Colloquium

MAX PLANCK INSTITUTE
FOR DYNAMICS AND
SELF-ORGANIZATION

Engineering a synthetic model cell

Prof. Kerstin Göpfrich

Biophysical Engineering of Life
Center for Molecular Biology (ZMBH)
Heidelberg University
and
Max Planck Institute for Medical Research
Heidelberg, Germany

Today's living cells emerge from the complex interplay of thousands of molecular constituents. Our vision is to create a simpler model of a cell that consists of a lipid vesicle and operates based on our own custom-engineered and genetically encoded molecular hardware made from DNA and RNA nanotechnology. Recently, we demonstrated the power of two-photon 3D laser printing for synthetic biology, realized mechanisms for vesicle division and build functional DNA-based mimics of cytoskeletons, capable of cargo transport and signal transduction. Ultimately, by coupling GUV division to their informational content and their function, we aim for a prototype of a synthetic cell capable of evolution.

Tuesday, June 6th, 2023 at 2:15 pm

MPI-DS, Prandtl Lecture Hall
Am Fassberg 11, Göttingen, and
Zoom Meeting ID: 959 2774 3389
Passcode: 651129, direct link

Max Planck Institute for Dynamics and Self-Organization
Email: gd@ds.mpg.de, Phone: +49-(0)551/5176-101
Am Faßberg 17, 37077 Göttingen, Germany