## Bilgenur Baloğlu, Ph.D.

Artificial Intelligence • Data Science • Environmental Genomics
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## Academic & Research Appointments

**Adjunct Professor**, Applied Data Science & Artificial Intelligence
University of San Diego, *Spring 2025*

**Co-Founder & Chief Scientific Officer**
Wild Genomics, Inc., *2023–2025*

**Scientist III (Field Bioinformatics)**
Thermo Fisher Scientific, *2021–2025*

**Clinical Instructor**, Translational Genomics (Machine Learning)
University of Southern California Keck School of Medicine, *2021–2024*
*(Course designed and delivered following formal faculty review)*

**Postdoctoral Research Fellow**, Centre for Biodiversity Genomics
University of Guelph, *2018–2020*

## Education

**Ph.D., Biological Sciences**
National University of Singapore, *2013–2018*

**Visiting Erasmus Student, Molecular Biology & Biotechnology**
Technical University of Munich, *2010–2011*
*(Coursework completed in German, 17 courses)*

**B.Sc., Molecular Biology and Genetics**
Istanbul Technical University, *2008–2012*

## Publications


**Baloğlu, B.**, Chen, Z., Elbrecht, V., Braukmann, T., MacDonald, S., & Steinke, D. (2021). A workflow for accurate metabarcoding using nanopore MinION sequencing. *Methods in Ecology and Evolution*, 12(5), 794–804.

**Shepherd, B. A.**, Tanjil, M. R.-E., Jeong, Y., **Baloğlu, B.**, Liao, J., & Wang, M. C. (2020). Ångström- and nano-scale pore-based nucleic acid sequencing of current and emergent pathogens. *MRS Advances*, 5(56), 2889–2906.

**Srivathsan, A.**, **Baloğlu, B.**, Wang, W., *et al.* (2018). A MinION™-based pipeline for fast and cost-effective DNA barcoding. *Molecular Ecology Resources*, 18(5), 1035–1049.

**Baloğlu, B.**, Clews, E., & Meier, R. (2018). NGS barcoding reveals high resistance of a hyperdiverse chironomid (Diptera) swamp fauna against invasion from adjacent freshwater reservoirs. *Frontiers in Zoology*, 15(1), 31.

**Lim, N. K. M.**, Tay, Y. C., Srivathsan, A., Tan, J. W. T., Kwik, J. T. B., **Baloğlu, B.**, Meier, R., & Yeo, D. C. J. (2016). Next-generation freshwater bioassessment: eDNA metabarcoding with a conserved metazoan primer reveals species-rich and reservoir-specific communities. *Royal Society Open Science*, 3(11), 160635.

## Research Interests

AI-enabled decision-making under uncertainty; Applied machine learning for biological and environmental systems; Institutional legibility, accountability, and governance of analytical systems; Human–AI interaction in applied decision-support contexts

## Grants, Awards, and Honors (Selected)

California Cares (Climate Action, Resilience, and Environmental Sustainability) Grant ($50,000, 2024); Sustainability Merit Award, Hong Kong Techathon+ (2025); Certificate of Special Congressional Recognition, U.S. House of Representatives (2025); AllGenetics Award for Industrial DNA Barcoding (2019); TEV-SINGA PhD Fellowship (2013–2018); Competitive Postdoctoral Fellowship, University of Guelph (2018–2020).

## Teaching Experience

**University of San Diego**
Adjunct Professor, Graduate Machine Learning & Deep Learning (*Spring 2025*)

**University of Southern California – Keck School of Medicine**
Clinical Instructor, Machine Learning in Translational Genomics (*2021–2024*)

**National University of Singapore**
Teaching Assistant: Biodiversity, Animal Behavior, Comparative Genomics (*2014–2017*)

**Stardust Squad (Nonprofit, Turkey)**
Volunteer Lecturer: Python Programming, Bioinformatics, Data Analysis (*2020–2023*)

## Student Mentorship

Mentored 10+ UC San Diego undergraduates across genomics, device development, wet lab, and data science; supervised interdisciplinary teams with emphasis on problem formulation, data standards, evaluation metrics, and communication.

## Professional & Public-Sector Experience (Selected)

Coordinated analytical contributions to a **U.S. EPA**-funded international biomonitoring effort; provided applied consulting to **Singapore's Public Utilities Board** during a public infrastructure response; developed Python-based analytical pipelines for environmental genomics and Nanopore sequencing, including ML-informed workflows improving accuracy and reducing costs.

## Service & Public Engagement (Selected)

**Advisory Board Member, Business & Industry Leadership Team**
*NSF Nanopore Sequencing Mini-CUREs & Micro-Credentials Project — Aug 2024–Present*
Advise an NSF-funded multi-institutional consortium on integrating nanopore sequencing into biotech education, aligning curricula with industry needs and applied lab workflows.

**Founder, Clarity & Movement, Inc.** — *2025–present*
Independent scholarly and advisory work focused on reasoning, judgment, and decision-making in AI-enabled systems; includes public writing, teaching, and advisory engagement on uncertainty, accountability, and institutional decision-making.

**Young Scholar, Global Relations Forum** (Turkey) — *2011–2012*
Selected for national policy program engaging policymakers and academics; authored a policy report on research culture and science policy in Turkey.

## Invited Talks & Selected Presentations

Invited talks at academic and policy institutions including the National University of Singapore, University of Guelph, Bilkent University, Cornell University Biological Station, and USDA meetings at the U.S. Embassy Singapore (2018–2025); keynote and panel speaker at international events on environmental genomics, applied ML, and science communication.

## Entrepreneurial & Innovation Presentations (Selected)

Presenter at StartBlue Demo Day (Scripps Institution of Oceanography), San Diego Innovation Showcase, Hong Kong Techathon+, Practical Farmers of Iowa Annual Conference, and California Specialty Crops Council technical meetings (2023–2025).

## Early Research Experience

Early research internships at EMBL, Helmholtz Zentrum München, Technical University of Munich, Koç University, and the Bavarian State Institute for Agriculture.