

# Structural DNA nanotechnology for bio-applications and nanophotonics

Thorsten L. Schmidt, PhD

Technische Universität Dresden, Germany

Date: January 12th, Time: 17:00-18:00

Venue: #2 Seminar Room, 2F., Faculty of Medicine Experimental Research Bldg.

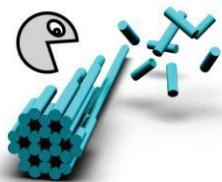
(医学部教育研究棟 2階 第2セミナー室)



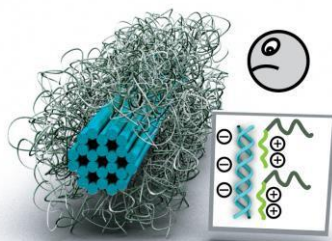
Structural DNA nanotechnology (e.g. DNA origami) offers unique control over the arrangement of functional elements including small molecules, inorganic nanoparticles or biomolecules on the nanoscale enabling applications in nanomedicine, material science, nanophotonics or electronics.

In my talk, I will describe:

- (1) A cost-efficient, scalable amplification of oligonucleotides from oligonucleotide libraries. This method is able to produce oligonucleotides up to 1000-fold cheaper than conventional chemical synthesis.
- (2) The construction of triangulated hollow wireframe origami structures.



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(3) A block copolymer-based strategy to stabilize DNA-based structures against nucleases and low salt conditions for nanomedical or bio-applications (image on left).

(4) The construction of self-assembled plasmonic waveguides from gold nanoparticles and DNA origami, which will enable to guide light through nanometer-sized structures.

Organizer: Graduate Program for Leaders in Life Innovation, The University of Tokyo

For Further Information Contact: Kiyoko Jarnes at GPLLI Office

Phone: 03-5841-1509 / Fax: 03-5841-3428

E-mail: jarnes@cnbi.t.u-tokyo.ac.jp