

HORIZON
2020

Biocompatible and biodegradable microlasers that can be injected into the human body

Fact Sheet

Project Information

InjectableLasers

Grant agreement ID: 702715

[Project website](#) 

DOI

[10.3030/702715](https://doi.org/10.3030/702715) 

Project closed

EC signature date

9 March 2016

Start date

1 May 2017

End date

6 July 2019

Funded under

EXCELLENT SCIENCE - Marie Skłodowska-Curie Actions

Total cost

€ 157 287,60

EU contribution

€ 157 287,60

Coordinated by

INSTITUT JOZEF STEFAN



Slovenia

Objective

The goal of InjectableLasers is to make for the first time biocompatible and biodegradable/resorbable microlasers, which could be injected into human body. The lasers proposed here will be made completely out of substances approved for medical use or already present in the human body. The size of the lasers will be in the order of tens of micrometres, small enough to be injected with a standard hypodermic needle into the bloodstream, bodily liquids and tissues without large

impact to the host. After few days, weeks or months, depending on the material used, the lasers will be completely degraded and absorbed by the body without any side effects. The gain material will be composed of a nontoxic dye and the lasers will be pumped directly by an external laser or through a biocompatible hydrogel optical fibre. Their operation will be demonstrated both in cell cultures and inside skin tissue. The biocompatible microlasers that will be developed here have a great potential in medical therapies and diagnostics.

Fields of science (EuroSciVoc)

[natural sciences](#) > [biological sciences](#) > [biochemistry](#) > [biomolecules](#) > **[lipids](#)**

[natural sciences](#) > [physical sciences](#) > [optics](#) > **[fibre optics](#)**

[natural sciences](#) > [biological sciences](#) > [biochemistry](#) > [biomolecules](#) > [proteins](#) > **[enzymes](#)**

[natural sciences](#) > **[chemical sciences](#)**

[natural sciences](#) > [physical sciences](#) > [optics](#) > **[laser physics](#)**



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-2015-EF - Marie Skłodowska-Curie Individual Fellowships \(IF-EF\)](#)

Call for proposal

[H2020-MSCA-IF-2015](#) 

[See other projects for this call](#)

Funding Scheme

[MSCA-IF-EF-RI - RI – Reintegration panel](#)

Coordinator



INSTITUT JOZEF STEFAN

Net EU contribution

€ 157 287,60

Total cost

€ 157 287,60

Address

Jamova 39

1000 Ljubljana

 **Slovenia** 

Region

Slovenija > Zahodna Slovenija > Osrednjeslovenska

Activity type

Research Organisations

Links

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

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

[HORIZON collaboration network](#) 

Last update: 10 March 2023

Permalink: <https://cordis.europa.eu/project/id/702715>

European Union, 2025