

BOSTON MAMMALIAN SYNTHETIC BIOLOGY

KOCH INSTITUTE AUDITORIUM (76-156)

WED, AUG 12, 2026

A trainee-focused symposium to foster community among Boston-area mammalian synthetic biologists and related scientists



SESSIONS

9:30 – 10 am
10 am – 12 pm
12 – 1 pm
1 – 2 pm
2 – 3:30 pm
3:30 – 5 pm

Registration

Session 1: Diverse modalities for cell engineering

Lunch

Session 2: Advances in molecular tools

Poster session

Session 3: Programming cell-fate and multicellular systems

Digital program
and past meetings



PROGRAM

Registration

9:30 am – 10:00 am

Session 1: Diverse modalities for cell engineering

Structure and biochemistry-guided engineering of an all-RNA system for DNA insertion
SCIPHER: Genetic circuit optimization using guide RNA as chromosomal integration proxies in mammalian cells
Programmable nanobodies for rapid genome engineering and cell selection
Self-amplifying RNA as a programmable, cell-specific platform for microRNA delivery and RNA interference therapy
Engineering a synthetic mammalian endosymbiont

10:00 am – 12:00 pm

Huan Edmonds, Zhang Lab
Winson Kuo, Weiss Lab
Mary Ehmann, Galloway Lab
Tea Crnkovic, Weiss Lab
Liyam Chitayat, Boyden Lab

Lunch

12:00 pm – 1:00 pm

Session 2: Advances in molecular tools

Turning a transcript into a circuit input: modular engineering of a Dual-Aptamer reporter for RNA monitoring in living mammalian cells
Computational design of a rapid and orthogonal self-labeling protein tag for live cell imaging
Notch-based synthetic receptors convert extracellular protease activity into programmable transcriptional outputs

1:00 pm – 2:00 pm

Geng Wang, Haller Lab

Jody Mou, Polizzi Lab
Christopher Kuffner, Ngo Lab

Poster session

2:00 pm – 3:30 pm

Session 3: Programming cell-fate and multicellular systems

Chemogenetic tuning reveals optimal MAPK signaling for cell-fate programming
Recording cell-cell interactions via transferrin receptor-mediated delivery of a nanobody-Cre fusion
Forward-engineering lung branching morphogenesis with self-amplifying RNA

3:30 pm – 5:00 pm

Brittany Lende-Dorn, Galloway Lab
Thunyapat Silpsamrit, Zhou Lab
Ian Kinstlinger, Wong & Kotton Labs

