Light-driven robotics for nanoscopy

The science fiction inspired shrinking of macro-scale robotic manipulation and handling down to the micro- and nanoscale regime opens new doors for exploiting the forces and torques of light for micro- and nanoscopic probing, actuation and control. Advancing light-driven micro-robotics requires the optimization of optical forces and torques that, in turn, requires optimization of the underlying light-matter interaction. This report is two-fold describing the new use of proprietary strongholds we currently are harnessing in the Programmable Phase Optics in Denmark on new means of sculpting of both light and matter for robotically probing at the smallest biological length scales.