European Research Council
Established by the European Commission

European Commission

ERC Frontier Research in Life Sciences

This series of factsheets provides an overview of the projects funded by the European Research Council (ERC), in the Life Sciences domain, in the H2020 Framework Programme (2014–2020)

Data as of December 2021

LS

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Molecular Biology, Biochemistry, Structural Biology and Molecular Biophysics (LS1)

This fact sheet provides an overview of the projects funded in the 'Molecular Biology, Biochemistry, Structural Biology and Molecular Biophysics' panel in the Life Sciences (LS) domain (see ERC panel structure). The projects were funded under the Starting Grant (StG), Consolidator Grant (CoG) and Advanced Grant (AdG) calls launched in the H2020 Framework Programme (2014–2020)*

1356 applications
(2.5% of total)

188 projects funded
(2.8% of total)

StG **70** projects
(€108M)

CoG **62** projects
(€124M)

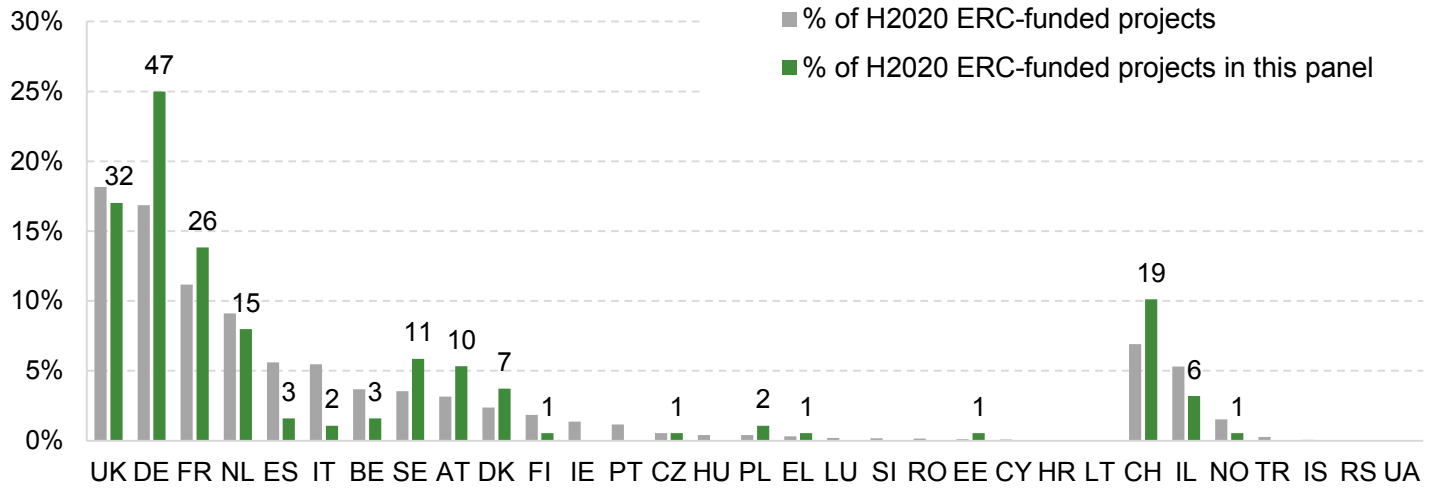
AdG **56** projects
(€120M)

55 female grantees
(29% of grantees in this panel)

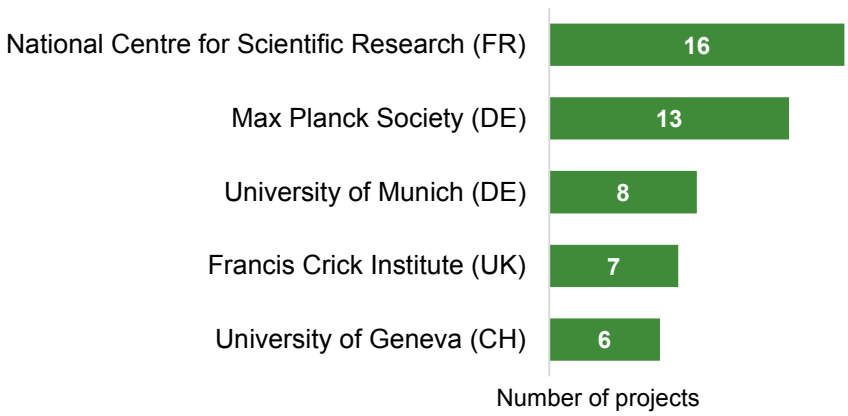
€352 million budget

Distribution of ERC-funded projects in EU Member States and Associated Countries in H2020

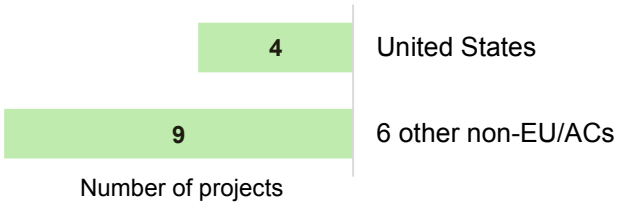
The 188 funded projects (numbers in the graph) are in 15 EU Member States and 3 Associated Countries (ACs)



Host institutions with ≥6 funded projects

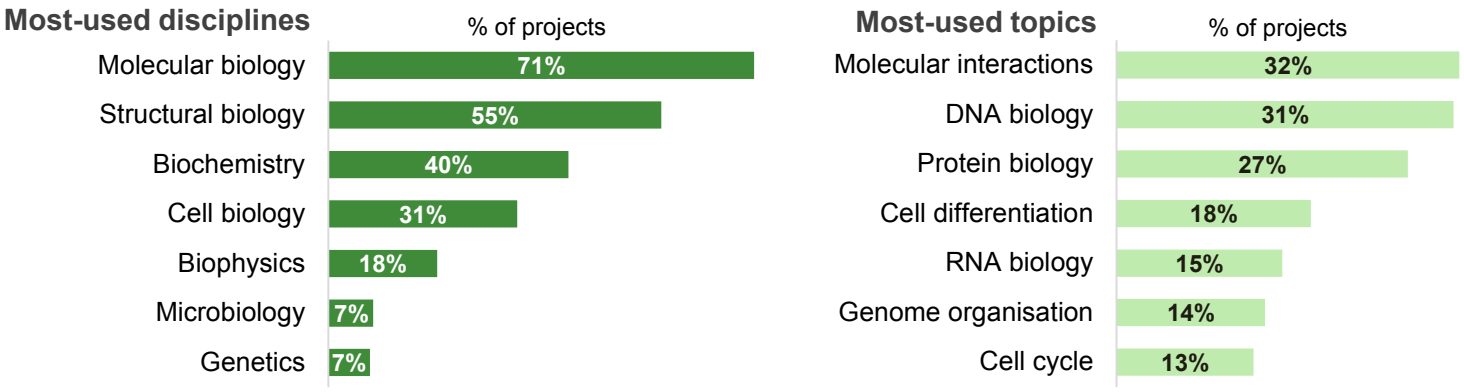


Country of origin of grantees other than EU or ACs (≤3 grouped together)



*Data as of December 2021

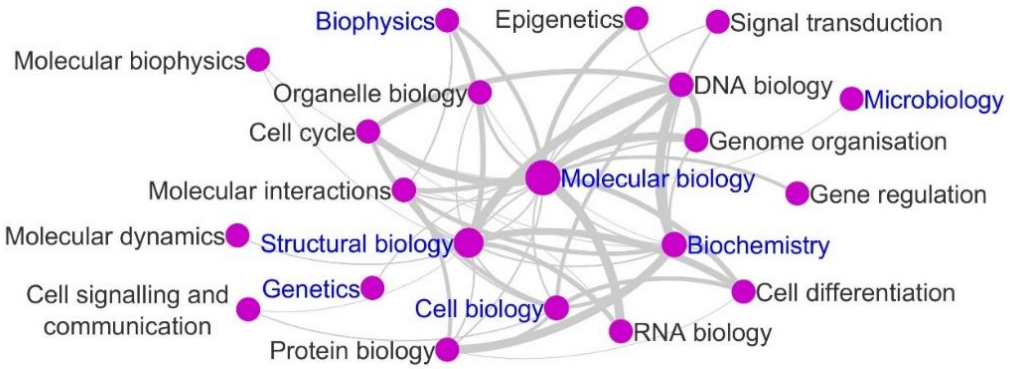
Scientific landscape of ERC-funded projects in this panel



- *Molecular biology*, *Cell biology, Cell signaling and communication,* and *Protein biology* grew in use from 2014 to 2020
- *Molecular biology*, *Biochemistry, Genome organisation* and *Cell cycle* were used more in StG projects compared to those funded in CoG and AdG schemes, while *DNA biology* was used more in AdG projects
- Around 1/4 of the projects in this panel generate methodological developments, *Biochemistry techniques*, *Single molecule approaches* and *Structural biology techniques* are the main ones

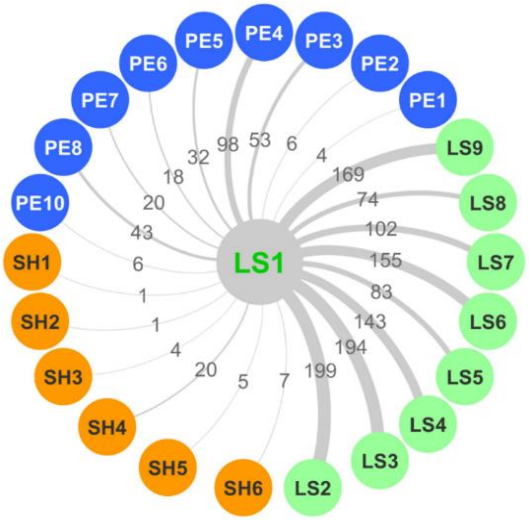
Connections between disciplines and topics in this panel

The strength of the connection between disciplines (blue) and topics (grey) is represented by the thickness of the arcs, which is proportional to the number of times they appear together



Synergies with other panels and domains

The strength of the connections is represented by the thickness of the arcs and the numbers indicated, which are proportional to the number of shared disciplines



- **LS domain**: the main interactions are with the Genetics, 'Omics', Bioinformatics and Systems Biology (LS2), Cellular and Developmental Biology (LS3), and Applied Life Sciences, Biotechnology, and Molecular and Biosystems Engineering (LS9) panels through the disciplines *Cell biology, Molecular biology* and *Biophysics*
- **SH domain:** the interaction is not very strong, but there is some connection with The Human Mind and Its Complexity (SH4) panel
- **PE domain:** the main interactions are with the Physical and Analytical Chemical Sciences (PE4), Condensed Matter Physics (PE3), and Products and Processes Engineering (PE8) panels through the disciplines *Biochemistry, Biophysics* and *Structural biology*

Genetics, 'Omics', Bioinformatics and Systems Biology (LS2)

This fact sheet provides an overview of the projects funded in the 'Genetics, 'Omics', Bioinformatics and Systems Biology' panel in the Life Sciences (LS) domain (see ERC panel structure). The projects were funded under the Starting Grant (StG), Consolidator Grant (CoG) and Advanced Grant (AdG) calls launched in the H2020 Framework Programme (2014–2020)*

1466 applications
(2.7% of total)

192 projects funded
(2.9% of total)

StG **84** projects
(€127M)

CoG **65** projects
(€132M)

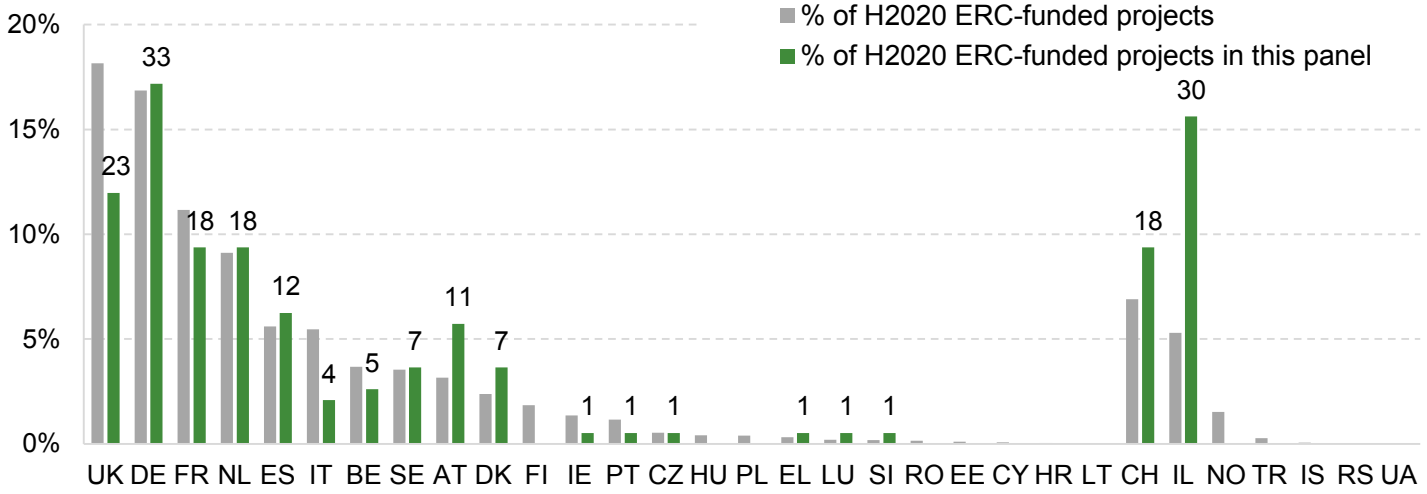
AdG **43** projects
(€103M)

47 female grantees
(24% of grantees in this panel)

€362 million budget

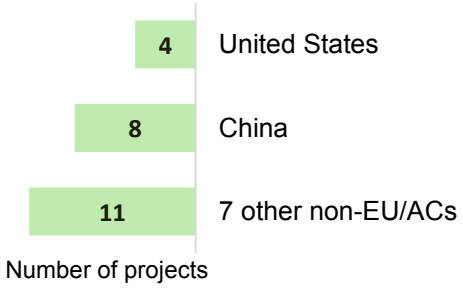
Distribution of ERC-funded projects in EU Member States and Associated Countries in H2020

The 192 funded projects (numbers in the graph) are in 16 EU Member States and 2 Associated Countries (ACs)



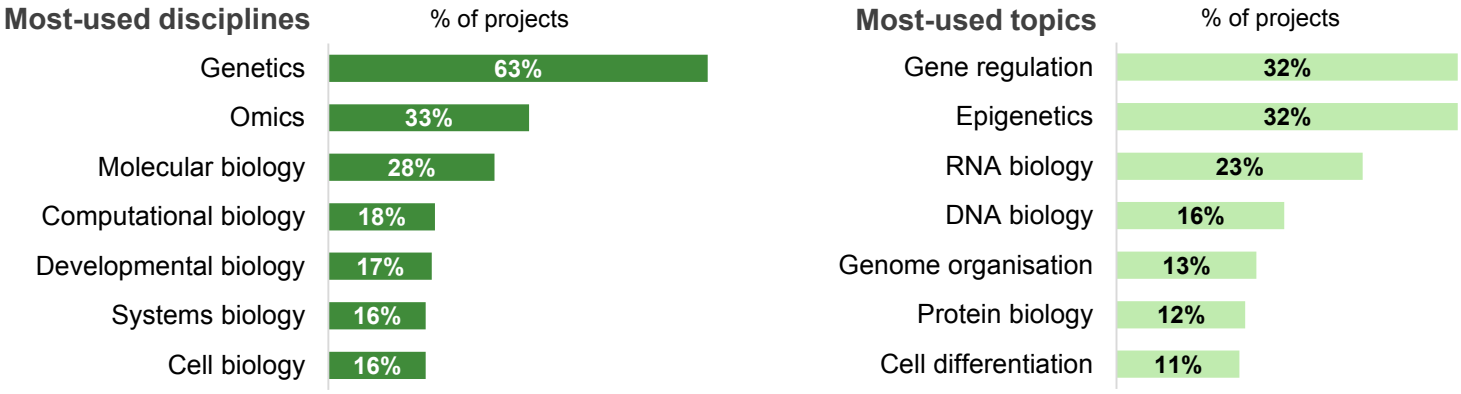
Host institutions with ≥5 funded projects

Country of origin of grantees other than EU or ACs (≤3 grouped together)



*Data as of December 2021

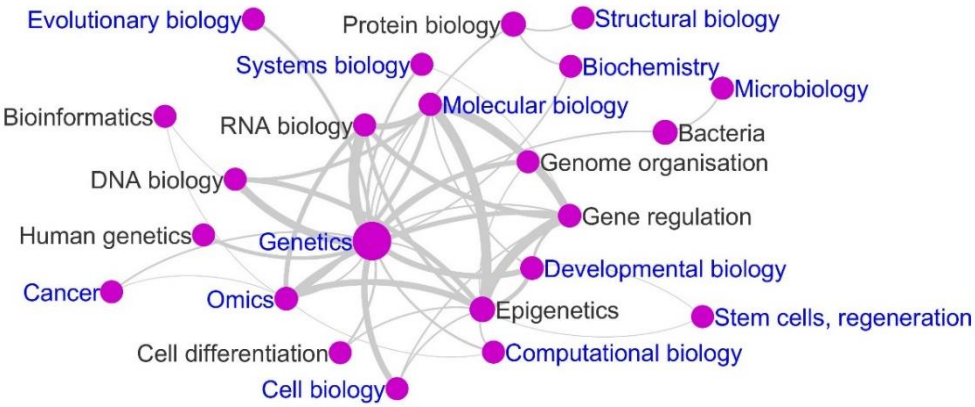
Scientific landscape of ERC-funded projects in this panel



- *Computational biology, Bioinformatics* and *Microbiota* grew in use from 2014 to 2020
- *Omics*, *Computational biology, Systems biology* and *Gene regulation* were used more in StG projects compared to those funded in CoG and AdG schemes, while *Epigenetics*, *RNA biology* and *Protein biology* were used more in CoG projects
- Around 1/4 of the projects in this panel generate methodological developments. *Computational modelling, simulations*, *Omics,* and *DNA and RNA analysis* are the main ones

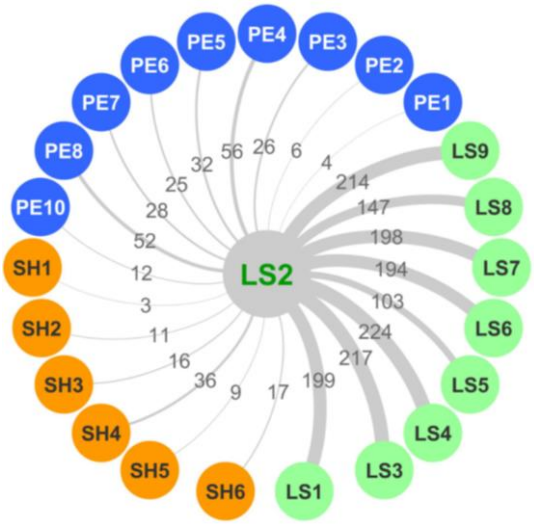
Connections between disciplines and topics in this panel

The strength of the connection between disciplines (blue) and topics (grey) is represented by the thickness of the arcs, which is proportional to the number of times they appear together



Synergies with other panels and domains

The strength of the connections is represented by the thickness of the arcs and the numbers indicated, which are proportional to the number of shared disciplines



- **LS domain**: the main interactions are with the Cellular and Developmental Biology (LS3), Physiology, Pathophysiology and Endocrinology (LS4), and Applied Life Sciences, Biotechnology, and Molecular and Biosystems Engineering (LS9) panels through the disciplines *Genetics, Molecular biology* and *Developmental biology*
- **SH domain**: the interaction is not very strong, but there is some connection with The Human Mind and Its Complexity (SH4) panel through the disciplines *Neuroscience* and *Evolutionary biology*
- **PE domain**: the main interactions are with the Physical and Analytical Chemical Sciences (PE4), and Products and Processes Engineering (PE8) panels through the discipline *Biochemistry*

Cellular and Developmental Biology (LS3)

This fact sheet provides an overview of the projects funded in the 'Cellular and Developmental Biology' panel in the Life Sciences (LS) domain (see ERC panel structure). The projects were funded under the Starting Grant (StG), Consolidator Grant (CoG) and Advanced Grant (AdG) calls launched in the H2020 Framework Programme (2014–2020)*

1300 applications
(2.4% of total)

177 projects funded
(2.7% of total)

70 projects
(€107M)

60 projects
(€122M)

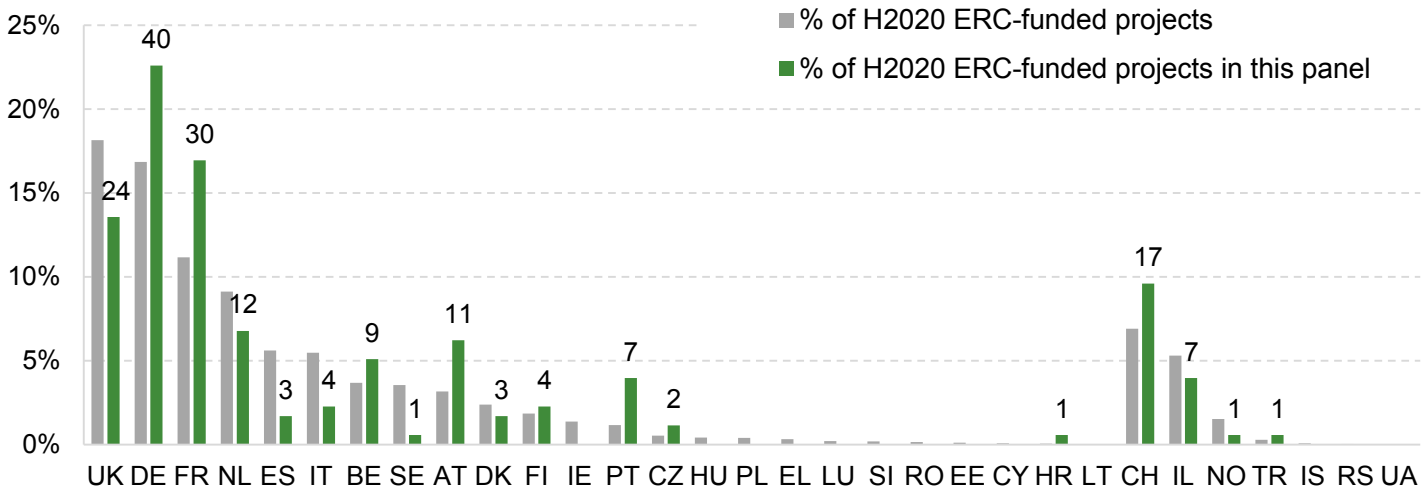
47 projects
(€116M)

56 female grantees
(32% of grantees in this panel)

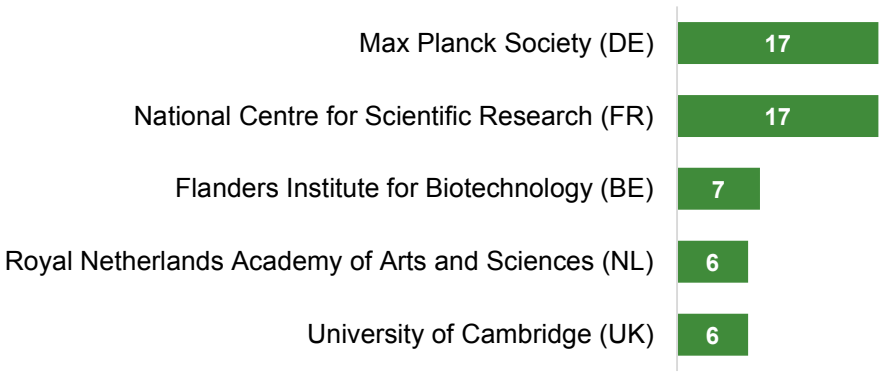
€345 million budget

Distribution of ERC-funded projects in EU Member States and Associated Countries in H2020

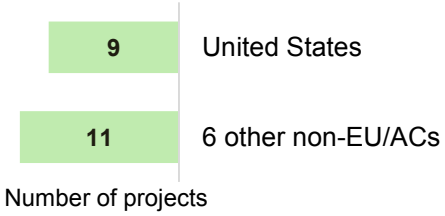
The 177 funded projects (numbers in the graph) are in 14 EU Member States and 4 Associated Countries (ACs)



Host institutions with ≥6 funded projects

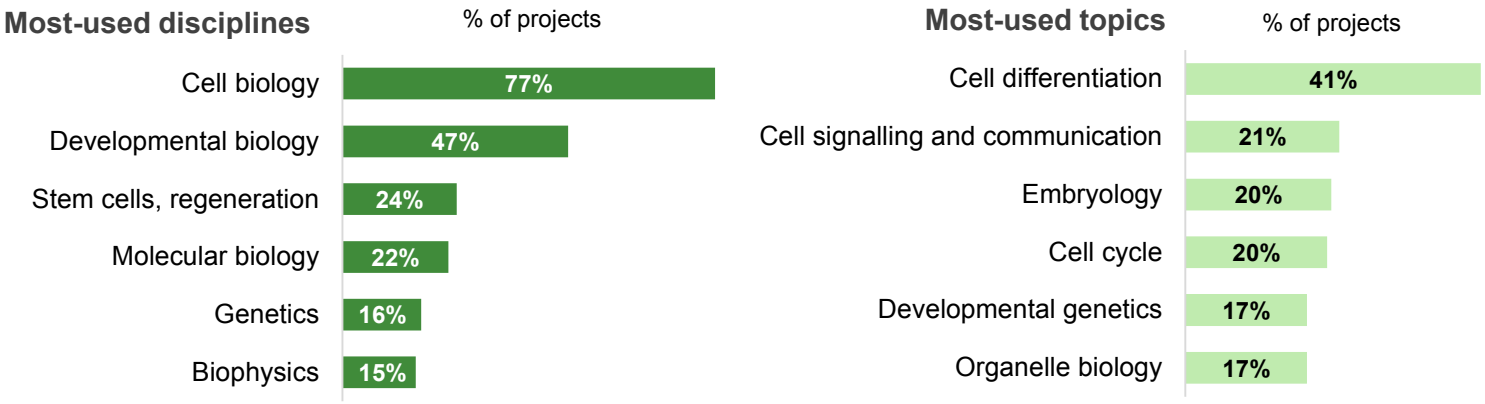


Country of origin of grantees other than EU or ACs (≤3 grouped together)



*Data as of December 2021

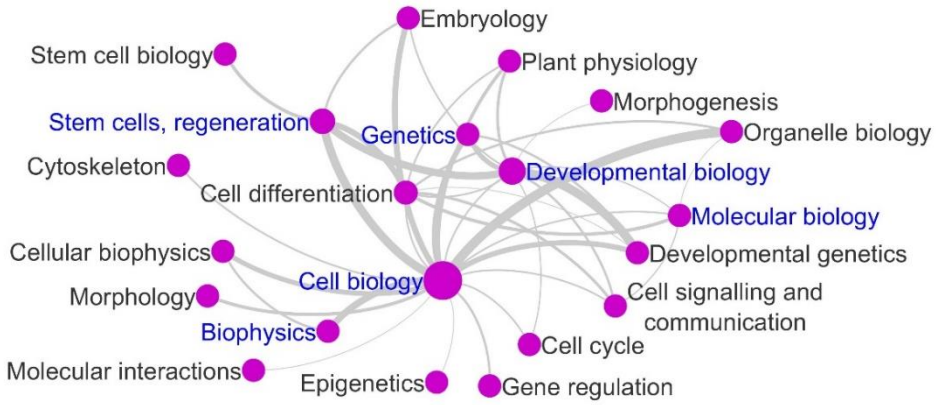
Scientific landscape of ERC-funded projects in this panel



- *Molecular biology, Biophysics, Cell signaling and communication,* and *Organelle biology* grew in use from 2014 to 2020
- *Cell biology, Cell differentiation* and *Cell cycle* were used more in StG projects compared to those funded in CoG and AdG schemes, while *Developmental biology, Genetics, Embryology* and *Developmental genetics* were used more in AdG projects
- Around 1/3 of the projects in this panel generate methodological developments. *Mathematical modelling*, *Computational modelling, simulations,* and *Cell and tissue studies* are the main ones

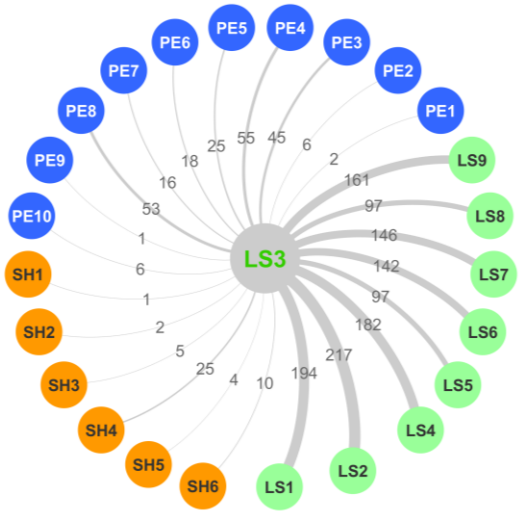
Connections between disciplines and topics in this panel

The strength of the connection between disciplines (blue) and topics (grey) is represented by the thickness of the arcs, which is proportional to the number of times they appear together



Synergies with other panels and domains

The strength of the connections is represented by the thickness of the arcs and the numbers indicated, which are proportional to the number of shared disciplines



- **LS domain**: the main interactions are with the Genetics, 'Omics', Bioinformatics and Systems Biology (LS2), Molecular Biology, Biochemistry, Structural Biology and Molecular Biophysics (LS1), and Physiology, Pathophysiology and Endocrinology (LS4) panels through the disciplines *Cell biology, Molecular biology* and *Developmental biology*
- **SH domain**: the interaction is not very strong, but there is some connection with The Human Mind and Its Complexity (SH4) panel through the discipline *Evolutionary biology*
- **PE domain**: the main interactions are with Physical and Analytical Chemical Sciences (PE4), and Products and Processes Engineering (PE8) panels through the disciplines *Biophysics* and *Biochemistry*

Physiology, Pathophysiology and Endocrinology (LS4)

This fact sheet provides an overview of the projects funded in the 'Physiology, Pathophysiology and Endocrinology' panel in the Life Sciences (LS) domain (see ERC panel structure). The projects were funded under the Starting Grant (StG), Consolidator Grant (CoG) and Advanced Grant (AdG) calls launched in the H2020 Framework Programme (2014–2020)*

1882 applications
(3.5% of total)

238 projects funded
(3.6% of total)

StG **95** projects
(€146M)

CoG **83** projects
(€165M)

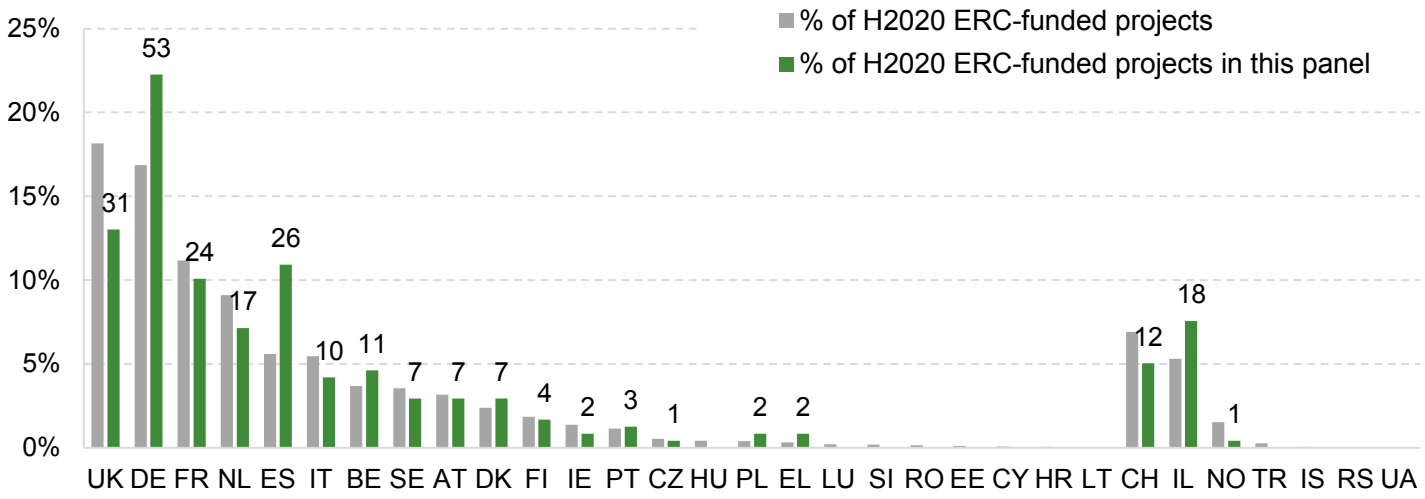
AdG **60** projects
(€148M)

74 female grantees
(31% of grantees in this panel)

€459 million budget

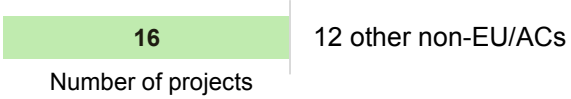
Distribution of ERC-funded projects in EU Member States and Associated Countries in H2020

The 238 funded projects (numbers in the graph) are in 16 EU Member States and 3 Associated Countries (ACs)



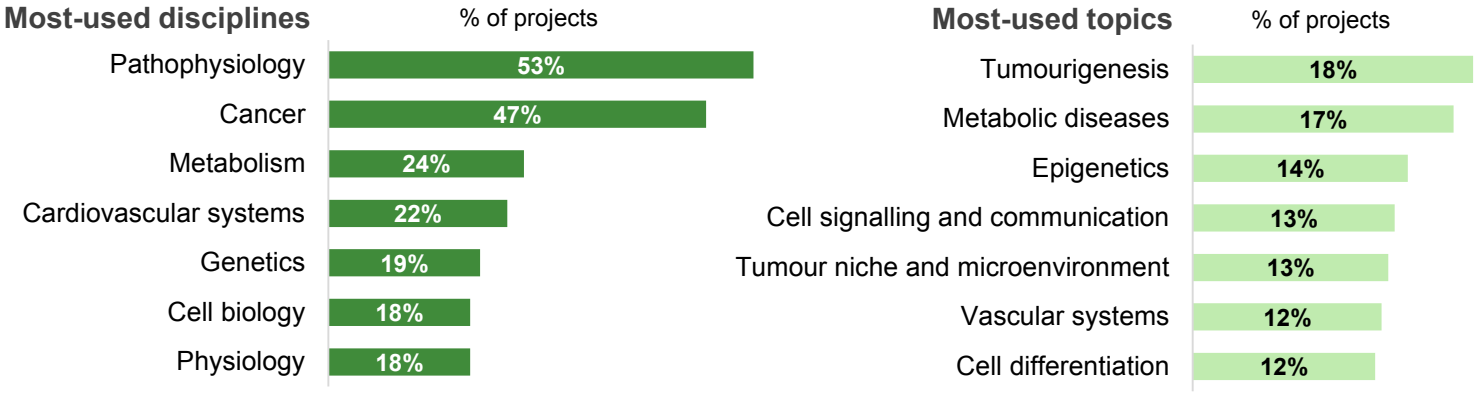
Host institutions with ≥6 funded projects

Country of origin of grantees other than EU or ACs (≤3 grouped together)



*Data as of December 2021

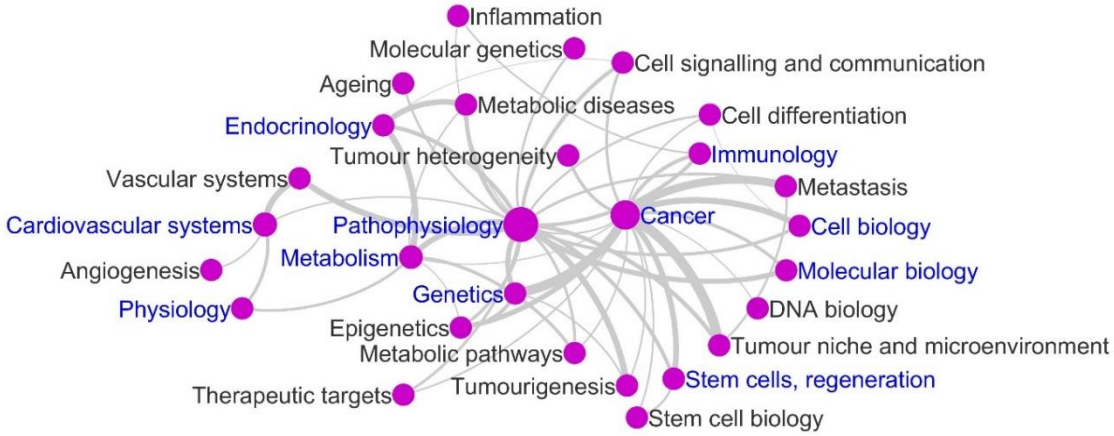
Scientific landscape of ERC-funded projects in this panel



- *Genetics, Cell biology,* and *Cell signalling and communication* grew in use from 2014 to 2020
- *Physiology* was used more in StG projects compared to those funded in CoG and AdG schemes, while *Tumourigenesis* and *Vascular systems* were used more in CoG projects and *Cell biology* and *Cell differentiation* were used more in AdG projects
- Around 1/5 of the projects in this panel generate methodological developments. *Animal models for cancer* and *Biostatistics* are the main ones

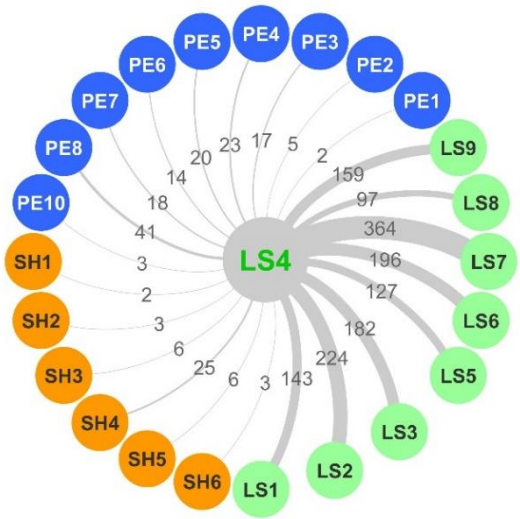
Connections between disciplines and topics in this panel

The strength of the connection between disciplines (blue) and topics (grey) is represented by the thickness of the arcs, which is proportional to the number of times they appear together



Synergies with other panels and domains

The strength of the connections is represented by the thickness of the arcs and the numbers indicated, which are proportional to the number of shared disciplines



- **LS domain**: the main interactions are with the Applied Medical Technologies, Diagnostics, Therapies and Public Health (LS7), Genetics, 'Omics', Bioinformatics and Systems Biology (LS2), and Immunity and Infection (LS6) panels through the disciplines *Cancer, Genetics, Cardiovascular systems* and *Cell biology*
- **SH domain**: the interaction is not very strong, but there is some connection with The Human Mind and Its Complexity (SH4) panel through the discipline *Neuroscience*
- **PE domain**: the interaction is not very strong, but there is some connection with the Products and Processes Engineering (PE8) panel

Neuroscience and Neural Disorders (LS5)

This fact sheet provides an overview of the projects funded in the 'Neuroscience and Neural Disorders' panel in the Life Sciences (LS) domain (see ERC panel structure). The projects were funded under the Starting Grant (StG), Consolidator Grant (CoG) and Advanced Grant (AdG) calls launched in the H2020 Framework Programme (2014–2020)*

2093 applications
(3.9% of total)

284 projects funded
(4.3% of total)

122 projects
(€181M)

92 projects
(€179M)

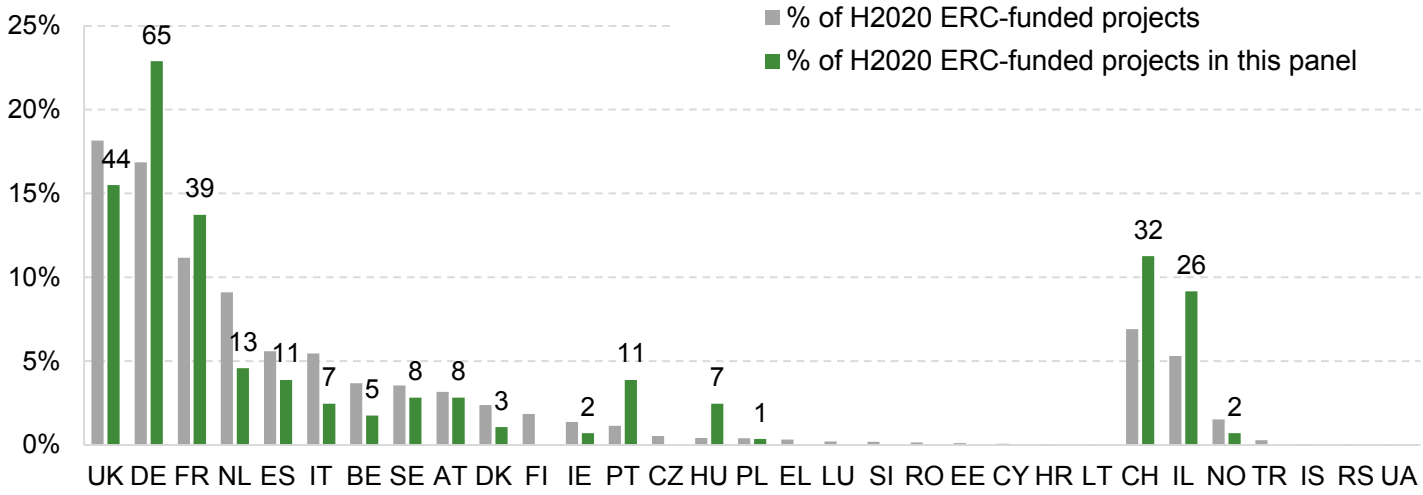
70 projects
(€169M)

92 female grantees
(32% of grantees in this panel)

€529 million budget

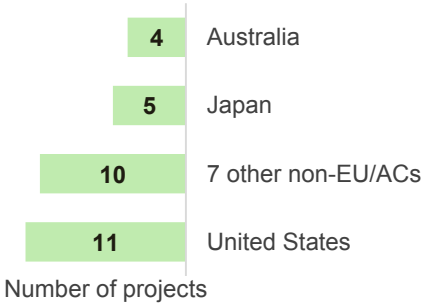
Distribution of ERC-funded projects in EU Member States and Associated Countries in H2020

The 284 funded projects (numbers in the graph) are in 14 EU Member States and 3 Associated Countries (ACs)



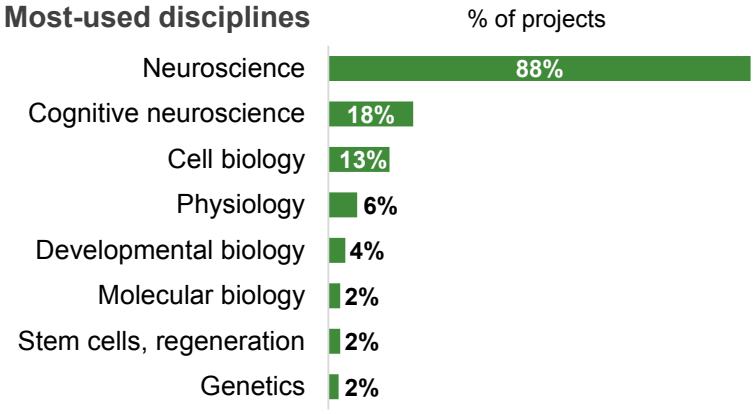
Host institutions with ≥9 funded projects

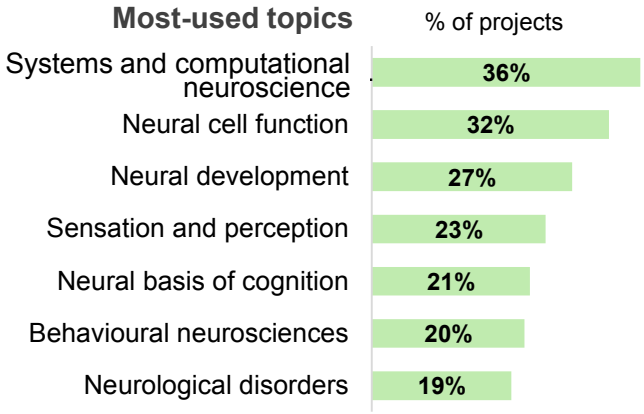
Country of origin of grantees other than EU or ACs (≤3 grouped together)



*Data as of December 2021

Scientific landscape of ERC-funded projects in this panel

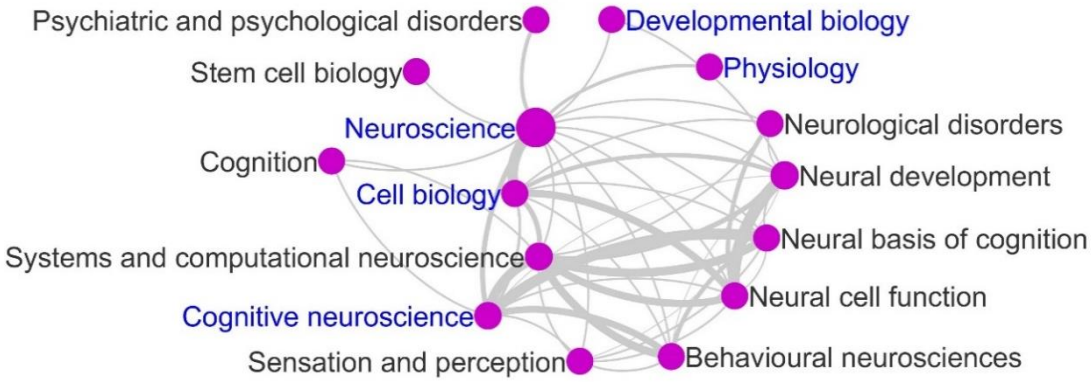




- *Cognitive neuroscience* and *Neural cell function* grew in use from 2014 to 2020
- *Cognitive neuroscience*, *Cell biology, Molecular biology, Sensation and perception, Behavioural neurosciences* and *Neurological disorders* were used more in CoG projects compared to those funded in StG and AdG schemes, while *Neural cell function* was used more in AdG projects
- Around 1/5 of the projects in this panel generate methodological developments. *Animal models,* and *DNA, RNA and protein delivery* are the main ones

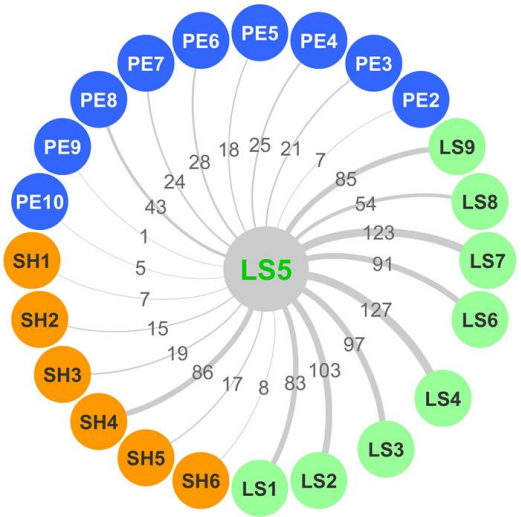
Connections between disciplines and topics in this panel

The strength of the connection between disciplines (blue) and topics (grey) is represented by the thickness of the arcs, which is proportional to the number of times they appear together



Synergies with other panels and domains

The strength of the connections is represented by the thickness of the arcs and the numbers indicated, which are proportional to the number of shared disciplines



- **LS domain**: the main interactions are with the Physiology, Pathophysiology and Endocrinology (LS4), Applied Medical Technologies, Diagnostics, Therapies and Public Health (LS7), and Genetics, 'Omics', Bioinformatics and Systems Biology (LS2) panels through the disciplines *Cell biology, Neuroscience* and *Physiology*
- **SH domain**: the interaction is not very strong, but there is some connection with The Human Mind and Its Complexity (SH4) panel through the discipline *Cognitive neuroscience*
- **PE domain**: the interaction is not very strong, but there is some connection with the Products and Processes Engineering (PE8) panel

Immunity and Infection (LS6)

This fact sheet provides an overview of the projects funded in the 'Immunity and Infection' panel in the Life Sciences (LS) domain (see ERC panel structure). The projects were funded under the Starting Grant (StG), Consolidator Grant (CoG) and Advanced Grant (AdG) calls launched in the H2020 Framework Programme (2014–2020)*

1442 applications
(2.7% of total)

187 projects funded
(2.8% of total)

73 projects
(€111M)

63 projects
(€130M)

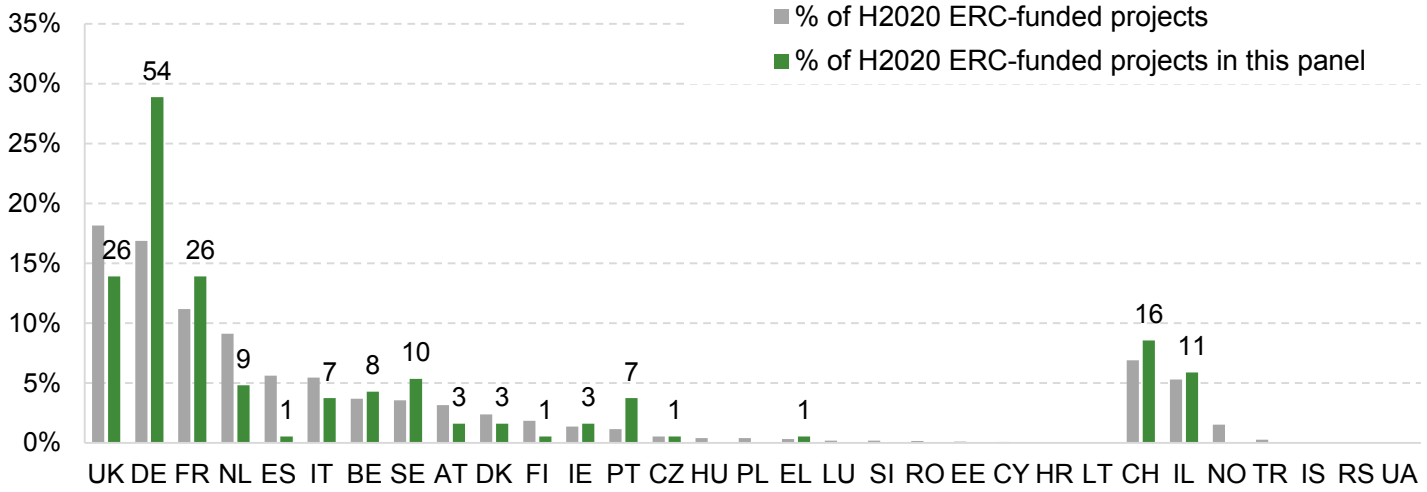
51 projects
(€121M)

55 female grantees
(29% of grantees in this panel)

€362 million budget

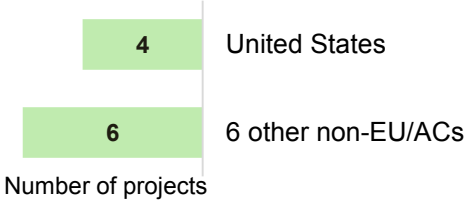
Distribution of ERC-funded projects in EU Member States and Associated Countries in H2020

The 187 funded projects (numbers in the graph) are in 15 EU Member States and 2 Associated Countries (ACs)



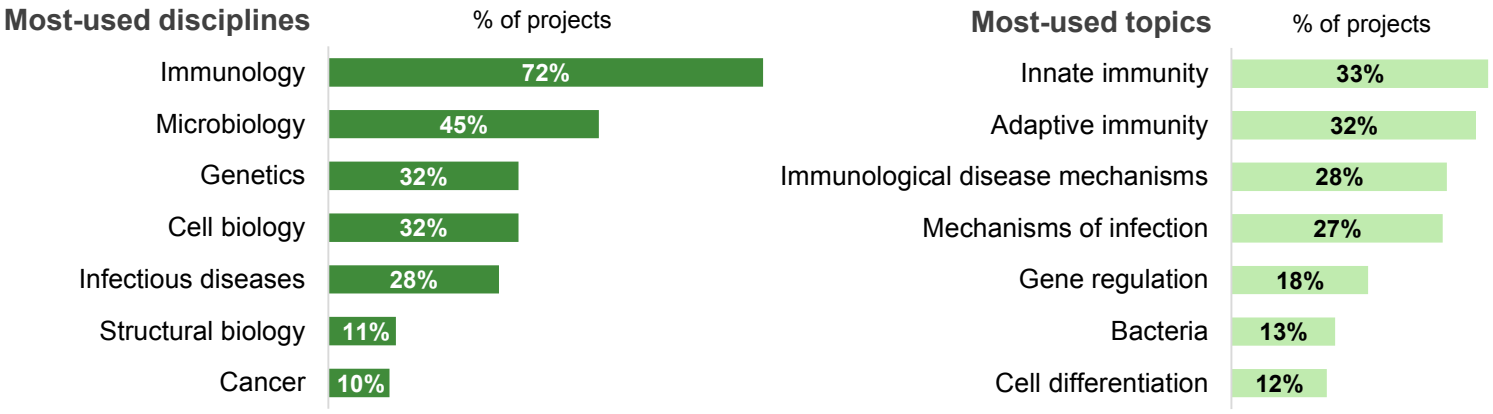
Host institutions with ≥5 funded projects

Country of origin of grantees other than EU or ACs (≤3 grouped together)



*Data as of December 2021

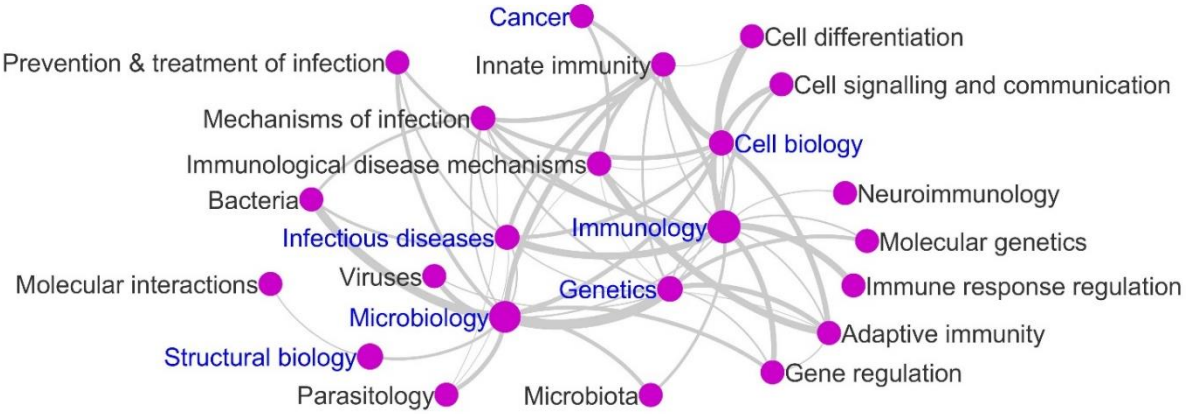
Scientific landscape of ERC-funded projects in this panel



- *Structural biology* and *Immune response regulation* grew in use from 2014 to 2020
- *Microbiology, Genetics, Cell biology* and *Gene regulation* were used more in StG and CoG projects compared to those funded in AdG scheme, while *Cancer* and *Immunological disease mechanisms* were used more in AdG projects
- Around 1/5 of the projects in this panel generate methodological developments. *Animal models* and *Cell and tissue studies* are the main ones

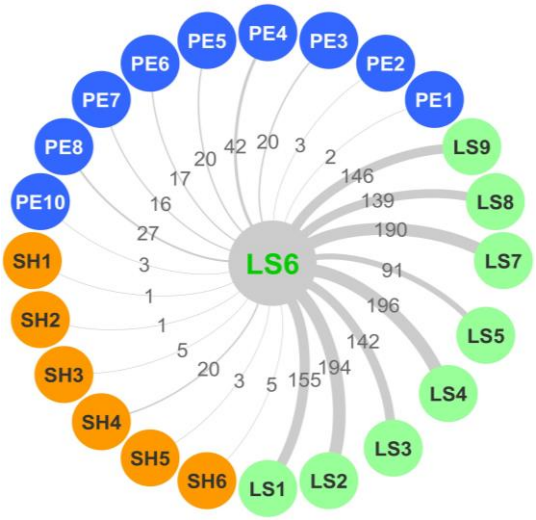
Connections between disciplines and topics in this panel

The strength of the connection between disciplines (blue) and topics (grey) is represented by the thickness of the arcs, which is proportional to the number of times they appear together



Synergies with other panels and domains based on shared disciplines

The strength of the connections is represented by the thickness of the arcs and the numbers indicated, which are proportional to the number of shared disciplines



- **LS domain**: the main interactions are with the Physiology, Pathophysiology and Endocrinology (LS4), Genetics, 'Omics', Bioinformatics and Systems Biology (LS2), and Applied Medical Technologies, Diagnostics, Therapies and Public Health (LS7) panels through the disciplines *Genetics, Immunology* and *Cell biology*
- **SH domain**: the interaction is not very strong, but there is some connection with The Human Mind and Its Complexity (SH4) panel through the discipline *Neuroscience*
- **PE domain**: the interaction is not very strong, but there is some connection with the Physical and Analytical Chemical Sciences (PE4) panel through the discipline *Structural biology*

Applied Medical Technologies, Diagnostics, Therapies and Public Health (LS7)

This fact sheet provides an overview of the projects funded in the 'Applied Medical Technologies, Diagnostics, Therapies and Public Health' panel in the Life Sciences (LS) domain (see ERC panel structure). The projects were funded under the Starting Grant (StG), Consolidator Grant (CoG) and Advanced Grant (AdG) calls launched in the H2020 Framework Programme (2014–2020)*

3015 applications
(5.6% of total)

345 projects funded
(5.2% of total)

StG **143** projects
(€219M)

CoG **118** projects
(€236M)

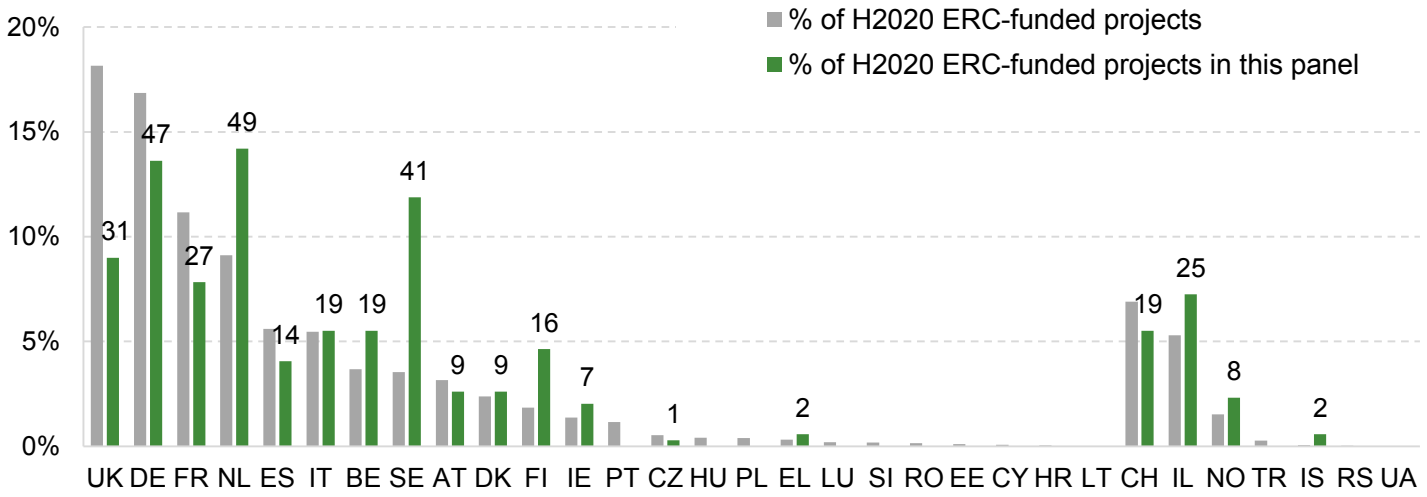
AdG **84** projects
(€207M)

104 female grantees
(30% of grantees in this panel)

€662 million budget

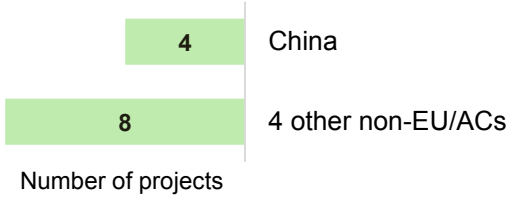
Distribution of ERC-funded projects in EU Member States and Associated Countries in H2020

The 345 funded projects (numbers in the graph) are in 14 EU Member States and 4 Associated Countries (ACs)



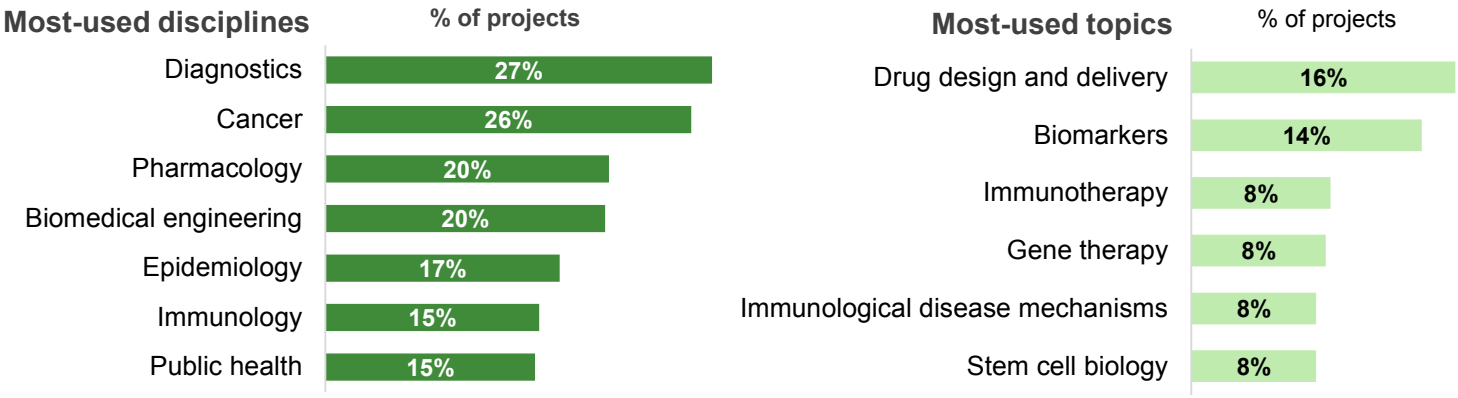
Host institutions with ≥9 funded projects

Country of origin of grantees other than EU or ACs (≤3 grouped together)



*Data as of December 2021

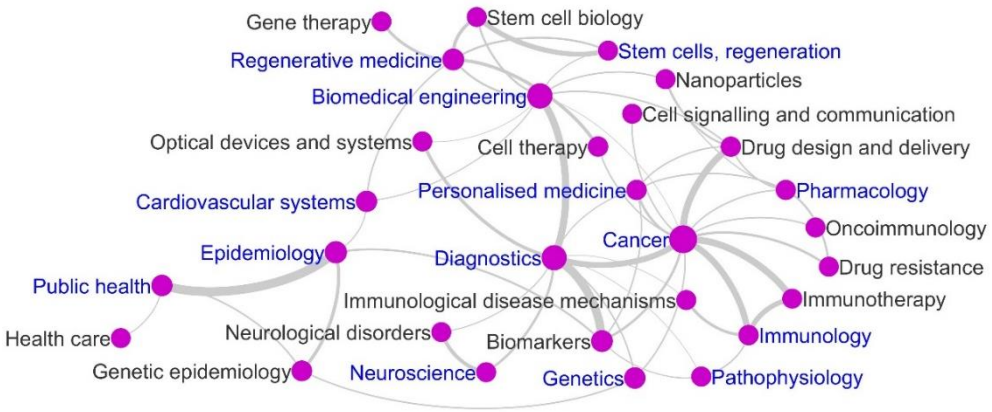
Scientific landscape of ERC-funded projects in this panel



- *Immunology, Immunotherapy* and *Cell therapy* grew in use from 2014 to 2020
- *Biomedical engineering, Public health* and *Biomarkers* were used more in StG projects compared to those funded in CoG and AdG schemes, while *Cancer, Pharmacology*, *Immunology, Immunotherapy* and *Gene therapy* were used more in AdG projects
- Around half of the projects in this panel generate methodological developments. *Animal models for developing and testing therapies,* and *Whole organism imaging* are the main ones

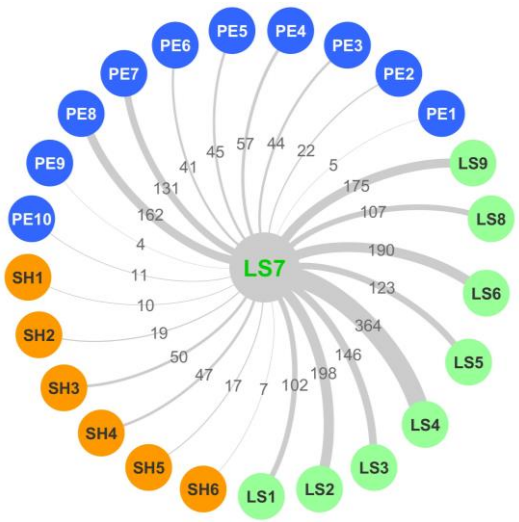
Connections between disciplines and topics in this panel

The strength of the connection between disciplines (blue) and topics (grey) is represented by the thickness of the arcs, which is proportional to the number of times they appear together



Synergies with other panels and domains

The strength of the connections is represented by the thickness of the arcs and the numbers indicated, which are proportional to the number of shared disciplines



- **LS domain**: the main interactions are with the Physiology, Pathophysiology and Endocrinology (LS4), Genetics, 'Omics', Bioinformatics and Systems Biology (LS2), and Immunity and Infection (LS6) panels through the disciplines *Cancer, Immunology, Cardiovascular systems* and *Genetics*
- **SH domain**: the interaction is not very strong, but there is some connection with The Social World, Diversity, Population (SH3), and The Human Mind and Its Complexity (SH4) panels through the disciplines *Public health* and *Neuroscience*
- **PE domain**: the main interactions are with the Products and Processes Engineering (PE8), and Systems and Communication Engineering (PE7) panels through the discipline *Biomedical engineering*

Ecology, Evolution and Environmental Biology (LS8)

This fact sheet provides an overview of the projects funded in the 'Ecology, Evolution and Environmental Biology' panel in the Life Sciences (LS) domain (see ERC panel structure). The projects were funded under the Starting Grant (StG), Consolidator Grant (CoG) and Advanced Grant (AdG) calls launched in the H2020 Framework Programme (2014–2020)*

2014 applications
(3.7% of total)

259 projects funded
(3.9% of total)

StG **110** projects
(€167M)

CoG **91** projects
(€183M)

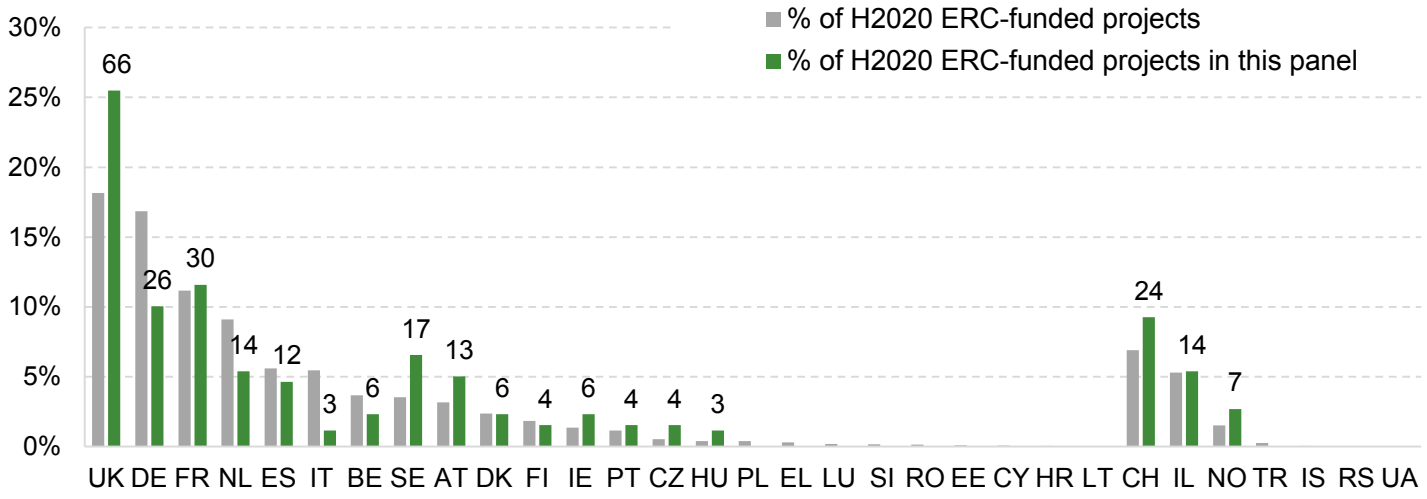
AdG **58** projects
(€143M)

97 female grantees
(37% of grantees in this panel)

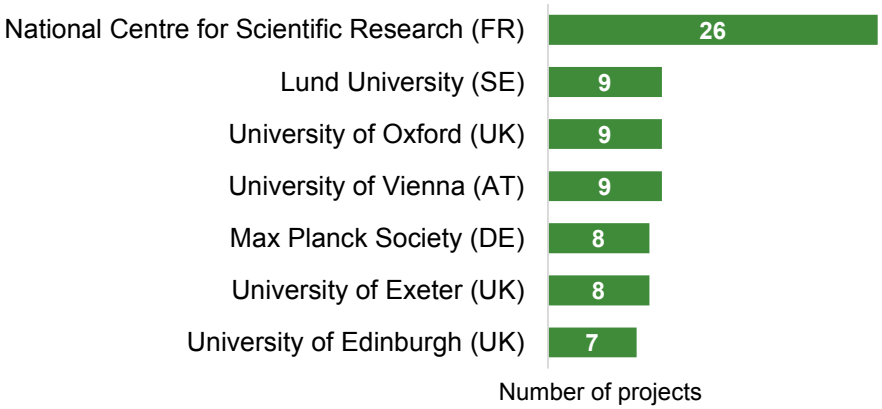
€493 million budget

Distribution of ERC-funded projects in EU Member States and Associated Countries in H2020

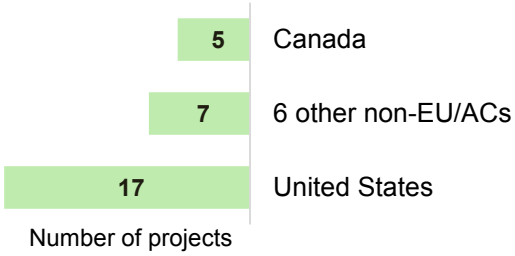
The 259 funded projects (numbers in the graph) are in 15 EU Member States and 3 Associated Countries (ACs)



Host institutions with ≥7 funded projects

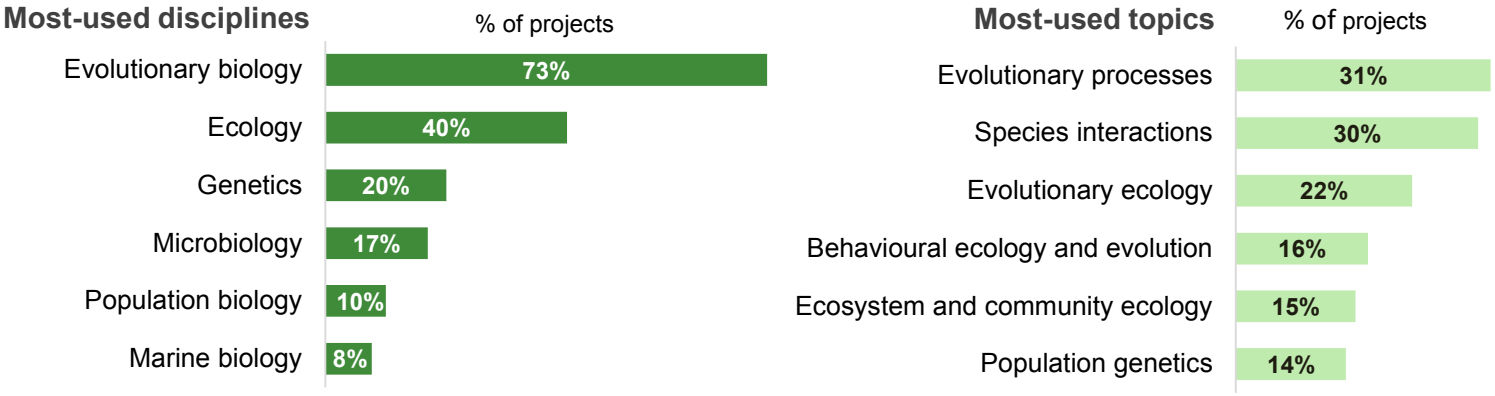


Country of origin of grantees other than EU or ACs (≤3 grouped together)



*Data as of December 2021

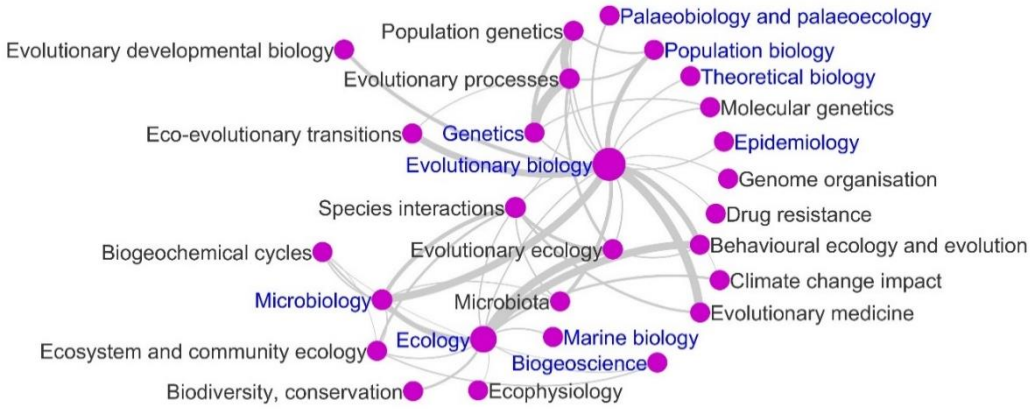
Scientific landscape of ERC-funded projects in this panel



- *Population biology, Microbiology* and *Evolutionary processes* grew in use from 2014 to 2020
- *Ecology*, *Population biology,* and *Ecosystem and community ecology* were used more in StG projects compared to those funded in CoG and AdG schemes, while *Evolutionary processes* and *Population genetics* were used more in CoG projects and *Microbiology*, *Marine biology* and *Evolutionary ecology* were used more in AdG projects
- Around 1/3 of the projects in this panel generate methodological developments. *Computational modelling, simulations* and *Statistical methods* are the main ones

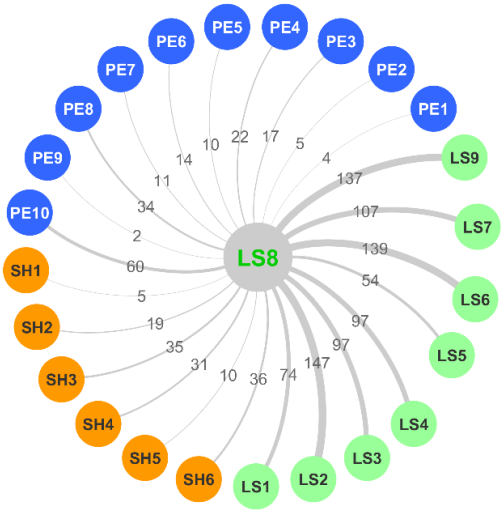
Connections between disciplines and topics in this panel

The strength of the connection between disciplines (blue) and topics (grey) is represented by the thickness of the arcs, which is proportional to the number of times they appear together



Synergies with other panels and domains

The strength of the connections is represented by the thickness of the arcs and the numbers indicated, which are proportional to the number of shared disciplines



- **LS domain**: the main interactions are with the Genetics, 'Omics', Bioinformatics and Systems Biology (LS2), Immunity and Infection (LS6), and Applied Life Sciences, Biotechnology, and Molecular and Biosystems Engineering (LS9) panels through the disciplines *Genetics, Microbiology* and *Evolutionary biology*
- **SH domain**: the interaction is not very strong, but there are some connections with The Study of the Human Past (SH6) and The Social World, Diversity, Population (SH3) panels through the disciplines *Palaeobiology and palaeoecology,* and *Ecology*
- **PE domain**: the interaction is not very strong, but there is some connection with the Earth System Science (PE10) panel through the disciplines *Biogeoscience,* and *Palaeobiology and palaeoecology*

Applied Life Sciences, Biotechnology, and Molecular and Biosystems Engineering (LS9)

This fact sheet provides an overview of the projects funded in the 'Applied Life Sciences, Biotechnology, and Molecular and Biosystems Engineering' panel in the Life Sciences (LS) domain (see ERC panel structure). The projects were funded under the Starting Grant (StG), Consolidator Grant (CoG) and Advanced Grant (AdG) calls launched in the H2020 Framework Programme (2014–2020)*

1460 applications
(2.7% of total)

194 projects funded
(2.9% of total)

StG **85** projects
(€131M)

CoG **68** projects
(€135M)

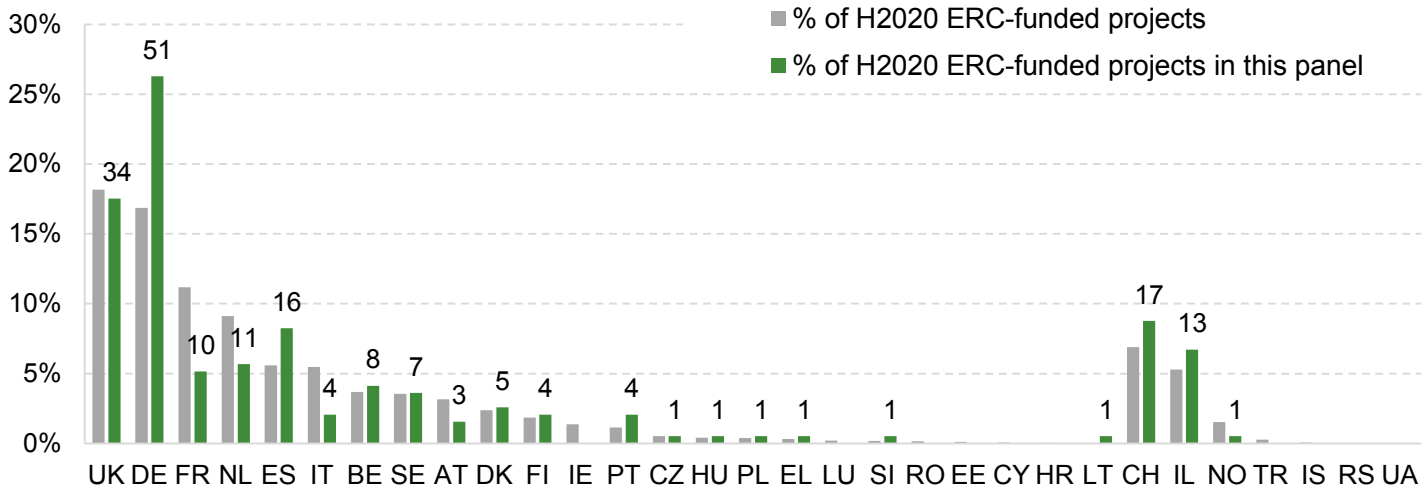
AdG **41** projects
(€104M)

64 female grantees
(33% of grantees in this panel)

€370 million budget

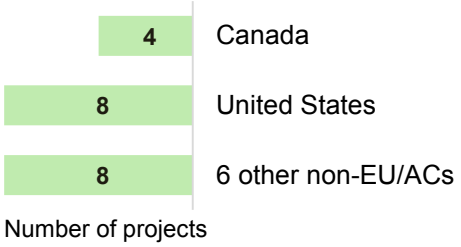
Distribution of ERC-funded projects in EU Member States and Associated Countries in H2020

The 194 funded projects (numbers in the graph) are in 18 EU Member States and 3 Associated Countries (ACs)



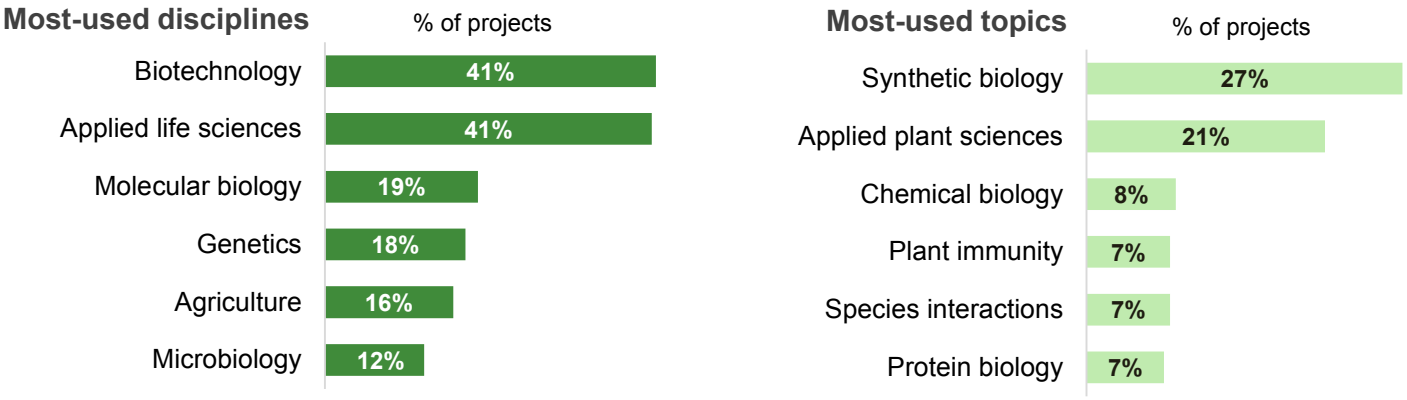
Host institutions with ≥5 funded projects

Country of origin of grantees other than EU or ACs (≤3 grouped together)



*Data as of December 2021

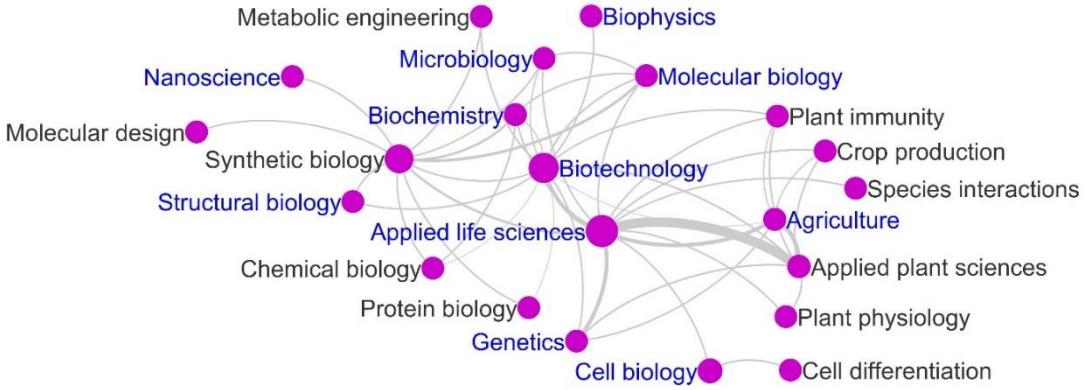
Scientific landscape of ERC-funded projects in this panel



- *Applied life sciences, Agriculture* and *Molecular interactions* grew in use from 2014 to 2020
- *Genetics, Microbiology* and *Species interactions* were used more in StG projects compared to those funded in CoG and AdG schemes, while *Protein biology* were used more in CoG projects and *Agriculture, Applied plant sciences* and *Chemical biology* in AdG projects
- Around 1/3 of the projects in this panel generate methodological developments. *Computational modelling, simulations* and *Biochemistry techniques* are the main ones

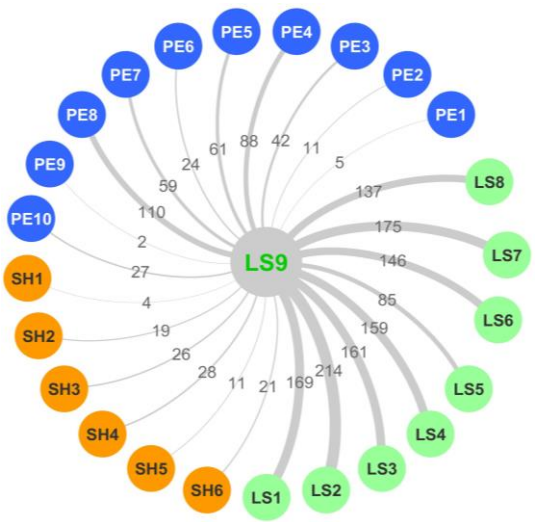
Connections between disciplines and topics in this panel

The strength of the connection between disciplines (blue) and topics (grey) is represented by the thickness of the arcs, which is proportional to the number of times they appear together



Synergies with other panels and domains

The strength of the connections is represented by the thickness of the arcs and the numbers indicated, which are proportional to the number of shared disciplines



- **LS domain**: the main interactions are with the Genetics, 'Omics', Bioinformatics and Systems Biology (LS2), Applied Medical Technologies, Diagnostics, Therapies and Public Health (LS7), and Molecular Biology, Biochemistry, Structural Biology and Molecular Biophysics (LS1) panels through the disciplines *Molecular biology, Genetics, Biochemistry* and *Cell biology*
- **SH domain**: the interaction is not very strong, but there are some connections with The Human Mind and Its Complexity (SH4), and The Social World, Diversity, Population (SH3) panels
- **PE domain**: the main interactions are with the Products and Processes Engineering (PE8), and Physical and Analytical Chemical Sciences (PE4) panels through the disciplines *Biochemistry* and *Biotechnology*

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