Understanding Crystal Polymorph Control in Confinement using In-situ TEM

Fact Sheet

Project Information

PolyTEM

Grant agreement ID: 885795

Funded under
EXCELLENT SCIENCE - Marie Skłodowska-Curie Actions

DOI
10.3030/885795

Project terminated on 2 August 2021

Total cost
€ 224 933,76

EU contribution
€ 224 933,76

Coordinated by
UNIVERSITY OF LEEDS
United Kingdom

Start date
9 March 2020

End date
8 March 2022

Project description

Crystals get creative in small spaces

Living and non-living systems on the nanoscale exhibit a variety of properties and behaviours that are not seen in the same systems at larger scales. Among these are crystals. Recent studies have demonstrated unusual crystal structures emerging from the precipitation of crystals in confinement, opening the door to controlled processing for applications in fields ranging from materials science to drug development. The EU-funded PolyTEM project is combining two cutting-edge techniques to get a better handle on underlying mechanisms through snapshots of structural changes over time together with dynamic high time resolution analyses.
Focussing on a model system of calcium carbonate formation in graphene pockets, the team is shining light on the unusual processes of crystal formation in confined spaces.

**Fields of science**

- engineering and technology ➔ materials engineering ➔ crystals
- engineering and technology ➔ nanotechnology ➔ nano-materials ➔ two-dimensional nanostructures ➔ graphene
- natural sciences ➔ physical sciences ➔ thermodynamics
- natural sciences ➔ physical sciences ➔ optics ➔ microscopy ➔ electron microscopy

**Keywords**

cryoTEM  Liquid PhaseTEM  Polymorph Control  Confinement
Calcium Carbonate  Graphene

**Programme(s)**

- H2020-EU.1.3. - EXCELLENT SCIENCE - Marie Skłodowska-Curie Actions
- H2020-EU.1.3.2. - Nurturing excellence by means of cross-border and cross-sector mobility

**Topic(s)**

MSCA-IF-2019 - Individual Fellowships

**Call for proposal**

H2020-MSCA-IF-2019

See other projects for this call

**Funding Scheme**

MSCA-IF - Marie Skłodowska-Curie Individual Fellowships (IF)
UNIVERSITY OF LEEDS
Net EU contribution
€ 224 933,76
Address
Woodhouse lane
LS2 9JT Leeds
United Kingdom
Region
Yorkshire and the Humber > West Yorkshire > Leeds
Links
Contact the organisation  Website
Participation in EU R&I programmes  HORIZON collaboration network
Other funding
€ 0,00
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European Union, 2023