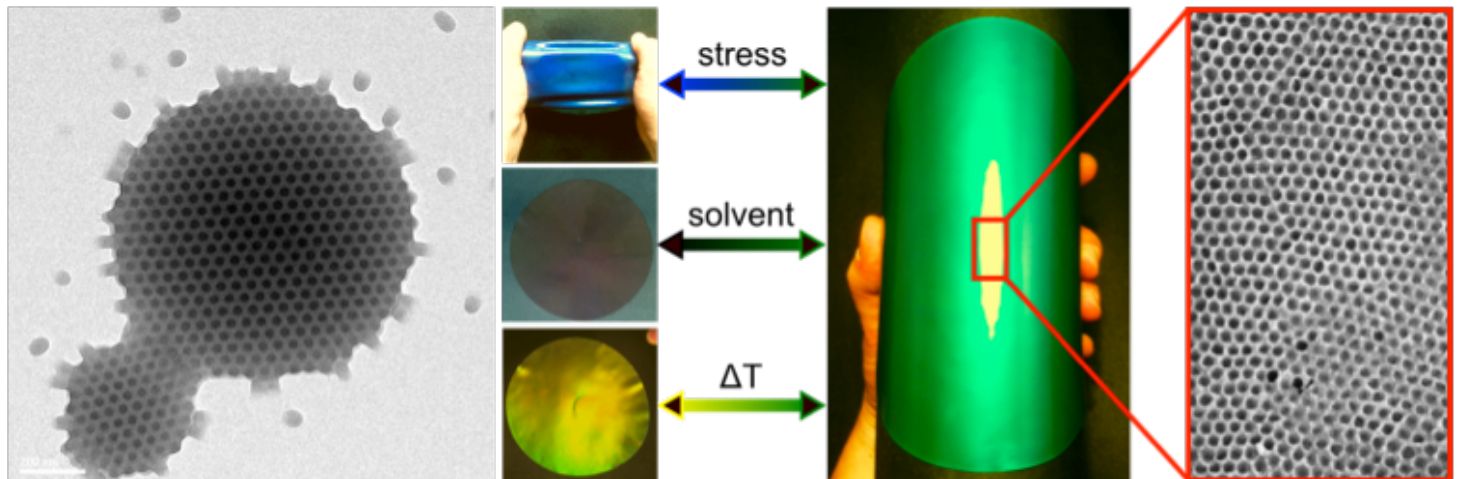




From Stimuli-Responsive Block Copolymers and Colloidal Architectures to Smart Ceramics

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Polymers which are addressable by external triggers represent a unique class of building blocks for the generation of novel materials. The presentation focusses on materials which contain at least one selectively addressable segment, either chemically or physically and, ideally, this process is fully reversible. Nanostructures based on block copolymers and colloidal architectures will be highlighted featuring a fast responsive behaviour, e.g. by the change of temperature, light, electrical current or redox reagents. Moreover, some of the presented structures can be converted into highly ordered ceramics maintaining their pristine polymer-based shape. Herein presented functional materials are expected to be interesting candidates for a manifold of sensing applications and membrane technologies.