European Research Council

# ERC Grant Schemes

# Guide for Applicants

**December 2008**

The Guide is published by the ERC Scientific Council on http://erc.europa.eu

It can also be downloaded from the CORDIS page on http://cordis.europa.eu

---

**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 indicating the fields of research covered by the respective ERC panels.

## 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_11Collective memories, identities, lieux de mémoire, oral history
SH6_12 Cultural heritage

## 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_10Acoustics
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

## 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 |