European Research Council

ERC Grant Schemes

Guide for Applicants for the

Starting Grant 2012 Call

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EUROPEAN COMMISSION

FP7 Specific Programme
IDEAS

ANNEX 1: ERC PEER REVIEW EVALUATION PANELS (ERC PANELS)

For the planning and operation of the evaluation of ERC grant proposals by panels, the following panel structure applies. There are 25 ERC panels to cover all fields of science, engineering and scholarship assigned to three research domains: Social Sciences and Humanities (6 Panels, SH1–SH6), Physical Sciences and Engineering (10 Panels, PE1–PE10), Life Sciences (9 Panels, LS1–LS9).

The panel names are accompanied by a list of panel descriptors (i.e. ERC keywords) indicating the fields of research covered by the respective ERC panels.

The panel descriptors must always be read in the overall context of the panel's titles and sub-titles.

Social Sciences and Humanities

SH1	**Individuals, institutions and markets:** economics, finance and management	
	SH1_1	Macroeconomics, business cycles
	SH1_2	Development, economic growth
	SH1_3	Microeconomics, institutional economics
	SH1_4	Econometrics, statistical methods
	SH1_5	Financial markets, asset prices, international finance
	SH1_6	Banking, corporate finance, accounting
	SH1_7	Competitiveness, innovation, research and development
	SH1_8	Consumer choice, behavioural economics, marketing
	SH1_9	Organization studies, strategy
	SH1_10	Human resource management, labour economics
	SH1_11	Public economics, political economics, public administration
	SH1_12	Income distribution, poverty
	SH1_13	International trade, economic geography
	SH1_14	History of economics and economic thought, quantitative and institutional economic history
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, interethnic relations
	SH2_2	Ageing, work, social policies, welfare
	SH2_3	Kinship, cultural dimensions of classification and cognition, identity, gender
	SH2_4	Myth, ritual, symbolic representations, religious studies
	SH2_5	Democratization, social movements
	SH2_6	Violence, conflict and conflict resolution
	SH2_7	Political systems and institutions, governance
	SH2_8	Legal theory, legal systems, constitutions, comparative law
	SH2_9	Global and transnational governance, international studies, human rights
	SH2_10	Communication networks, media, information society
	SH2_11	Social studies of science and technology, science, technology and innovation policies

SH3 Environment, space and population: environmental studies, demography, social geography, urban and regional studies

- SH3_1 Environment, resources and sustainability
- SH3_2 Environmental change and society
- SH3_3 Environmental regulations and climate negotiations
- SH3_4 Social and industrial ecology
- SH3_5 Population dynamics, health and society
- SH3_6 Families and households
- SH3_7 Migration
- SH3_8 Mobility, tourism, transportation and logistics
- SH3_9 Spatial development, land use, regional planning
- SH3_10 Urbanization, cities and rural areas
- SH3_11 Infrastructure, human and political geography, settlements
- SH3_12 Geo-information and spatial data analysis

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 clinical psychology
- SH4_4 Cognitive and experimental psychology: perception, action, and higher cognitive processes
- SH4_5 Linguistics: formal, cognitive, functional and computational linguistics
- SH4_6 Linguistics: typological, historical and comparative linguistics
- SH4_7 Psycholinguistics and neurolinguistics: acquisition and knowledge of language, language pathologies
- SH4_8 Use of language: pragmatics, sociolinguistics, discourse analysis, second language teaching and learning, lexicography, terminology
- SH4_9 Philosophy, history of philosophy
- SH4_10 Epistemology, logic, philosophy of science
- SH4_11 Ethics and morality, bioethics
- SH4_12 Education: systems and institutions, teaching and learning

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

- SH5_1 Classics, ancient Greek and Latin literature and art
- 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 Music and musicology, history of music
- SH5_9 History of art and history of architecture
- SH5_10 Cultural studies, cultural diversity
- SH5_11 Cultural heritage, cultural memory

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
SH6_4	Medieval history
SH6_5	Early modern history
SH6_6	Modern and contemporary history
SH6_7	Colonial and post-colonial history, global and transnational history
SH6_8	Social and economic history
SH6_9	History of ideas, intellectual history, history of sciences and techniques
SH6_10	Cultural history
SH6_11	History of collective identities and memories, history of gender
SH6_12	Historiography, theory and methods of history

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 optimization
PE1_20	Application of mathematics in sciences
PE1_21	Application of mathematics in industry and society life
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	Acoustics
PE2_13	Relativity
PE2_14	Thermodynamics
PE2_15	Non-linear physics
PE2_16	General physics
PE2_17	Metrology and measurement
PE2_18	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, material growth, physical properties
PE3_8	Superconductivity
PE3_9	Superfluids
PE3_10	Spintronics
PE3_11	Magnetism
PE3_12	Electro-optics
PE3_13	Nanophysics: nanoelectronics, nanophotonics, nanomagnetism
PE3_14	Mesoscopic physics
PE3_15	Molecular electronics
PE3_16	Soft condensed matter (liquid crystals…)
PE3_17	Fluid dynamics (physics)
PE3_18	Statistical physics (condensed matter)
PE3_19	Phase transitions, phase equilibria
PE3_20	Biophysics
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 chemistry
PE4_15	Nuclear chemistry
PE4_16	Photochemistry

PE4_17	Corrosion
PE4_18	Characterization methods of materials
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 synthesis
PE5_8	Intelligent materials – self assembled materials
PE5_9	Environment chemistry
PE5_10	Coordination chemistry
PE5_11	Colloid chemistry
PE5_12	Biological chemistry
PE5_13	Chemistry of condensed matter
PE5_14	Homogeneous catalysis
PE5_15	Macromolecular chemistry
PE5_16	Polymer chemistry
PE5_17	Supramolecular chemistry
PE5_18	Organic chemistry
PE5_19	Molecular chemistry
PE5_20	Combinatorial 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, multi media, computer games
PE6_9	Human computer interaction and interface, visualization and natural language processing
PE6_10	Web and information systems, database systems, information retrieval and digital libraries
PE6_11	Machine learning, statistical data processing and applications using signal processing (eg. 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: electronic, communication, optical and systems engineering	
PE7_1	Control engineering

PE7_2	Electrical and electronic engineering: semiconductors, components, systems
PE7_3	Simulation engineering and modelling
PE7_4	Systems engineering, sensorics, actorics, automation
PE7_5	Micro- and nanoelectronics, optoelectronics
PE7_6	Communication technology, high-frequency technology
PE7_7	Signal processing
PE7_8	Networks (communication networks, sensor networks, networks of robots.....)
PE7_9	Man-machine-interfaces
PE7_10	Robotics
PE8 Products and processes 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	Sustainable design (for recycling, for environment, eco-design)
PE8_13	Lightweight construction, textile technology
PE8_14	Industrial bioengineering
PE8_15	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

PE10 Earth system science: physical geography, geology, geophysics, atmospheric sciences, 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, 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, paleomagnetism
PE10_16	Ozone, upper atmosphere, ionosphere
PE10_17	Hydrology, water and soil pollution

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 synthesis, modification, repair, recombination 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 neurophysiology
LS5_2 Molecular and cellular neuroscience
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 evolution, 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 (non-medical), bioreactors, applied microbiology
LS9_10	Biomimetics
LS9_11	Biohazards, biological containment, biosafety, biosecurity