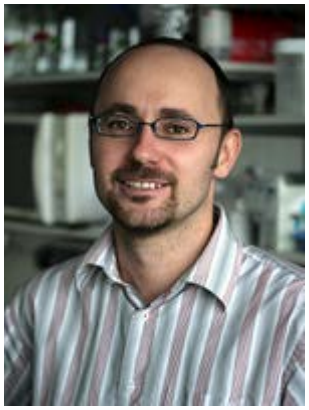
cfaed Colloquium

DATE: 27 September 2019
TIME: 12:10 pm
LOCATION: TU Dresden, Barkhausen-Bau (BAR), Heinz-Schönfeld-Hörsaal BAR I90, Georg-Schumann-Str. 13, 01187 Dresden



SPEAKER: **Prof. Ralf Seidel**
Chair of Molecular Biophysics, Leipzig University

TITLE: ***"DNA-templated fabrication of nanostructures with optic and electronic functionality"***

Abstract:
Recent developments in the field of DNA nanotechnology have boosted techniques that allow to programmable self-assemble DNA into nanostructures with nanometer feature sizes and high a flexibility of achievable shapes. An efficient self-assembly of complex nanostructures from individual components in a bottom-up manner may be a less resource intensive fabrication method compared to top-down approaches in current micro- and nanofabrication. Here we review our attempts in using elaborate DNA templates as well as other self-assembly techniques to form inorganic nanostructures with optic and electronic functionality within a pure bottom-up procedure. Examples include plasmonic nanostructures, such as wave guides and antennas as well electrically conductive elements. In detail we will show how DNA can be used to form complex nano-scale molds that support casting of metal elements with DNA-encoded shapes as well as the formation of metal-semiconductor heterostructures.