



Photoactive Metal-Organic Framework for Solar-Driven Atmospheric Water Harvesting in Arid Climates

Fact Sheet

Project Information

PHOTOWAT

Grant agreement ID: 101154984

DOI
[10.3030/101154984](https://doi.org/10.3030/101154984)

EC signature date
13 March 2024

Start date	End date
1 February 2025	31 January 2027

Funded under
Marie Skłodowska-Curie Actions (MSCA)

Total cost
No data

EU contribution
€ 181 152,96

Investment in EU policy priorities

- | | | | |
|-------------------------|-------------|----------------|-------------|
| Digital agenda | <div></div> | Clean air | <div></div> |
| Artificial Intelligence | <div></div> | Climate action | <div></div> |
| Biodiversity | <div></div> | | |

Coordinated by
UNIVERSIDAD COMPLUTENSE DE MADRID
 Spain

Project description

Water-stable solar atmospheric water harvesting in arid climates

Atmospheric water harvesting (AWH), which uses solar energy, encounters challenges in arid climates due to low relative humidity and the diminished efficacy of conventional sorbents. Metal-organic frameworks (MOFs) represent a type of porous material capable of capturing water even at very low RH levels. However, the combination of photothermal materials with MOFs can diminish the sorption capacity of MOFs, a particular issue in arid climates. With the support of the Marie Skłodowska-Curie Actions programme, the PHOTOWAT project will synthesise a water-stable MOF with photothermal and photocatalytic properties (PAMOF) and high water affinity. Molecular modelling and experimental synthesis will evaluate promising candidates, and an AWH device will assess the efficiency and maintenance of the samples under real conditions using a custom-made solar simulator.

Fields of science (EuroSciVoc)

[natural sciences](#) > [chemical sciences](#) > [inorganic chemistry](#) > [transition metals](#)



Keywords

[Atmospheric water harvesting \(AWH\)](#)

[Arid climates](#)

[Metal-organic framework \(MOF\)](#)

[Photothermal](#)

[Photocatalytic](#)

Programme(s)

[HORIZON.1.2 - Marie Skłodowska-Curie Actions \(MSCA\)](#)

MAIN PROGRAMME

Topic(s)

[HORIZON-MSCA-2023-PF-01-01 - MSCA Postdoctoral Fellowships 2023](#)

Call for proposal

[HORIZON-MSCA-2023-PF-01](#) 

[See other projects for this call](#)

Funding Scheme

[HORIZON-TMA-MSCA-PF-EF - HORIZON TMA MSCA Postdoctoral Fellowships - European Fellowships](#)

Coordinator



UNIVERSIDAD COMPLUTENSE DE MADRID

Net EU contribution

€ 181 152,96

Total cost

No data

Address

AVENIDA DE SENECA 2

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 **Spain** 

Region

Comunidad de Madrid > Comunidad de Madrid > Madrid

Activity type

Higher or Secondary Education Establishments

Links

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

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

[HORIZON collaboration network](#) 

Last update: 18 March 2024

Permalink: <https://cordis.europa.eu/project/id/101154984>

European Union, 2025