# Ran Blekhman, Ph.D.

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## PROFILE

Ran Blekhman is a Professor of Genetic Medicine at the University of Chicago, where he leads a computational genomics lab studying the human microbiome. Using large-scale data, deep learning, and multi-omic integration, the lab works to understand how microbial communities vary across diverse contexts, interact with host biology, and drive human health and disease. He joined UChicago in 2022, following nine years on the faculty at the University of Minnesota, where he was recognized as a McKnight Land-Grant Professor and a Northrop Professor. His research has been continuously funded by the NIH and has been recognized with a Sloan Research Fellowship and a Scialog Fellowship. He serves on the editorial boards of *Genome Biology* and *PLOS Biology*, and his work has been covered by outlets including the *New York Times, Science, Nature, Wired,* and *National Geographic*.

## ACADEMIC APPOINTMENTS

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| **Professor**, Department of Medicine, Section of Genetic Medicine, University of Chicago | 2025 – present |
| **Associate Professor**, Department of Medicine, University of Chicago | 2022 – 2025 |
| **Associate Professor**, Dept. of Genetics, Cell Biology & Development, University of Minnesota | 2019 – 2022 |
| **Assistant Professor**, University of Minnesota | 2013 – 2019 |
| **Postdoctoral Associate**, Cornell University (advisor: Andrew G. Clark) | 2010 – 2013 |

## SELECTED HONORS

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| **Northrop Professor**, University of Minnesota | 2020 |
| **Scialog Fellow**, Microbiome, Neurobiology and Disease (Research Corporation / Allen Frontiers Group) | 2020 |
| **McKnight Land-Grant Professor**, University of Minnesota | 2018 |
| **Sloan Research Fellow**, Alfred P. Sloan Foundation | 2016 |
| **Charles J. Epstein Award** for Excellence in Human Genetics Research, finalist (ASHG) | 2013 |

## PUBLICATIONS & SCHOLARLY IMPACT

Author of 85+ peer-reviewed publications, with an h-index of 49 and >14,000 total citation (Google Scholar, April 2026), including senior-author papers in *Cell, Science, Nature Microbiology, Nature Reviews Genetics, Cell Genomics, PLOS Biology,* and *eLife*. **Representative senior-author publications from the past five years include:**

- Ferretti et al. Genomics of host–microbiome interactions in humans. ***Nature Reviews Genetics*** (2026).
- Abdill, Graham, et al. Integration of 168,000 samples reveals global patterns of the human gut microbiome. ***Cell*** (2025).
- Ferretti et al. Assembly, stability, and dynamics in the infant gut microbiome are linked to bacterial strains and functions in mother's milk. ***Nature Communications*** (2025).
- Johnson et al. Human milk variation is shaped by maternal genetics and impacts the infant gut microbiome. ***Cell Genomics*** (2024).
- Priya et al. Shared and disease-specific host gene–microbiome interactions across human diseases. ***Nature Microbiology*** (2022).
- Abdill et al. Public human microbiome data dominated by highly developed countries. ***PLOS Biology*** (2022).
- Grieneisen et al. Gut microbiome heritability is nearly universal but environmentally contingent. ***Science*** (2021).

## RESEARCH FUNDING

Continuously funded by the NIH, with current support spanning a single-PI MIRA and collaborative R01s on microbiome data infrastructure, and maternal-infant health.

- **NIH/NIGMS R35-GM128716** — Population Genomics of Host-Microbiome Interactions (2018 – 2028)

- **NIH/NLM R01-LM013863** — Human Microbiome Compendium: Large-scale Curation and Processing of Human Microbiome Datasets (Contact PI, with C. Greene, 2022 – 2026)
- **NIH/NICHD R01-HD109830** — Milk-Omics: Systems Biology of Human Milk and Links to Maternal and Infant Health (MPI, with E. Demerath, 2022 – 2027)
- **NIH/NIDDK P30-DK042086** — Host-Microbe Core Co-director, Center for Interdisciplinary Study of Inflammatory Intestinal Disorders (C-IID, 2023 – 2025)

## SELECTED LEADERSHIP & SERVICE

- **Co-Director,** Host-Microbe Core, C-IID, University of Chicago (2022 – present)
- **Editorial Board:** *Genome Biology* (2026 – present); *PLOS Biology* (2021 – present)
- **Faculty Search Chair,** Dept. of Genetics, Cell Biology & Development, University of Minnesota (2019–2022)
- **Symposium Organization:** Organizer, *AI in Genomics Symposium* (2026); Head of organizing committee, GGSB Alumni Symposium (2024); Area Co-chair, ISMB/ECCB (2023)
- **Grant Review and Advisory Service.** Dr. Blekhman has served on grant review panels across a wide range of federal and international agencies, including **NIH** (NIGMS MIRA, GVE Study Section, and multiple R01/F/K/U01 panels at NIDCR, NCI, and NIDA), **NSF**, **National Institute of Justice**, and **NASA**. He also serves as an ad hoc member of the NIH/NIDCR Board of Scientific Counselors (2024).

## MENTORING AND TEACHING

**Current lab:** 4 postdoctoral associates, 6 PhD students (across 5 graduate programs), and two data scientists.

**Trainee placements:** Former trainees hold tenure-track or tenured faculty positions at major research universities, including the University of Southern California, University of Minnesota, and Loyola University Chicago; postdoctoral positions at Harvard/Brigham and Women's Hospital and the Broad Institute; and industry research roles at companies including Rebiotix, Eli Lilly, Google, Merck, Microsoft, and Abbott.

**Trainee awards (selected):** NIH K99/R00 (Johnson, 2024); Chicago DFI Fellowship (Priya, 2024); NSF Postdoctoral Research Fellowship in Biology (Swanson, 2023); NIH F32 NRSA (Johnson, 2021)

**Teaching:** Co-developer and co-Instructor, ***Deep Learning in Genomics*** (GENE 46100, graduate, 2025 – present); co-instructor, ***Human Genetics and Evolution*** (BIOS 21306, undergraduate, 2023 – present). Previously developed and directed ***Genomic Analysis*** (GCD 8920) at the University of Minnesota (2016 – 2022).

## EDUCATION

**Ph.D., Human Genetics**, University of Chicago 2010

**B.Sc., Biology and Computer Science**, Tel Aviv University (*magna cum laude* in both majors) 2005

## INVITED TALKS

Dr. Blekhman has given invited talks at leading research institutions and conferences worldwide, including keynotes at the Weizmann Institute of Science (2026) and Merck (2019). Recent invited conference talks include Digestive Disease Week (2026), Cold Spring Harbor's Biology of Genomes meeting (2023), Keystone Symposia on the Human Microbiome (2022), and Cold Spring Harbor's Microbiomes meeting (2022). Recent invited institutional seminars include Vanderbilt University (2026), NIH (NHGRI, 2024), Max Planck Institutes for Evolutionary Anthropology (Leipzig, 2024) and for Biology (Tübingen, 2024), and the Broad Institute of Harvard and MIT (2021).

## PUBLIC ENGAGEMENT AND SELECTED MEDIA COVERAGE

Research from the Blekhman Lab has been featured in *Wired, New York Times, Science, Nature,* and *National Geographic* (2019 – 2026); in an HBO VICE episode on the gut microbiome of hunter-gatherers (2017); and in Ed Yong's *I Contain Multitudes* (New York Times Bestseller, 2016). Dr. Blekhman also writes publicly on microbiome science and the future of biomedicine and AI on Substack, is routinely interviewed by media outlets on microbiome science, and appeared on the Inside Matters Podcast (*Decoding the human microbiome*, 2025).