

Monthly Training Grant Breakfasts, Fall 2023

Selected Wednesdays at 9:00 AM (unless otherwise noted)

September 6, 2023

Speaker: Dr. Matt Hahn, Distinguished Professor, IU Biology and IU Computer Science

Topic: "The Faulty Male Hypothesis"

Biological differences between males and females lead to many differences in physiology, disease, and overall health. One of the most prominent disparities is in the number of germline mutations passed to offspring: human males transmit three times as many mutations as do females. While the classic explanation for this pattern invokes differences in post-puberty germline replication between the sexes, recent whole-genome evidence in humans and other mammals has cast doubt on this mechanism. Here, we review recent work that is inconsistent with a replication-driven model of male-biased mutation, and propose an alternative, "faulty male" hypothesis. Importantly, we suggest that the new model for male-biased mutation may also help to explain several pronounced differences between the sexes in cancer, aging, and DNA repair.

October 4, 2023

Speaker: Dr. Ryan Bracewell, Assistant Professor, IU Biology

Topic: "Using genomics to understand the evolution of male courtship song in a *Drosophila* species complex"

December 6, 2023

Speaker: Dr. Patricia Silveyra, Associate Professor and Chair, Department of Environmental and Occupational Health, IU School of Public Health

Topic: "Sex-specific respiratory effects of environmental exposures"

Patricia will discuss her work on animal models of air pollution and allergen exposures, emphasizing findings on the impact of sex and gonadal hormones on lung inflammatory mechanisms.