Imagine a world where waste becomes a valuable resource instead of accumulating in landfills, where mosquito bites and the diseases they transmit are relics of the past, where crops are immune to insect attacks, and where polluted waterways are cleansed with minimal ecological disruption. The field of synthetic biology, which involves the precise modification of organisms to endow them with new abilities, is advancing rapidly toward these objectives. It has already yielded products as diverse as insulin produced by microbes and bananas that resist diseases.

Join Dr. Maciej Maselko of Applied BioSciences as he explores the incredible potential of applying synthetic biology to animals. He will introduce the fundamental principles of genetic engineering and share some of the groundbreaking results from his research team. Imagine black soldier flies larvae turned into tiny biofactories that transform our food scraps into industrial enzymes, fish that are free from mercury and safer to consume, and novel strategies to neutralize mosquitoes that spread some of humanity's most lethal diseases, including malaria, dengue, and Zika.

Discover how the merging of biology and innovation is generating solutions that were once considered pure science fiction.

Dr. Maciej Maselko's scientific journey started during his undergrad studies in biology at the University of Alaska, Anchorage where he also assisted with research to understand the lingering ecological effects of the Exxon Valdez oil spill. He then pursued doctoral research in molecular biology with a focus on viral pathogenesis at Oregon State University followed by a postdoc at the University of Minnesota where he discovered a passion for synthetic biology and invented a method to engineer speciation events.

Maciej has lead a research group in Applied BioSciences since 2019. His group has a diverse array of interdisciplinary projects that range from engineering insects so they can treat organic waste contaminated with hazardous chemicals to research exploring public perceptions towards applications of animal synthetic biology.