

4D MICRO- AND NANOPRINTING: BRINGING RESPONSIVE MATERIALS INTO NEW DIMENSIONS

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4D printing has gained much attention during the last years and become a promising tool for the fabrication of dynamic and adaptive structures. While great progress has been made at the macroscale, the continuous miniaturization of today's devices has tremendously increased the demand for manufacturing at the smaller scales. In this lecture, I will focus on the current approaches for 4D printing at the micro- and nanoscale. Special attention will be paid to the design of inks based on stimuli responsive materials.[1] The challenges as well as the potential and perspectives of the field of 4D microprinting will be highlighted, too.

[1] C. A. Spiegel, M. Hippler, A. Münschinger, M. Bastmeyer, C. Barner-Kowollik, M. Wegener, E. Blasco. 4D Printing at the Microscale; *Adv. Funct. Mater.* **2020**, *30*, 1907615.