Symposium Physics of Self-Organization in DNA Nanostructures (SYDN)

jointly organized by
the Chemical and Polymer Physics Division (CPP),
the Biological Physics Division (BP),
the Dynamics and Statistical Physics Division (DY), and
the Metal and Material Physics Division (MM)

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DNA nanotechnology provides a wide range of tools for the fabrication of nanostructures by self-assembly, thus bridging the gap between fabrication strategies, which rely on top-down miniaturization of materials, and those, which create materials from the smallest entities by more traditional synthetic strategies. In addition, the ability of DNA nanostructures to reconfigure in response to external triggers makes these systems ideal candidates for studies of self-organization at the nanoscale. The field has witnessed tremendous progress during the past years, especially due to the development of the DNA origami technique and other synthetic techniques leading to well-ordered structures with dimensions up to several hundred nanometers. This symposium will give an overview of the methods for building nanostructures by self-assembly and of the principles of their interaction with the environment. It will thus provide insight in the possibilities for the construction of controlled nanosystems which new developments in DNA nanotechnology offer.

Overview of Invited Talks and Sessions

(Lecture hall H1)

Invited Talks

SYDN 1.1	Thu	9:30–10:00	H1	**Functional DNA Nanostructures and Their Applications** — •Itamar Willner
SYDN 1.2	Thu	10:00–10:30	H1	**Gaining control of DNA-based nanodevices** — •Francesco Ricci
SYDN 1.3	Thu	10:30–11:00	H1	**Self-assembly and optical properties of single molecule polymers on DNA origami** — •Kurt Gothelf
SYDN 1.4	Thu	11:15–11:45	H1	**DNA origami route to dynamic plasmonics** — •Laura Liu
SYDN 1.5	Thu	11:45–12:15	H1	**DNA templated metal nanostructures** — •Ralf Seidel, Jingjing Ye, Türkan Bayrak, Artur Erbe

Sessions

SYDN 1.1–1.5	Thu	9:30–12:15	H1	**Physics of Self-Organization in DNA Nanostructures**