



# Strain Engineering of Light-Emitting Nanodomes

## Fact Sheet

### Project Information

#### SELENe

Grant agreement ID: 844837

[Project website](#) 

#### DOI

[10.3030/844837](https://doi.org/10.3030/844837) 

Project terminated on 1 October 2020

#### EC signature date

11 April 2019

#### Start date

1 September 2019

#### End date

31 August 2021

#### Funded under

EXCELLENT SCIENCE - Marie Skłodowska-Curie Actions

#### Total cost

€ 171 473,28

#### EU contribution

€ 171 473,28

#### Coordinated by

UNIVERSITA DEGLI STUDI DI  
ROMA LA SAPIENZA



Italy

## Project description

### Tiny domes with novel optical properties open the door to innovative optoelectronics devices

Transition metal dichalcogenide monolayers are a class of atomically thin 2D nanosheets consisting of a transition metal and a chalcogen. They are of extreme interest for numerous applications because of their unique optoelectronic properties. However, to exploit these materials in commercial applications, we need reproducible and cost-effective manufacturing routes for large-scale production. The EU-funded SELENe project will tackle this important bottleneck by producing single-layer-thick

domes from multilayer samples via hydrogen irradiation. These tiny exotic domes will then be characterised for their as yet unknown optical properties and potential application in high-tech optoelectronics structures.

## Keywords

[Transition metal dichalcogenides](#)

[strain engineering](#)

[van der Waals heterostructures](#)

[single photon emission](#)

[hydrogen irradiation](#)

## Programme(s)

[H2020-EU.1.3. - EXCELLENT SCIENCE - Marie Skłodowska-Curie Actions](#)

MAIN PROGRAMME

[H2020-EU.1.3.2. - Nurturing excellence by means of cross-border and cross-sector mobility](#)

## Topic(s)

[MSCA-IF-2018 - Individual Fellowships](#)

## Call for proposal

[H2020-MSCA-IF-2018](#)

[See other projects for this call](#)

## Funding Scheme

[MSCA-IF - Marie Skłodowska-Curie Individual Fellowships \(IF\)](#)

## Coordinator



**UNIVERSITA DEGLI STUDI DI ROMA LA SAPIENZA**

Net EU contribution

**€ 171 473,28**

Total cost

€ 171 473,28

Address

**Piazzale Aldo Moro 5**  
**00185 Roma**

 **Italy** 

Region

**Centro (IT) > Lazio > Roma**

Activity type

**Higher or Secondary Education Establishments**

Links

[Contact the organisation](#)  [Website](#) 

[Participation in EU R&I programmes](#) 

[HORIZON collaboration network](#) 

**Last update:** 29 January 2025

**Permalink:** <https://cordis.europa.eu/project/id/844837>

European Union, 2025