

# Тематические направления, поддерживаемые программой *Ideas*

## Оценочные экспертные группы (evaluation panels)

Заявки на гранты по программе *Ideas* оцениваются экспертами одной из экспертных групп (evaluation panels). Заявитель сам выбирает экспертную группу в соответствии с тематикой исследований его проекта. Всего в Европейском Совете по Исследованиям существует 2 серии экспертных групп: одна для работы со Starting grants и одна – с Advanced grants. Каждая серия содержит 25 экспертных групп, покрывающих все области науки, технологий и образования. Они разделены на три области:

- Social Sciences and Humanities (6 Panels, SH1–SH6)
- Physical Sciences and Engineering (10 Panels, PE1–PE10)
- Life Sciences (9 Panels, LS1–LS9).

### Полный список экспертных групп:

#### Domain 1: Social Sciences and Humanities

##### **SH1 Individuals, institutions and markets:** economics, finance and management

- SH1\_1 Macroeconomics, growth, business cycles
- SH1\_2 Microeconomics, institutional economics
- SH1\_3 Econometrics, statistical methods
- SH1\_4 Financial markets, banking and corporate finance
- SH1\_5 Competitiveness, innovation, research and development
- SH1\_6 Consumer choice, behavioural economics, marketing
- SH1\_7 Organization studies, strategy
- SH1\_8 Human resource management, employment and earnings
- SH1\_9 Public administration, public economics
- SH1\_10 Income distribution, poverty
- SH1\_11 International trade, economic geography
- SH1\_12 Economic history, development

##### **SH2 Institutions, values, beliefs and behaviour:** sociology, social anthropology, political science, law, communication, social studies of science and technology

- SH2\_1 Social structure, inequalities, social mobility
- SH2\_2 Ageing, work, social policies
- SH2\_3 Kinship, cultural dimensions of classification and cognition, individual and social identity, gender
- SH2\_4 Myth, ritual, symbolic representations, religious studies
- SH2\_5 Ethnography
- SH2\_6 Globalization, migration, interethnic relations
- SH2\_7 Transformation of societies, democratization, social movements
- SH2\_8 Political systems, legitimacy of governance
- SH2\_9 Legal systems, constitutions, foundations of law
- SH2\_10 Private, public and social law
- SH2\_11 Global and transnational governance, international law, human rights
- SH2\_12 Communication networks, media, information society
- SH2\_13 Social studies of science and technology, S&T policies, science and society
- SH2\_14 History of science and technology

##### **SH3 Environment and society:** environmental studies, demography, social geography, urban and regional studies

- SH3\_1 Environment and sustainability
- SH3\_2 Environmental regulation and mediation
- SH3\_3 Social and industrial ecology
- SH3\_4 Geographical information systems, cartography
- SH3\_5 Human and social geography
- SH3\_6 Spatial and regional planning

- SH3\_7 Population dynamics
- SH3\_8 Urbanization and urban planning, cities
- SH3\_9 Mobility and transportation

**SH4 The Human Mind and its complexity:** cognition, psychology, linguistics, philosophy and education

- SH4\_1 Evolution of mind and cognitive functions, animal communication
- SH4\_2 Human life-span development
- SH4\_3 Neuropsychology and cognitive psychology
- SH4\_4 Clinical and experimental psychology,
- SH4\_5 Formal, cognitive, functional and computational linguistics
- SH4\_6 Typological, historical and comparative linguistics
- SH4\_7 Acquisition and knowledge of language: psycholinguistics, neurolinguistics
- SH4\_8 Use of language: pragmatics, sociolinguistics, discourse analysis
- SH4\_9 second language teaching and learning, language pathologies, lexicography, terminology
- SH4\_10 Philosophy, history of philosophy
- SH4\_11 Epistemology, logic, philosophy of science
- SH4\_12 Ethics and morality, bioethics
- SH4\_13 Education: principles, techniques, typologies

**SH5 Cultures and cultural production:** literature, visual and performing arts, music, cultural and comparative studies

- SH5\_1 Classics
- SH5\_2 History of literature
- SH5\_3 Literary theory and comparative literature, literary styles
- SH5\_4 Textual philology and palaeography
- SH5\_5 Visual arts
- SH5\_6 Performing arts
- SH5\_7 Museums and exhibitions
- SH5\_8 Numismatics, epigraphy
- SH5\_9 Music and musicology, history of music
- SH5\_10 History of art and architecture
- SH5\_11 Cultural studies, cultural diversity
- SH5\_12 Cultural memory, intangible cultural heritage

**SH6 The study of the human past:** archaeology, history and memory

- SH6\_1 Archaeology, archaeometry, landscape archaeology
- SH6\_2 Prehistory and protohistory
- SH6\_3 Ancient history, ancient cultures
- SH6\_4 Medieval history
- SH6\_5 Modern and contemporary history
- SH6\_6 Colonial history, entangled histories, global history
- SH6\_7 Military history,
- SH6\_8 Historiography, theory and methods of history
- SH6\_9 History of ideas, intellectual history
- SH6\_10 Social, economic, cultural and political history
- SH6\_11 Collective memories, identities, lieux de mémoire, oral history
- SH6\_12 Cultural heritage

**Domain 2: Mathematics, physical sciences, information and communication, engineering, universe and earth sciences**

**PE1 Mathematical foundations:** 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 Partial differential equations
- PE1\_12 Mathematical physics
- PE1\_13 Probability and statistics
- PE1\_14 Combinatorics
- PE1\_15 Mathematical aspects of computer science
- PE1\_16 Numerical analysis and scientific computing
- PE1\_17 Control theory and optimization
- PE1\_18 Application of mathematics in sciences

**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 Optics and quantum optics
- PE2\_9 Lasers and laser physics
- PE2\_10 Acoustics
- PE2\_11 Relativity
- PE2\_12 Classical physics
- PE2\_13 Thermodynamics
- PE2\_14 Non-linear physics
- PE2\_15 General physics
- PE2\_16 Metrology and measurement
- PE2\_17 Statistical physics (gases)

**PE3 Condensed matter physics:** structure, electronic properties, fluids, nanosciences

- PE3\_1 Structure of solids and liquids
- PE3\_2 Mechanical and acoustical properties of condensed matter
- PE3\_3 Thermal properties of condensed matter
- PE3\_4 Transport properties of condensed matter,
- PE3\_5 Electronic properties of materials and transport
- PE3\_6 Lattice dynamics
- PE3\_7 Semiconductors
- PE3\_8 Superconductivity
- PE3\_9 Superfluids
- PE3\_10 Spintronics
- PE3\_11 Magnetism
- PE3\_12 Nanophysics: nanoelectronics, nanophotonics, nanomagnetism
- PE3\_13 Mesoscopic physics
- PE3\_14 Molecular electronics
- PE3\_15 Soft condensed matter (liquid crystals...)
- PE3\_16 Fluid dynamics (physics)
- PE3\_17 Statistical physics (condensed matter)
- PE3\_18 Phase transitions, phase equilibria
- PE3\_19 Biophysics

**PE4 Physical and Analytical Chemical sciences:** analytical chemistry, chemical theory, physical chemistry/chemical physics

- PE4\_1 Physical chemistry
- PE4\_2 Nanochemistry
- PE4\_3 Spectroscopic and spectrometric techniques
- PE4\_4 Molecular architecture and Structure
- PE4\_5 Surface science
- PE4\_6 Analytical chemistry
- PE4\_7 Chemical physics
- PE4\_8 Chemical instrumentation
- PE4\_9 Electrochemistry, electrodialysis, microfluidics
- PE4\_10 Combinatorial chemistry

- PE4\_11 Method development in chemistry
- PE4\_12 Catalysis
- PE4\_13 Physical chemistry of biological systems
- PE4\_14 Chemical reactions: mechanisms, dynamics, kinetics and catalytic reactions
- PE4\_15 Theoretical and computational chemistry
- PE4\_16 Radiation chemistry
- PE4\_17 Nuclear chemistry
- PE4\_18 Photochemistry

**PE5 Materials and Synthesis:** 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 Corrosion
- PE5\_6 Porous materials
- PE5\_7 Ionic liquids
- PE5\_8 New materials: oxides, alloys, composite, organic-inorganic hybrid, superconductors
- PE5\_9 Materials for sensors
- PE5\_10 Nanomaterials : nanoparticles, nanotubes
- PE5\_11 Biomaterials synthesis
- PE5\_12 Intelligent materials – self assembled materials
- PE5\_13 Environment chemistry
- PE5\_14 Coordination chemistry
- PE5\_15 Colloid chemistry
- PE5\_16 Biological chemistry
- PE5\_17 Chemistry of condensed matter
- PE5\_18 Homogeneous and heterogeneous catalysis
- PE5\_19 Characterization methods of materials
- PE5\_20 Macromolecular chemistry,
- PE5\_21 Polymer chemistry
- PE5\_22 Supramolecular chemistry
- PE5\_23 Organic chemistry
- PE5\_24 Molecular chemistry

**PE6 Computer science and informatics:** informatics and information systems, computer science, scientific computing, intelligent systems

- PE6\_1 Computer architecture
- PE6\_2 Database management
- PE6\_3 Formal methods
- PE6\_4 Graphics and image processing
- PE6\_5 Human computer interaction and interface
- PE6\_6 Informatics and information systems
- PE6\_7 Theoretical computer science including quantum information
- PE6\_8 Intelligent systems
- PE6\_9 Scientific computing
- PE6\_10 Modelling tools
- PE6\_11 Multimedia
- PE6\_12 Parallel and Distributed Computing
- PE6\_13 Speech recognition
- PE6\_14 Systems and software

**PE7 Systems and communication engineering:** electronic, communication, optical and systems engineering

- PE7\_1 Control engineering
- PE7\_2 Electrical and electronic engineering: semiconductors, components, systems
- PE7\_4 Simulation engineering and modelling
- PE7\_5 Systems engineering, sensorics, actorics, automation
- PE7\_6 Micro- and nanoelectronics, optoelectronics
- PE7\_7 Communication technology, high-frequency technology
- PE7\_8 Signal processing
- PE7\_9 Networks
- PE7\_10 Man-machine-interfaces
- PE7\_11 Robotics

**PE8 Products and process engineering:** product design, process design and control, construction methods, civil engineering, energy systems, material engineering

- PE8\_1 Aerospace engineering
- PE8\_2 Chemical engineering, technical chemistry
- PE8\_3 Civil engineering, maritime/hydraulic engineering, geotechnics, waste treatment
- PE8\_4 Computational engineering
- PE8\_5 Fluid mechanics, hydraulic-, turbo-, and piston engines
- PE8\_6 Energy systems (production, distribution, application)
- PE8\_7 Micro(system) engineering,
- PE8\_8 Mechanical and manufacturing engineering (shaping, mounting, joining, separation)
- PE8\_9 Materials engineering (biomaterials, metals, ceramics, polymers, composites, ...)
- PE8\_10 Production technology, process engineering
- PE8\_11 Product design, ergonomics, man-machine interfaces
- PE8\_12 Lightweight construction, textile technology
- PE8\_13 Industrial bioengineering
- PE8\_14 Industrial biofuel production

**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
- PE9\_17 Instrumentation - telescopes, detectors and techniques
- PE9\_18 Solar planetology

**PE10 Earth system science:** physical geography, geology, geophysics, meteorology, oceanography, climatology, 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 Paleoclimatology, paleoecology
- PE10\_7 Physics of earth's interior, seismology, volcanology
- PE10\_8 Oceanography (physical, chemical, biological)
- PE10\_9 Biogeochemistry, biogeochemical cycles, environmental chemistry
- PE10\_10 Mineralogy, petrology, igneous petrology, metamorphic petrology
- PE10\_11 Geochemistry, crystal chemistry, isotope geochemistry, thermodynamics,
- PE10\_13 Sedimentology, soil science, palaeontology, earth evolution
- PE10\_14 Physical geography
- PE10\_15 Earth observations from space/remote sensing
- PE10\_16 Geomagnetism, paleomagnetism
- PE10\_17 Ozone, upper atmosphere, ionosphere
- PE10\_18 Hydrology, water and soil pollution

### **Domain 3: Life Sciences**

**LS1 Molecular and Structural Biology and Biochemistry:** molecular biology, biochemistry, biophysics, structural biology, biochemistry of signal transduction

- LS1\_1 Molecular biology and interactions
- LS1\_2 General biochemistry and metabolism
- LS1\_3 DNA biosynthesis, modification, repair and degradation
- LS1\_4 RNA synthesis, processing, modification and degradation
- LS1\_5 Protein synthesis, modification and turnover
- LS1\_6 Biophysics
- LS1\_7 Structural biology (crystallography, NMR, EM)
- LS1\_8 Biochemistry of signal transduction

**LS2 Genetics, Genomics, Bioinformatics and Systems Biology:** genetics, population genetics, molecular genetics, genomics, transcriptomics, proteomics, metabolomics, bioinformatics, computational biology, biostatistics, biological modelling and simulation, systems biology, genetic epidemiology

- LS2\_1 Genomics, comparative genomics, functional genomics
- LS2\_2 Transcriptomics
- LS2\_3 Proteomics
- LS2\_4 Metabolomics
- LS2\_5 Glycomics
- LS2\_6 Molecular genetics, reverse genetics and RNAi
- LS2\_7 Quantitative genetics
- LS2\_8 Epigenetics and gene regulation
- LS2\_9 Genetic epidemiology
- LS2\_10 Bioinformatics
- LS2\_11 Computational biology
- LS2\_12 Biostatistics
- LS2\_13 Systems biology
- LS2\_14 Biological systems analysis, modelling and simulation

**LS3 Cellular and Developmental Biology:** cell biology, cell physiology, signal transduction, organogenesis, developmental genetics, pattern formation in plants and animals

- LS3\_1 Morphology and functional imaging of cells
- LS3\_2 Cell biology and molecular transport mechanisms
- LS3\_3 Cell cycle and division
- LS3\_4 Apoptosis
- LS3\_5 Cell differentiation, physiology and dynamics
- LS3\_6 Organelle biology
- LS3\_7 Cell signalling and cellular interactions
- LS3\_8 Signal transduction
- LS3\_9 Development, developmental genetics, pattern formation and embryology in animals
- LS3\_10 Development, developmental genetics, pattern formation and embryology in plants
- LS3\_11 Cell genetics
- LS3\_12 Stem cell biology

**LS4 Physiology, Pathophysiology and Endocrinology:** organ physiology, pathophysiology, endocrinology, metabolism, ageing, regeneration, tumorigenesis, cardiovascular disease, metabolic syndrome

- LS4\_1 Organ physiology
- LS4\_2 Comparative physiology
- LS4\_3 Endocrinology
- LS4\_4 Ageing
- LS4\_5 Metabolism, biological basis of metabolism related disorders
- LS4\_6 Cancer and its biological basis
- LS4\_7 Cardiovascular diseases
- LS4\_8 Non-communicable diseases (except for neural/psychiatric, immunity-related, metabolism-related disorders, cancer and cardiovascular diseases)

**LS5 Neurosciences and neural disorders:** neurobiology, neuroanatomy, neurophysiology, neurochemistry, neuropharmacology, neuroimaging, systems neuroscience, neurological disorders, psychiatry

- LS5\_1 Neuroanatomy and neurosurgery
- LS5\_2 Neurophysiology
- LS5\_3 Neurochemistry and neuropharmacology

- LS5\_4 Sensory systems (e.g. visual system, auditory system)
- LS5\_5 Mechanisms of pain
- LS5\_6 Developmental neurobiology
- LS5\_7 Cognition (e.g. learning, memory, emotions, speech)
- LS5\_8 Behavioral neuroscience (e.g. sleep, consciousness, handedness)
- LS5\_9 Systems neuroscience
- LS5\_10 Neuroimaging and computational neuroscience
- LS5\_11 Neurological disorders (e.g. Alzheimer's disease, Huntington's disease, Parkinson's disease)
- LS5\_12 Psychiatric disorders (e.g. schizophrenia, autism, Tourette's syndrome, obsessive compulsive disorder, depression, bipolar disorder, attention deficit hyperactivity disorder)

**LS6 Immunity and infection:** immunobiology, aetiology of immune disorders, microbiology, virology, parasitology, global and other infectious diseases, population dynamics of infectious diseases, veterinary medicine

- LS6\_1 Innate immunity
- LS6\_2 Adaptive immunity
- LS6\_3 Phagocytosis and cellular immunity
- LS6\_4 Immunosignalling
- LS6\_5 Immunological memory and tolerance
- LS6\_6 Immunogenetics
- LS6\_7 Microbiology
- LS6\_8 Virology
- LS6\_9 Bacteriology
- LS6\_10 Parasitology
- LS6\_11 Prevention and treatment of infection by pathogens (e.g. vaccination, antibiotics, fungicide)
- LS6\_12 Biological basis of immunity related disorders
- LS6\_13 Veterinary medicine

**LS7 Diagnostic tools, therapies and public health:** aetiology, diagnosis and treatment of disease, public health, epidemiology, pharmacology, clinical medicine, regenerative medicine, medical ethics

- LS7\_1 Medical engineering and technology
- LS7\_2 Diagnostic tools (e.g. genetic, imaging)
- LS7\_3 Pharmacology, pharmacogenomics, drug discovery and design, drug therapy
- LS7\_4 Analgesia
- LS7\_5 Toxicology
- LS7\_6 Gene therapy, stem cell therapy, regenerative medicine
- LS7\_7 Surgery
- LS7\_8 Radiation therapy
- LS7\_9 Health services, health care research
- LS7\_10 Public health and epidemiology
- LS7\_11 Environment and health risks including radiation
- LS7\_12 Occupational medicine
- LS7\_13 Medical ethics

**LS8 Evolutionary, population and environmental biology:** evolution, ecology, animal behaviour, population biology, biodiversity, biogeography, marine biology, eco-toxicology, prokaryotic biology

- LS8\_1 Ecology (theoretical, community, population, microbial, evolutionary ecology)
- LS8\_2 Population biology, population dynamics, population genetics, plant-animal interactions
- LS8\_3 Systems eEvolution, biological adaptation, phylogenetics, systematics
- LS8\_4 Biodiversity, comparative biology
- LS8\_5 Conservation biology, ecology, genetics
- LS8\_6 Biogeography
- LS8\_7 Animal behaviour (behavioural ecology, animal communication)
- LS8\_8 Environmental and marine biology
- LS8\_9 Environmental toxicology
- LS8\_10 Prokaryotic biology
- LS8\_11 Symbiosis

**LS9 Applied life sciences and biotechnology:** agricultural, animal, fishery, forestry and food sciences; biotechnology, chemical biology, genetic engineering, synthetic biology, industrial biosciences; environmental biotechnology and remediation

- LS9\_1 Genetic engineering, transgenic organisms, recombinant proteins, biosensors

- LS9\_2 Synthetic biology and new bio-engineering concepts
- LS9\_3 Agriculture related to animal husbandry, dairying, livestock raising
- LS9\_4 Aquaculture, fisheries
- LS9\_5 Agriculture related to crop production, soil biology and cultivation, applied plant biology
- LS9\_6 Food sciences
- LS9\_7 Forestry, biomass production (e.g. for biofuels)
- LS9\_8 Environmental biotechnology, bioremediation, biodegradation
- LS9\_9 Biotechnology, bioreactors, applied microbiology
- LS9\_10 Biomimetics
- LS9\_11 Biohazards, biological containment, biosafety, biosecurity