

ERC Keywords

For the evaluation of FP-RESOMUS Fellowship proposals, please select three of the ERC following keywords.

Social Sciences and Humanities

SH1 Individuals, Markets and Organisations: Economics, finance and management

- SH1_1 Macroeconomics; monetary economics; economic growth
- SH1_2 International trade; international business; international management; spatial; economics
- SH1_3 Development economics, health economics, education economics
- SH1_4 Financial economics; banking; corporate finance; international finance; accounting; auditing; insurance
- SH1_5 Labour and demographic economics; human resource management
- SH1_6 Econometrics; operations research
- SH1_7 Behavioural economics; experimental economics; neuro-economics
- SH1_8 Microeconomics; game theory
- SH1_9 Industrial organisation; strategy; entrepreneurship
- SH1_10 Management; marketing; organisational behaviour; operations management
- SH1_11 Technological change, innovation, research & development
- SH1_12 Agricultural economics; energy economics; environmental economics
- SH1_13 Public economics; political economics; law and economics
- SH1_14 Quantitative economic history; institutional economics; economic systems

SH2 Institutions, Values, Environment and Space: Political science, law, sustainability science, geography, regional studies and planning

- SH2_1 Political systems, governance
- SH2_2 Democratisation and social movements
- SH2_3 Conflict resolution, war
- SH2_4 Legal studies, constitutions, human rights, comparative law
- SH2_5 International relations, global and transnational governance
- SH2_6 Sustainability sciences, environment and resources
- SH2_7 Environmental and climate change, societal impact and policy
- SH2_8 Energy, transportation and mobility
- SH2_9 Urban, regional and rural studies
- SH2_10 Land use and regional planning
- SH2_11 Human, economic and social geography
- SH2_12 GIS, spatial analysis; big data in political, geographical and legal studies

SH3 The Social World, Diversity, Population: Sociology, social psychology, social anthropology, demography, education, communication

- SH3_1 Social structure, social mobility
- SH3_2 Inequalities, discrimination, prejudice, aggression and violence, antisocial behaviour
- SH3_3 Social integration, exclusion, prosocial behaviour
- SH3_4 Attitudes and beliefs
- SH3_5 Social influence; power and group behaviour
- SH3_6 Kinship; diversity and identities, gender, interethnic relations
- SH3_7 Social policies, welfare

- SH3_8 Population dynamics; households, family and fertility
- SH3_9 Health, ageing and society
- SH3_10 Religious studies, ritual; symbolic representation
- SH3_11 Social aspects of learning, curriculum studies, educational policies
- SH3_12 Communication and information, networks, media
- SH3_13 Digital social research
- SH3_14 Science and technology studies

SH4 The Human Mind and Its Complexity: Cognitive science, psychology, linguistics, philosophy of mind

- SH4_1 Cognitive basis of human development and education, developmental disorders, comparative cognition
- SH4_2 Personality and social cognition; emotion
- SH4_3 Clinical and health psychology
- SH4_4 Neuropsychology
- SH4_5 Attention, perception, action, consciousness
- SH4_6 Learning, memory; cognition in ageing
- SH4_7 Reasoning, decision-making; intelligence
- SH4_8 Language learning and processing (first and second languages)
- SH4_9 Theoretical linguistics; computational linguistics
- SH4_10 Language typology
- SH4_11 Pragmatics, sociolinguistics, discourse analysis
- SH4_12 Philosophy of mind, philosophy of language
- SH4_13 Philosophy of science, epistemology, logic

SH5 Cultures and Cultural Production: Literature, philology, cultural studies, study of the arts, philosophy

- SH5_1 Classics, ancient literature and art
- SH5_2 Theory and history of literature, comparative literature
- SH5_3 Philology and palaeography; historical linguistics
- SH5_4 Visual and performing arts, film, design
- SH5_5 Music and musicology; history of music
- SH5_6 History of art and architecture, arts-based research
- SH5_7 Museums, exhibitions, conservation and restoration
- SH5_8 Cultural studies, cultural identities and memories, cultural heritage
- SH5_9 Metaphysics, philosophical anthropology; aesthetics
- SH5_10 Ethics; social and political philosophy
- SH5_11 History of philosophy
- SH5_12 Computational Modelling and Digitisation in the Cultural Sphere

SH6 The Study of the Human Past: Archaeology and history

- SH6_1 Historiography, Theory and methods in history, including the analysis of digital data
- SH6_2 Classical archaeology, history of archaeology
- SH6_3 General archaeology, archaeometry, landscape archaeology
- SH6_4 Prehistory, palaeoanthropology, palaeodemography, protohistory
- SH6_5 Ancient history
- SH6_6 Medieval history
- SH6_7 Early modern history

SH6_8	Modern and contemporary history
SH6_9	Colonial and post-colonial history
SH6_10	Global history, transnational history, comparative history, entangled histories
SH6_11	Social and economic history
SH6_12	Gender history; Cultural History; History of Collective Identities and Memories
SH6_13	History of Ideas, Intellectual History, history of economic thought
SH6_14	History of Science, Medicine and Technologies

Physical Sciences and Engineering

PE1 Mathematics: All areas of mathematics, pure and applied, plus mathematical foundations of computer science, mathematical physics and statistics

PE1_1	Logic and foundations
PE1_2	Algebra
PE1_3	Number theory
PE1_4	Algebraic and complex geometry
PE1_5	Geometry
PE1_6	Topology
PE1_7	Lie groups, Lie algebras
PE1_8	Analysis
PE1_9	Operator algebras and functional analysis
PE1_10	ODE and dynamical systems
PE1_11	Theoretical aspects of partial differential equations
PE1_12	Mathematical physics
PE1_13	Probability
PE1_14	Statistics
PE1_15	Discrete mathematics and combinatorics
PE1_16	Mathematical aspects of computer science
PE1_17	Numerical analysis
PE1_18	Scientific computing and data processing
PE1_19	Control theory and optimisation
PE1_20	Application of mathematics in sciences
PE1_21	Application of mathematics in industry and society

PE2 Fundamental Constituents of Matter: Particle, nuclear, plasma, atomic, molecular, gas, and optical physics

PE2_1	Fundamental interactions and fields
PE2_2	Particle physics
PE2_3	Nuclear physics
PE2_4	Nuclear astrophysics
PE2_5	Gas and plasma physics
PE2_6	Electromagnetism
PE2_7	Atomic, molecular physics
PE2_8	Ultra-cold atoms and molecules
PE2_9	Optics, non-linear optics and nano-optics
PE2_10	Quantum optics and quantum information
PE2_11	Lasers, ultra-short lasers and laser physics

- PE2_12 Relativity
- PE2_13 Thermodynamics
- PE2_14 Non-linear physics
- PE2_15 Metrology and measurement
- PE2_16 Statistical physics (gases)

PE3 Condensed Matter Physics: Structure, electronic properties, fluids, nanosciences, biological physics

- PE3_1 Structure of solids, material growth and characterisation
- PE3_2 Mechanical and acoustical properties of condensed matter, Lattice dynamics
- PE3_3 Transport properties of condensed matter
- PE3_5 Physical properties of semiconductors and insulators
- PE3_6 Macroscopic quantum phenomena: superconductivity, superfluidity, etc.
- PE3_7 Spintronics
- PE3_8 Magnetism and strongly correlated systems
- PE3_9 Condensed matter – beam interactions (photons, electrons, etc.)
- PE3_10 Nanophysics: nanoelectronics, nanophotonics, nanomagnetism, nanoelectromechanics, etc.
- PE3_11 Mesoscopic physics
- PE3_12 Molecular electronics
- PE3_13 Structure and dynamics of disordered systems: soft matter (gels, colloids, liquid crystals, etc.), liquids, glasses, defects, etc.
- PE3_14 Fluid dynamics (physics)
- PE3_15 Statistical physics: phase transitions, noise and fluctuations, models of complex systems, etc.
- PE3_16 Physics of biological systems

PE4 Physical and Analytical Chemical Sciences: Analytical chemistry, chemical theory, physical chemistry/chemical physics

- PE4_1 Physical chemistry
- PE4_2 Spectroscopic and spectrometric techniques
- PE4_3 Molecular architecture and Structure
- PE4_4 Surface science and nanostructures
- PE4_5 Analytical chemistry
- PE4_6 Chemical physics
- PE4_7 Chemical instrumentation
- PE4_8 Electrochemistry, electrodialysis, microfluidics, sensors
- PE4_9 Method development in chemistry
- PE4_10 Heterogeneous catalysis
- PE4_11 Physical chemistry of biological systems
- PE4_12 Chemical reactions: mechanisms, dynamics, kinetics and catalytic reactions
- PE4_13 Theoretical and computational chemistry
- PE4_14 Radiation and Nuclear chemistry
- PE4_15 Photochemistry
- PE4_16 Corrosion
- PE4_17 Characterisation methods of materials
- PE4_18 Environment chemistry

PE5 Synthetic Chemistry and Materials: Materials synthesis, structure-properties relations, functional and advanced materials, molecular architecture, organic chemistry

- PE5_1 Structural properties of materials
- PE5_2 Solid state materials
- PE5_3 Surface modification
- PE5_4 Thin films
- PE5_5 Ionic liquids
- PE5_6 New materials: oxides, alloys, composite, organic-inorganic hybrid, nanoparticles
- PE5_7 Biomaterials, biomaterials synthesis
- PE5_8 Intelligent materials – self assembled materials
- PE5_9 Coordination chemistry
- PE5_10 Colloid chemistry
- PE5_11 Biological chemistry
- PE5_12 Chemistry of condensed matter
- PE5_13 Homogeneous catalysis
- PE5_14 Macromolecular chemistry
- PE5_15 Polymer chemistry
- PE5_16 Supramolecular chemistry
- PE5_17 Organic chemistry

PE6 Computer Science and Informatics: Informatics and information systems, computer science, scientific computing, intelligent systems

- PE6_1 Computer architecture, pervasive computing, ubiquitous computing
- PE6_2 Computer systems, parallel/distributed systems, sensor networks, embedded systems, cyber-physical systems
- PE6_3 Software engineering, operating systems, computer languages
- PE6_4 Theoretical computer science, formal methods, and quantum computing
- PE6_5 Cryptology, security, privacy, quantum crypto
- PE6_6 Algorithms, distributed, parallel and network algorithms, algorithmic game theory
- PE6_7 Artificial intelligence, intelligent systems, multi agent systems
- PE6_8 Computer graphics, computer vision, multimedia, computer games
- PE6_9 Human computer interaction and interface, visualisation and natural language processing
- PE6_10 Web and information systems, database systems, information retrieval and digital libraries, data fusion
- PE6_11 Machine learning, statistical data processing and applications using signal processing (e.g. speech, image, video)
- PE6_12 Scientific computing, simulation and modelling tools
- PE6_13 Bioinformatics, biocomputing, and DNA and molecular computation

PE7 Systems and Communication Engineering: Electrical, electronic, communication, optical and systems engineering

- PE7_1 Control engineering
- PE7_2 Electrical engineering: power components and/or systems
- PE7_3 Simulation engineering and modelling
- PE7_4 (Micro and nano) systems engineering
- PE7_5 (Micro and nano) electronic, optoelectronic and photonic components

- PE7_6 Communication technology, high-frequency technology
- PE7_7 Signal processing
- PE7_8 Networks (communication networks, sensor networks, networks of robots, etc.)
- PE7_9 Man-machine-interfaces
- PE7_10 Robotics
- PE7_11 Components and systems for applications (in e.g. medicine, biology, environment)
- PE7_12 Electrical energy production, distribution, application

PE8 Products and Processes Engineering: Product design, process design and control, construction methods, civil engineering, energy processes, material engineering

- PE8_1 Aerospace engineering
- PE8_2 Chemical engineering, technical chemistry
- PE8_3 Civil engineering, architecture, maritime/hydraulic engineering, geotechnics, waste treatment
- PE8_4 Computational engineering
- PE8_5 Fluid mechanics, hydraulic-, turbo-, and piston engines
- PE8_6 Energy processes engineering
- PE8_7 Mechanical and manufacturing engineering (shaping, mounting, joining, separation)
- PE8_8 Materials engineering (biomaterials, metals, ceramics, polymers, composites, etc.)
- PE8_9 Production technology, process engineering
- PE8_10 Industrial design (product design, ergonomics, man-machine interfaces, etc.)
- PE8_11 Sustainable design (for recycling, for environment, eco-design)
- PE8_12 Lightweight construction, textile technology
- PE8_13 Industrial bioengineering

PE9 Universe Sciences: Astro-physics/chemistry/biology; solar system; stellar, galactic and extragalactic astronomy, planetary systems, cosmology, space science, instrumentation

- PE9_1 Solar and interplanetary physics
- PE9_2 Planetary systems sciences
- PE9_3 Interstellar medium
- PE9_4 Formation of stars and planets
- PE9_5 Astrobiology
- PE9_6 Stars and stellar systems
- PE9_7 The Galaxy
- PE9_8 Formation and evolution of galaxies
- PE9_9 Clusters of galaxies and large scale structures
- PE9_10 High energy and particles astronomy – X-rays, cosmic rays, gamma rays, neutrinos
- PE9_11 Relativistic astrophysics
- PE9_12 Dark matter, dark energy
- PE9_13 Gravitational astronomy
- PE9_14 Cosmology
- PE9_15 Space Sciences
- PE9_16 Very large data bases: archiving, handling and analysis

PE10 Earth System Science: Physical geography, geology, geophysics, atmospheric sciences, oceanography, climatology, cryology, ecology, global environmental change, biogeochemical cycles, natural resources management

- PE10_1 Atmospheric chemistry, atmospheric composition, air pollution

- PE10_2 Meteorology, atmospheric physics and dynamics
- PE10_3 Climatology and climate change
- PE10_4 Terrestrial ecology, land cover change
- PE10_5 Geology, tectonics, volcanology
- PE10_6 Palaeoclimatology, palaeoecology
- PE10_7 Physics of earth's interior, seismology, volcanology
- PE10_8 Oceanography (physical, chemical, biological, geological)
- PE10_9 Biogeochemistry, biogeochemical cycles, environmental chemistry
- PE10_10 Mineralogy, petrology, igneous petrology, metamorphic petrology
- PE10_11 Geochemistry, crystal chemistry, isotope geochemistry, thermodynamics
- PE10_12 Sedimentology, soil science, palaeontology, earth evolution
- PE10_13 Physical geography
- PE10_14 Earth observations from space/remote sensing
- PE10_15 Geomagnetism, palaeomagnetism
- PE10_16 Ozone, upper atmosphere, ionosphere
- PE10_17 Hydrology, water and soil pollution

Life Sciences

LS1 Molecular Biology, Biochemistry, Structural Biology and Molecular Biophysics:

Molecular synthesis, modification, mechanisms and interactions; biochemistry; structural biology, molecular biophysics; metabolism; signalling pathways

- LS1_1 Macromolecular complexes including interactions involving nucleic acids, proteins, lipids and carbohydrates
- LS1_2 Biochemistry and metabolism
- LS1_3 DNA synthesis, modification, repair, recombination, degradation
- LS1_4 RNA synthesis, processing, modification, degradation
- LS1_5 Protein synthesis, modification, turnover
- LS1_6 Lipid synthesis, modification, turnover
- LS1_7 Carbohydrate synthesis, modification, turnover
- LS1_8 Molecular biophysics (e.g. single-molecule approaches, bioenergetics, fluorescence)
- LS1_9 Structural biology and its methodologies (e.g. crystallography, cryo-EM, NMR and new technologies)
- LS1_10 Molecular mechanisms of signalling pathways
- LS1_11 Fundamental aspects of synthetic biology and chemical biology

LS2 Genetics, 'Omics', Bioinformatics and Systems Biology: Molecular genetics, quantitative genetics, genetic epidemiology, epigenetics, genomics, metagenomics, transcriptomics, proteomics, metabolomics, glycomics, bioinformatics, computational biology, biostatistics, systems biology

- LS2_1 Molecular genetics, reverse genetics, forward genetics, genome editing
- LS2_2 Non coding RNAs
- LS2_3 Quantitative genetics
- LS2_4 Genetic epidemiology
- LS2_5 Epigenetics and gene regulation
- LS2_6 Genomics (e.g. comparative genomics, functional genomics)
- LS2_7 Metagenomics
- LS2_8 Transcriptomics

- LS2_9 Proteomics
- LS2_10 Metabolomics
- LS2_11 Glycomics/Lipidomics
- LS2_12 Bioinformatics
- LS2_13 Computational biology
- LS2_14 Biostatistics
- LS2_15 Systems biology

LS3 Cellular and Developmental Biology: Cell biology, cell physiology, signal transduction, organogenesis, developmental genetics, pattern formation, stem cell biology, in plants and animals and where appropriate in microorganisms

- LS3_1 Morphology and functional imaging of cells and tissues
- LS3_2 Cytoskeleton and cell behaviour (e.g. control of cell shape, cell migration and cellular mechanosensing)
- LS3_3 Organelle biology and trafficking
- LS3_4 Cell junctions, cell-adhesion, cell communication and the extracellular matrix
- LS3_5 Cell signalling and signal transduction
- LS3_6 Cell cycle, division and growth
- LS3_7 Cell death (including senescence) and autophagy
- LS3_8 Cell differentiation, physiology and dynamics
- LS3_9 Developmental genetics in animals and plants
- LS3_10 Embryology and pattern formation in animals and plants
- LS3_11 Tissue organisation and morphogenesis in animals and plants (including biophysical approaches)
- LS3_12 Stem cell biology in development, tissue regeneration and ageing, and fundamental aspects of stem cell-based therapies

LS4 Physiology, Pathophysiology and Endocrinology: Organ physiology, pathophysiology, endocrinology, metabolism, ageing, tumorigenesis, cardiovascular diseases, metabolic syndromes

- LS4_1 Organ physiology and pathophysiology
- LS4_2 Comparative physiology and pathophysiology
- LS4_3 Molecular aspects of endocrinology
- LS4_4 Fundamental mechanisms underlying ageing
- LS4_5 Metabolism, biological basis of metabolism related disorders
- LS4_6 Fundamental mechanisms underlying cancer
- LS4_7 Fundamental mechanisms underlying cardiovascular diseases
- LS4_8 Non-communicable diseases (except for neural/psychiatric and immunity-related)

LS5 Neuroscience and Neural Disorders: Neural cell function and signalling, systems neuroscience, neural bases of cognitive and behavioural processes, neurological and psychiatric disorders

- LS5_1 Neural cell function, communication and signalling, neurotransmission in neuronal and/or glial cells
- LS5_2 Systems neuroscience and computational neuroscience (e.g. neural networks, neural modelling)
- LS5_3 Neuronal development, plasticity and regeneration
- LS5_4 Sensation and perception (e.g. sensory systems, sensory processing, pain)
- LS5_5 Neural bases of cognitive processes (e.g. memory, learning, attention)
- LS5_6 Neural bases of behaviour (e.g. sleep, consciousness, addiction)
- LS5_7 Neurological disorders (e.g. neurodegenerative diseases, seizures)

- LS5_8 Psychiatric disorders (e.g. affective and anxiety disorders, autism, psychotic disorders)
- LS5_9 Neurotrauma and neurovascular conditions (including injury, blood-brain barrier, stroke, neurorehabilitation)

LS6 Immunity and Infection: The immune system and related disorders, biology of infectious agents and infection, biological basis of prevention and treatment of infectious diseases

- LS6_1 Innate immunity in animals and plants
- LS6_2 Adaptive immunity
- LS6_3 Regulation and effector functions of the immune response (e.g. cytokines, interferons and chemokines, inflammation, immune signalling, helper T cells, immunological memory, immunological tolerance, cell-mediated cytotoxicity, complement)
- LS6_4 Immunological mechanisms in disease (e.g. autoimmunity, allergy, transplantation immunology, tumour immunology)
- LS6_5 Biology of pathogens (e.g. bacteria, viruses, parasites, fungi)
- LS6_6 Mechanisms of infection (e.g. transmission, virulence factors, host defences, immunity to pathogens, molecular pathogenesis)
- LS6_7 Biological basis of prevention and treatment of infection (e.g. infection natural cycle, reservoirs, vectors, vaccines, antimicrobials)
- LS6_8 Infectious diseases in animals and plants

LS7 Applied Medical Technologies, Diagnostics, Therapies, and Public Health: Development of tools for diagnosis, monitoring and treatment of diseases, pharmacology, clinical medicine, regenerative medicine, epidemiology and public health

- LS7_1 Imaging for medical diagnosis
- LS7_2 Genetic tools for medical diagnosis
- LS7_3 Other medical technologies for diagnosis and monitoring of diseases
- LS7_4 Pharmacology and pharmacogenomics (including drug discovery and design, drug delivery and therapy, toxicology)
- LS7_5 Applied gene and cell therapies, regenerative medicine
- LS7_6 Radiation therapy
- LS7_7 Analgesia and surgery
- LS7_8 Epidemiology and public health
- LS7_9 Environmental health, occupational medicine
- LS7_10 Health services, health care research, medical ethics

LS8 Ecology, Evolution and Environmental Biology: Population, community and ecosystem ecology, evolutionary biology, behavioural ecology, microbial ecology

- LS8_1 Ecosystem and community ecology, macroecology
- LS8_2 Biodiversity, conservation biology, conservation genetics
- LS8_3 Population biology, population dynamics, population genetics
- LS8_4 Evolutionary ecology
- LS8_5 Evolutionary genetics
- LS8_6 Phylogenetics, systematics, comparative biology
- LS8_7 Macroevolution and paleobiology
- LS8_8 Coevolution, biological mechanisms and ecology of species interactions (e.g. symbiosis, parasitism, mutualism, food-webs)
- LS8_9 Behavioural ecology and evolution
- LS8_10 Microbial ecology and evolution
- LS8_11 Marine biology and ecology

LS9 Applied Life Sciences, Biotechnology and Molecular and Biosystems engineering:

Applied plant and animal sciences; forestry; food sciences; applied biotechnology; environmental, and marine biotechnology; applied bioengineering; biomass, biofuels; biohazards

- LS9_1 Applied biotechnology (including, transgenic organisms, applied genetics and genomics, biosensors, bioreactors, microbiology, bioactive compounds)
- LS9_2 Applied bioengineering, synthetic biology, chemical biology, nanobiotechnology, metabolic engineering, protein and glyco-engineering, tissue engineering, biocatalysis, biomimetics
- LS9_3 Applied animal sciences (including animal breeding, veterinary sciences, animal husbandry, animal welfare, aquaculture, fisheries, insect gene drive)
- LS9_4 Applied plant sciences (including crop production, plant breeding, agroecology, forestry, soil biology)
- LS9_5 Food sciences (including food technology, food safety, nutrition)
- LS9_6 Biomass production and utilisation, biofuels
- LS9_7 Environmental biotechnology (including bioindicators, bioremediation, biodegradation)
- LS9_8 Biohazards (including biological containment, biosafety, biosecurity)
- LS9_9 Marine Biotechnology (including marine bioproducts, feed resources, genome mining)