Savaş Tay

Associate Professor

Areas of Research Expertise

Single-cell analysis, microfluidics, systems biology, immune signaling, cellular information processing, microengineering, nanotechnology, optics

Research Overview: Tay Group

The Tay Group studies the engineering of biological systems and how to manipulate cells and gene pathways in the cure of diseases. The lab develops high-throughput and high-content single-cell analysis devices based on microfluidics and optics.

Contact

Phone

773.834.8521

Address

Eckhardt Research Center
Room 377
5640 South Ellis Avenue
Chicago, IL 60637

Email

tays@uchicago.edu

Website
microfluidics.uchicago.edu

Assistant

Yolanda Tyler

Research

Savaş Tay is a bioengineer and systems biologist who works at the interface of biology, physics, and nanoengineering.

On the scientific side, his work is primarily focused on understanding the role of molecular pathway dynamics in environmental sensing, pathogen recognition, cell-to-cell signaling and cellular information processing. Tay's team creates automated ultra-high throughput microfluidic systems that can perform precision measurements on living cells. The results are used to develop predictive models of complex biological systems, such as the immune system. These models can serve as a rapid test-bed for drug studies and genome editing applications.

Bio

Before becoming interested in biological research, Tay was an optical physicist. He earned his PhD at the University of Arizona College of Optical Sciences, where he developed the world's first dynamic holographic 3D display. Tay went on to a postdoctoral position at Stanford University's Bioengineering Department and Howard Hughes Medical Institute, where he worked on microfluidics and cell signaling. In 2011, Tay was appointed Assistant Professor of Bioengineering in the Department of Biosystems Science and Engineering, ETH Zurich, Switzerland. He joined IME in 2016.

Tay was awarded the European Research Commission Starting Grant in 2013. He serves on the editorial board of *Nature Scientific Reports*.