



THE UNIVERSITY OF
CHICAGO



Postdoctoral Positions on Cellular Information Processing

Applications are invited for immediate openings at the new Systems Biology and Bioengineering Group with Professor Savas Tay, at the Institute for Molecular Engineering, **University of Chicago** (http://ime.uchicago.edu/savas_tay/).

We are interested in understanding how immune networks like the NF-kappaB operate under dynamical signaling inputs and how they interact with biological noise at the single-cell level. The following papers describe the current direction of our research program:

- Noise facilitates transcriptional control under dynamic inputs. Kellogg & Tay, **Cell** 160, 381 (2015)
- Digital signaling decouples activation probability and population heterogeneity. Kellogg, Tian, Lipniacki, Quake, Tay. **eLife** 4:e08931 (2015)
- Single-cell NF-kB dynamics reveal digital activation and analogue information processing. Tay, et al. **Nature** 466, 267 (2010)
- High-throughput microfluidic single-cell analysis pipeline for studies of signaling dynamics. Kellogg, Gómez-Sjöberg, Leyrat, Tay. **Nature Protocols**, 9(7): 1713 (2014)

Applications from a range of backgrounds including Biology, Physics, Chemistry, Engineering and Computer Science are invited. Required skills include cell culture, basic biochemistry, microscopy, image processing, and programming in MATLAB. Experience with microfluidics, cloning, signaling pathways and stochastic modeling are a plus. Using sophisticated computer controlled experimental setups will be necessary.

Our new laboratory will be located at University of Chicago, and we will be affiliated with the Institute for Molecular Engineering (www.ime.uchicago.edu) and Institute for Genomics and Systems Biology (<http://www.igsb.anl.gov/>). The researchers recruited through this project will have the opportunity to visit and collaborate with our current group at ETH Zurich in Switzerland (www.microfluidics.ethz.ch) during 2016.

Highly motivated candidates with a strong track record of publications should send an application package with research interests, full CV with experimental and computational skills listed in detail, names and contact information of 3 references to Savas Tay (savas.tay AT gmail.com).