materials|chemistry

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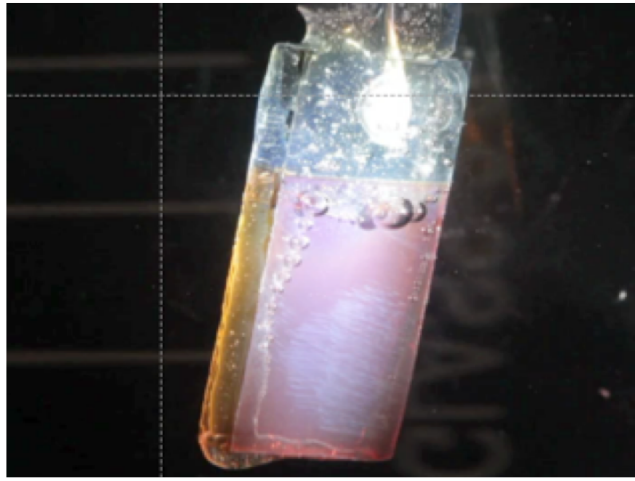
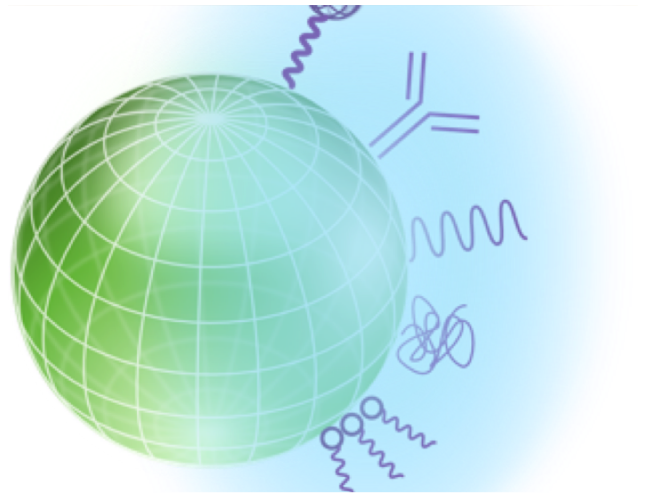
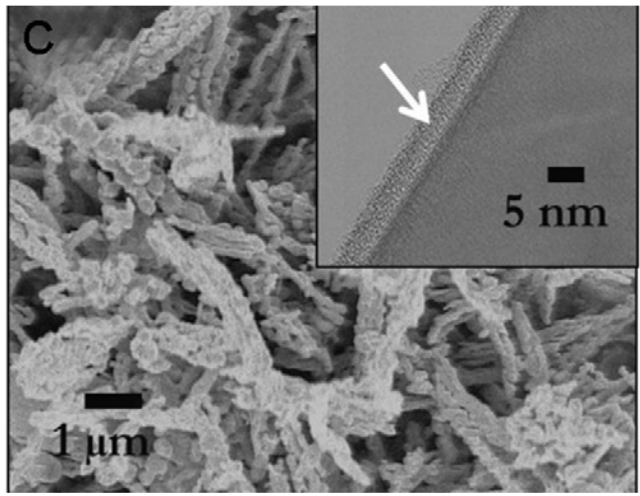
mathur.uni-koeln.de | **materialsalliance.com**

Previous **Work**

- **H2020**
  - **ENHANCE** (MSCA-ITN, 2017-2020)
- **COST Action**
  - **HERALD**
- **ERA.net**
  - **FONSENS** (2016-2018)
- **FP7**
  - **SOLAROGENIX** (2013-2016, coordinator)
  - **S3** (2009-2012)
  - **Nanommune** (2008-2011)







Research Interest: **Energy**

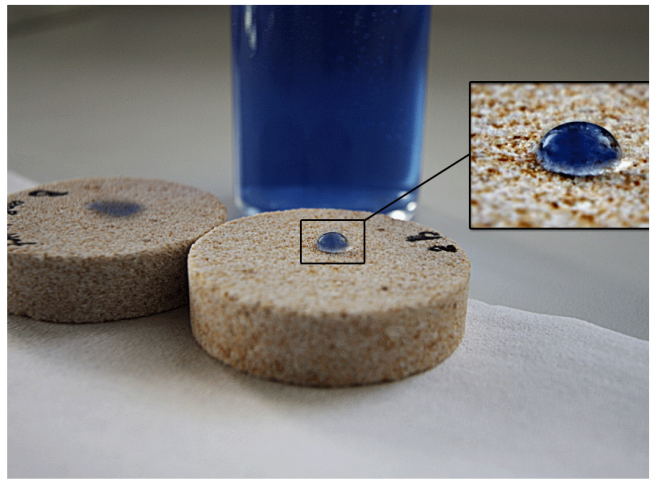
- CE-NMBP-25-2019: Photocatalytic synthesis (RIA)
- LC-NMBP-27-2019: Strengthening EU materials technologies for non-automotive battery storage (RIA)
- LC-NMBP-29-2019: Materials for non-battery based energy storage (RIA)
- LC-NMBP-32-2019: Smart materials, systems and structures for energy harvesting (RIA)

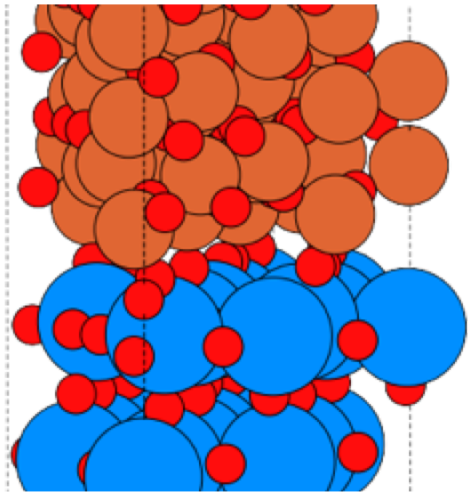
Research Interest: **Nanomaterials**

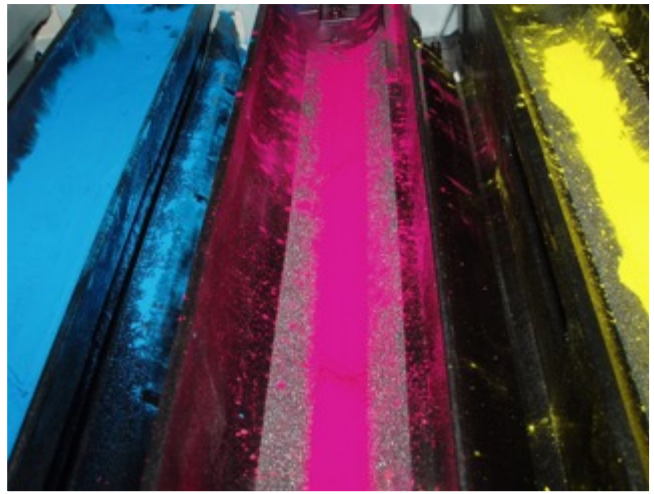
- NMBP-15-2019: Safe by design, from science to regulation: metrics and main sectors (RIA)
- DT-NMBP-08-2019: Real-time nano-characterisation technologies (RIA)
- DT-NMBP-03-2019: Open Innovation Test Beds for nano-enabled surfaces and membranes (IA)

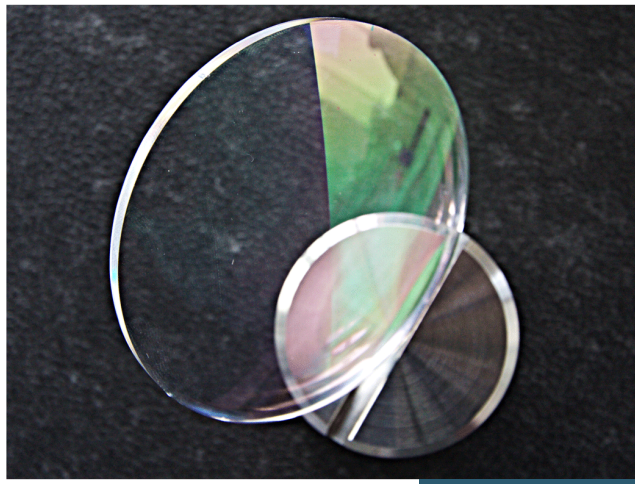
Potential **Partners**

- **Universities / Research Institutes**
  - Materials modelling and simulation
  - Life-cycle assessment (LCA)
  - (Materials-/Nano) Toxicity
- **Industry / SME**
  - (Nano-)Materials integration / handling
  - (Nano-)Materials production / scale-up
  - (Nano-)materials enabled end product(s)



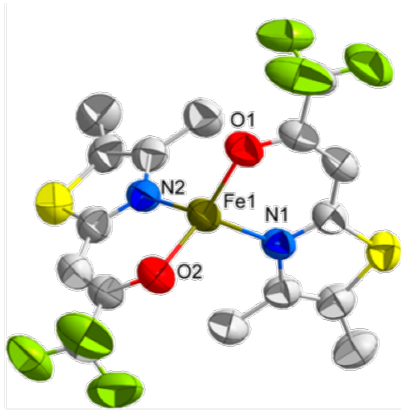


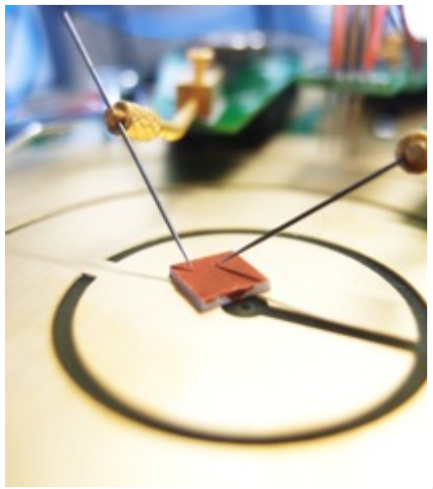


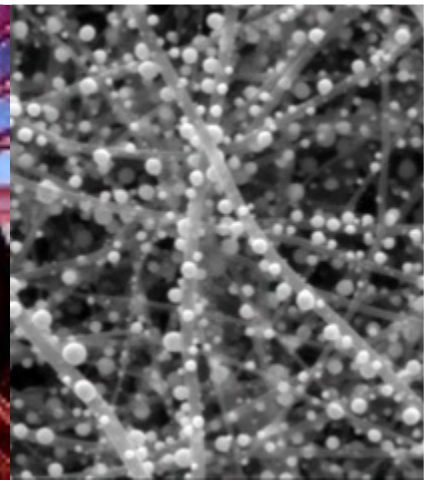


Scientific and Technological **Expertise**

- **(Nano-)Materials Synthesis**
  - Molecular precursors
  - Quantum dots, particles, fibres/wires, thin-films, coatings, composites, etc.
- **(Nano-)Materials Characterization**
  - **Chemical**
  - **Physical** (i.e. XRD, XPS, SEM, TEM, AFM)
  - **Functional** (i.e. gas sensor, battery, (photo-)catalysis, **toxicity**)
- **(Nano-)Materials Upscaling**
- **(Nano-)Materials Integration**







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