Stochastic pattern formation in biochemical systems

Fact Sheet

Project Information

STOPATT
Grant agreement ID: 888255

DOI
10.3030/888255

Project terminated on 31 July 2022

EC signature date
12 March 2020

Funded under
EXCELLENT SCIENCE - Marie Skłodowska-Curie Actions

Total cost
€ 186,167,04

EU contribution
€ 186,167,04

Coordinated by
MONTANUNIVERSITAET LEOBEN
Austria

Start date
1 April 2020
End date
29 January 2023

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Project description

Investigating stochastic pattern formation in biochemical systems

In biology, the reaction–diffusion–advection equation is used to model chemotaxis – oriented movements of cells in response to a chemical gradient – observed in bacteria, population migration, evolutionary adaptation to changing environments and the spatiotemporal dynamics of molecular species including morphogenesis. The EU-funded STOPATT project will use the equation for logistic population growth to study chemotaxis. The system under study will be perturbed by a stochastic noise term, modelling neglected fluctuations or random perturbations from outside. The stochastic term leads to new phenomena such as bifurcation, metastability or sudden shifts to other, possibly undesired, states.

Fields of science

natural sciences › mathematics
natural sciences › physical sciences › theoretical physics

Keywords

Stochastic Analysis  Stochastic Partial Differential Equations  Mathematical Biology
Pattern Formation  stochastic cross diffusion

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)

Coordinator

MONTANUNIVERSITAET LEOBEN

Net EU contribution

€ 186 167,04

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Region

Südösterreich > Steiermark > Östliche Obersteiermark

Activity type

Higher or Secondary Education Establishments

Links

Contact the organisation  
Website  
Participation in EU R&I programmes  
HORIZON collaboration network

Other funding