



ADVANCED engineering of C1 metabolism towards METHanol-based sustainable biotechnology

Fact Sheet

Project Information

ADVANC1-METH

Grant agreement ID: 101030463

[Project website](#)

DOI

[10.3030/101030463](https://doi.org/10.3030/101030463)

Project closed

EC signature date

31 March 2021

Start date

1 November 2021

End date

31 October 2023

Funded under

EXCELLENT SCIENCE - Marie Skłodowska-Curie Actions

Total cost

€ 187 572,48

EU contribution

€ 187 572,48

Coordinated by

WAGENINGEN UNIVERSITY



Netherlands

Project description

Developing the one-carbon feedstock

The one-carbon (C1) feedstock methanol is a promising alternative feedstock to reduce fossil fuel dependence. Abundant and inexpensive, it can be sustainably produced from waste, CO₂ and renewable hydrogen. The EU-funded ADVANC1-METH project will engineer a highly efficient, synthetic methanol assimilation pathway into the well-known industrial host bacterium *Escherichia coli*. Modular optimisation

will be performed for the bottlenecks to efficient enzymatic methanol conversion in the cell. The overall strain performance will be optimised through rational, systems-wide targeting of the metabolic network and fast-growing strains on methanol will be selected and studied using an innovative high-throughput genome editing approach.

Fields of science (EuroSciVoc)

[medical and health sciences](#) > [medical biotechnology](#) > [genetic engineering](#) > **[gene therapy](#)**

[natural sciences](#) > [biological sciences](#) > **[synthetic biology](#)**

[natural sciences](#) > [earth and related environmental sciences](#) > [atmospheric sciences](#) > [climatology](#) > **[climatic changes](#)**

[natural sciences](#) > [biological sciences](#) > [genetics](#) > **[genomes](#)**



Keywords

[Synthetic Biology](#)

[Metabolic Engineering](#)

[Directed evolution](#)

[Genetic Engineering](#)

[Biotechnology](#)

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-2020 - Individual Fellowships](#)

Call for proposal

[H2020-MSCA-IF-2020](#)

[See other projects for this call](#)

Funding Scheme

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

Coordinator



WAGENINGEN UNIVERSITY

Net EU contribution

€ 187 572,48

Total cost

€ 187 572,48

Address

DROEVENDAALSESTEEG 4

6708 PB Wageningen

 **Netherlands** 

Region

Oost-Nederland > Gelderland > Veluwe

Activity type

Higher or Secondary Education Establishments

Links

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

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

[HORIZON collaboration network](#) 

Last update: 6 September 2024

Permalink: <https://cordis.europa.eu/project/id/101030463>

European Union, 2025