

Studies at the intersection of microbiology and systems biology

A postdoctoral position is available immediately for a highly-motivated researcher to join a team led by [Andrew Y. Koh, M.D.](#) in the Pediatric Hematology/Oncology Division and [Erdal Toprak, PhD](#) in the Green Center for Systems Biology at UT Southwestern Medical Center. The overall goal of this project is to understand the molecular mechanisms of bacterial antibiotic resistance that develop within the immunocompromised host (cancer and stem cell transplant patients).

Research in the [Koh laboratory](#) addresses scientific questions exploring how the gut microbiome and host immune system interact and focus specifically on how changes in the gut microbiome modulate host immune response. Specific examples include: how commensal gut microbiota promote and maintain pathogen colonization resistance in the gut; how commensal gut microbiota modulate the development of graft-versus-host disease, and how commensal gut microbiota modulate immune response to cancer immunotherapy. These projects are tackled using a variety of cell-based and mammalian model systems and molecular and cell biological tools.

Research in the [Toprak laboratory](#) addresses scientific questions exploring genetic and molecular basis of antibiotic resistance by using a range of methodologies such as whole genome sequencing, fluidics, long-term evolution experiments, large-scale combinatorial mutagenesis, and computational methods. The Toprak laboratory systematically investigates evolutionary tradeoffs that can be exploited to impede evolution of antibiotic resistance. Pleiotropic evolution of antibiotic hypersensitivity in pathogenic bacteria is one of the tradeoffs we have recently discovered.

Candidates must have a PhD (or MD with equivalent scientific training) and should have a broad-based knowledge/experience with cell and molecular biology techniques; familiarity with microbiology approaches and techniques; and a track record of productivity with excellent presentation and writing skills. Successful applicants will have the opportunity to work directly with laboratory-based and clinical researchers on complex and important problems in microbiology and infectious diseases and will be offered competitive compensation/benefits.

Interested candidates should send a CV, statement of research interests and the names of three references to Keniesha Trimble (Keniesha.trimble@utsouthwestern.edu) in the Division of Hematology/Oncology, Department of Pediatrics, University of Texas Southwestern Medical Center, 5323 Harry Hines Blvd., Dallas, TX 75390-9063.

UT Southwestern Medical Center is an Affirmative Action/Equal Opportunity Employer. Women, minorities, veterans and individuals with disabilities are encouraged to apply.