



# Water Droplets to Nanotechnology

A Journey Through Self-Assembly

Plinio Innocenzi, Luca Malfatti and Paolo Falcaro

## Synopsis

Self-assembly is a key concept for nanotechnology, but it can be quite a difficult subject to approach. Using everyday examples, *Water Droplets to Nanotechnology* gives a simple and general overview of the different self-assembly processes which are at the basis of recent developments in nanotechnology. Internationally well renowned scientists in the field show how simple and common phenomena such as the coffee stain and tears of wine can become a tool for making nanomaterials. By taking the reader on a journey from everyday life to the secrets of nanotechnology, the book is suitable for a non-specialist audience interested in the wider perspectives and the latest developments of nanoscience.

## Brief Contents

- The Coffee Stain: Using a Water Droplet for Self-assembly
- The Tears of Wine: The Marangoni Effect, a Fluid Phenomenon for Self-Assembly and Organization
- The Lord of Rings: Stick and Slip Motions and Self-Assembly in Coffee Stains
- Convective Self-Assembly (CSA)
- Using Breath for Nanotechnology
- Nanomaterials with Light Shaping Capabilities: Photonic Crystals
- Superlattices and Quasicrystals
- Shaping and Ordering the Porosity through Self-assembly
- Towards a Complex Organization of Matter: Hierarchical Porosity

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