Cyclostome Genomes: Changes in Form and Function Over Eons and Across Development". Oct 6 - Oct 10, 2022. Marine Biological Laboratory, Woods Hole, MA.

Meeting Abstracts

Clinical assessment of HRD scoring in relation to PARPi response in terms of statistical guidance on reporting results for CDx tests evaluation. A Bisgin, I Boga, **KI Eskut**, C Rencuzogullari, O Sonmezler, F

Kose, Journal of Clinical Oncology 41 (16_suppl), e17597-e17597.

Theses

Supervisor and Scientific Director: Dr. Jeramiah J. Smith2020

Thesis Advisor: Dr. Andres Aravena

Thesis: “Development of a computational pipeline to assess patterns of evolutionary conservation and divergence across the lamprey genome”

Bachelor of Science degree final thesis project

University of Kentucky and Istanbul University

Awards

University of Kentucky Ribble Graduate Travel Award - Department of Biology2025

University of Kentucky Kuehne Award - Department of Biology2025

University of Kentucky Ribble Graduate Travel Award - Department of Biology2023

University of Kentucky Ribble Graduate Travel Award - Department of Biology2022

University of Kentucky Scherr Special Opportunity Award - Department of Biology2022

Marine Biological Laboratory - SCARE Course - Tuition Award Supported by National Institutes of Health (NIH)2022

Childhood Cancer Association - Adana, Turkey - Travel Award2020

Teaching Experience

University of Kentucky BIO 520 - Bioinformatics

- Fall 2025
- Spring 2025
- Spring 2024
- Spring 2023

University of Kentucky BIO 101 - Introduction to Biology

- Fall 2024

University of Kentucky BIO 445 - Biology of Sex

- Fall 2024

University of Kentucky BIO 303 - Introduction to Evolution

- Fall 2021

Professional Memberships

Kentucky Academy of Science: Louisville, KY11/2024 - present

American Society of Clinical Oncology: Alexandria, VA06/2023 - 06/2024

Volunteer Experience and Outreach

Central Kentucky Regional Science Fair – Judge2025

39th annual Kentucky American Water District Science Fair – Judge2024

KY INBRE Annual Research Conference (ARC24) – Judge2024

37th annual Kentucky American Water District Science Fair – Judge2022