Marie Skłodowska-Curie Actions

List of Descriptors

Explanation notice

These descriptors are to be used by applicants in Part A of their proposal in order to best describe the scientific content of their proposal. In the electronic proposal submission system, the descriptors are only available as a long, drop-down list. Therefore the full list is available below in order to ease the selection of the most appropriate descriptors. Please note that only descriptors from the third level can be selected (e.g. 'Physical chemistry').

The descriptors selected by applicants in their proposals will be used by the REA services as a help to select the best qualified evaluators.

Chemistry (CHE)

Chemistry

- Physical chemistry
- Nanochemistry
- Spectroscopic and spectrometric techniques
- Molecular architecture and structure
- Surface chemistry
- Analytical chemistry
- Chemical instrumentation
- Electrochemistry, electrodialysis, microfluidics, sensors
- Combinatorial chemistry
- Method development in chemistry
- Physical chemistry of biological systems
- Chemical reactions: mechanisms, dynamics, kinetics and catalytic reactions
- Theoretical and computational chemistry
- Radiation and nuclear chemistry
- Photochemistry
- Structural properties of materials
- Solid state materials
- Surface modification
- Thin films
- Corrosion
- Porous materials
- Ionic liquids
- New materials: oxides, alloys, composite, organic-inorganic hybrid, nanoparticles
- Materials for sensors
- Nano-materials (production and properties)
- Biomaterials synthesis
- Intelligent materials, self-assembled materials
- Environment chemistry
- Coordination chemistry
- Colloid chemistry
- Biological chemistry
- Chemistry of condensed matter
- Heterogeneous catalysis
- Homogeneous catalysis
- Characterization methods of materials
- Macromolecular chemistry
- Polymer chemistry
- Supramolecular chemistry
- Organic chemistry
- Molecular chemistry
- Forensic chemistry
- Heterocyclic chemistry
- Peptide chemistry
- Natural product synthesis
- Translational chemistry
- Medicinal chemistry
- Food chemistry

Economic Sciences (ECO)

Economics, finance and management

- Macroeconomics
- Microeconomics
- Econometrics, statistical methods
- Financial markets, asset prices, international finance
- Competitiveness, innovation, research and development

Natural resources and environmental economics
Industrial economics
Behavioural economics
Organization studies: theory & strategy, industrial organization
Human resource management
Research management
Social economics
Urban and regional economics
Public administration
Public economics
Labour economics, income distribution and poverty
International trade
Economic geography
Economic history, development

Information Science and Engineering (ENG)

Computer science and informatics

Computer architecture, pervasive computing, ubiquitous computing
Computer systems, parallel/distributed systems, grid, cloud processing systems
Sensor networks, embedded systems, hardware platforms
Theoretical computer science, formal methods, quantum computing
Computer graphics, computer vision, multi media, computer games
Cognitive science, human computer interaction, natural language processing
Informatics and information systems
Artificial intelligence, intelligent systems, multi agent systems
Ontologies, neural networks, genetic programming, fuzzy logic
Machine learning, statistical data processing and applications using signal processing (e.g. speech, image, video)
Scientific computing and data processing
Numerical analysis, simulation, optimisation, modelling tools, data mining
Complexity and cryptography, electronic security, privacy, biometrics
Computational geometry, theorem proving, symbolic, algebraic computations
Internet and semantic web, database systems and libraries
Algorithms, distributed, parallel and network algorithms, algorithmic game theory
Computer games, multi-media, augmented and virtual reality
e-commerce, e-business, computational finance
Bioinformatics, e-Health, medical informatics
e-learning, user modelling, collaborative systems
Intelligent robotics, cybernetics
Software engineering, operating systems, computer languages

Systems and communication engineering

Control Engineering
Electrical and electronic engineering: semiconductors, components, systems
Simulation engineering and modelling
Systems engineering, sensorics, actorics, automation
Electronics, photonics
Wireless communications, communication, high frequency, mobile technology
Diagnostic and implantable devices, environmental monitoring
Signal processing
Networks (communication networks, sensor networks, networks of robots)
Man-machine-interfaces
Industrial Automation and Robotics, mechatronics

Products and process engineering

Aerospace engineering
Chemical engineering, technical chemistry
Civil engineering, maritime/hydraulic engineering, geotechnics, waste treatment
Transport engineering, intelligent transport systems

Computational engineering and computer aided design
Fluid mechanics, hydraulic-, turbo-, and piston engines
Energy systems, smart energy, smart grids, wireless energy transfer
Energy collection, conversion and storage, renewable energy
Optical engineering, photonics, lasers
Micro (system) engineering
Mechanical and manufacturing engineering (shaping, mounting, joining, separation)
Materials engineering
Nanotechnology, nano-materials, nano engineering
Production technology, process engineering
Industrial design (product design, ergonomics, man-machine interfaces)
Sustainable design (for recycling, for environment, eco-design)
Lightweight construction, textile technology
Industrial bioengineering
Architecture, smart buildings, smart cities, urban engineering
Agricultural engineering, food safety
Geological engineering, geophysical engineering, mining, geotechnics
Microfluidics
Medical engineering, biomedical engineering and technology
Geographical and positioning technologies, satellites
Critical infrastructure, emergency systems, security, safety engineering
Certification, Verification, Validation, Technical Compliance, Standards
Logistics, supply chain management, operational research

Environmental and Geosciences (ENV)

Environment and society

Environment, resources and sustainability
Environmental regulations and climate negotiations
Social and industrial ecology
Geographical information systems, cartography
Spatial and regional planning
Population dynamics
Urbanization and urban planning, cities
Mobility and transportation

Earth system science

Atmospheric chemistry, atmospheric composition, air pollution
Meteorology, Atmospheric physics and dynamics
Climatology and climate change
Terrestrial ecology, land cover change
Geology, tectonics, volcanology
Paleoclimatology, paleoecology
Physics of earth's interior, seismology, volcanology
Oceanography
Biogeochemistry, biogeochemical cycles, environmental chemistry
Mineralogy, petrology, igneous petrology, metamorphic petrology
Geochemistry, crystal chemistry, isotope geochemistry, thermodynamics
Sedimentology, soil science, palaeontology, earth evolution
Physical geography
Earth observations from space/remote sensing
Geomagnetism, paleomagnetism
Ozone, upper atmosphere, ionosphere
Hydrology, water and soil pollution
Water management
Natural Resources Exploration and Exploitation
Pollution (water, soil), waste disposal and treatment
Environmental engineering and geotechnics

Evolutionary, population and environmental biology

Animal behaviour
Biodiversity, comparative biology
Biogeography, macro-ecology
Conservation biology, ecology, genetics
Ecology
Environmental and marine biology
Environmental toxicology at the population and ecosystems level
Population biology, population dynamics, population genetics
Systems evolution, biological adaptation, phylogenetics, systematics, comparative biology

Agricultural, animal, fishery, forestry and food science

Agriculture related to animal husbandry, dairying, livestock raising
Aquaculture, fisheries
Agriculture related to crop production, soil biology and cultivation, applied plant biology
Food sciences
Agroindustry
Forestry, biomass production (e.g. for biofuels)
Environmental biotechnology, bioremediation, biodegradation
Applied biotechnology (non-medical), bioreactors, applied microbiology
Biomimetics
Biohazards, biological containment, biosafety, biosecurity

Life Sciences (LIF)

Molecular and Structural Biology and Biochemistry

Molecular biology and interactions
General biochemistry and metabolism
DNA synthesis, modification, repair, recombination and degradation
RNA synthesis, processing, modification and degradation
Protein synthesis, modification and turnover
Biophysics
Structural biology
Biochemistry and molecular mechanisms of signal transduction

Genetics, Genomics, Bioinformatics and Systems Biology

Genomics, comparative genomics, functional genomics
Transcriptomics
Proteomics
Metabolomics
Glycomics
Molecular genetics, reverse genetics and RNAi
Quantitative genetics
Epigenetics and gene regulation
Genetic epidemiology
Bioinformatics
Computational biology
Biostatistics
Systems biology
Biological systems analysis, modelling and simulation

Cellular and Developmental Biology

Morphology and functional imaging of cells
Cell biology and molecular transport mechanisms
Cell cycle and division
Apoptosis
Cell differentiation, physiology and dynamics
Organelle biology
Cell signalling and cellular interactions
Signal transduction
Animal-related development, development genetics, pattern formation and embryology
Plant-related development, development genetics, pattern formation and embryology

- Cell genetics
- Stem cell biology

Physiology, Pathophysiology and Endocrinology

- Organ physiology and pathophysiology
- Comparative physiology and pathophysiology
- Endocrinology
- Ageing
- Metabolism, biological basis of metabolism related disorders
- Cancer and its biological basis
- Cardiovascular diseases
- Non-communicable diseases (except for neural/psychiatric, immunity-related, metabolism-related disorders, cancer and cardiovascular diseases)

Neurosciences and neural disorders

- Neuroanatomy and neurophysiology
- Molecular and cellular neuroscience
- Neurochemistry and neuropharmacology
- Sensory systems (e.g. visual system, auditory system)
- Mechanisms of pain
- Developmental neurobiology
- Cognition (e.g. learning, memory, emotions, speech)
- Behavioural neuroscience (e.g. sleep, consciousness, handedness)
- Systems neuroscience
- Neuroimaging and computational neuroscience
- Neurological disorders (e.g. Alzheimer's disease, Huntington's disease, Parkinson's disease)
- Psychiatric disorders (e.g. schizophrenia, autism, Tourette's syndrome, obsessive compulsive disorder, depression, bipolar disorder, attention deficit hyperactivity disorder)

Immunity and infection

- Innate immunity and inflammation
- Adaptive immunity
- Phagocytosis and cellular immunity
- Immunosignalling
- Immunological memory and tolerance
- Immunogenetics
- Microbiology
- Virology
- Bacteriology
- Parasitology
- Prevention and treatment of infection by pathogens (e.g. vaccination, antibiotics, fungicide)
- Biological basis of immunity related disorders
- Veterinary medicine and infectious diseases in animals

Diagnostic tools, therapies and public health

- Medical engineering and technology
- Diagnostic tools (e.g. genetic, imaging)
- Pharmacology, pharmacogenomics, drug discovery and design, drug therapy
- Gene therapy, cell therapy, regenerative medicine
- Surgery
- Radiation therapy
- Health services, health care research
- Public health and epidemiology
- Environment and health risks, occupational medicine
- Medical ethics
- Medical pathology

Applied life sciences

- Prokaryotic biology
- Symbiosis
- Applied genetic engineering, transgenic organisms, recombinant proteins, biosensors

Synthetic biology, chemical biology and new bio-engineering concepts

Mathematics (MAT)

Mathematics

- Logic and foundations
- Algebra
- Number theory
- Algorithms and complexity
- Algebraic and complex geometry
- Geometry
- Topology
- Lie groups, Lie algebras
- Analysis
- Operator algebras and functional analysis
- ODE and dynamical systems
- Theoretical aspects of partial differential equations
- Mathematical physics
- Probability and statistics
- Discrete mathematics and combinatorics
- Mathematical aspects of computer science
- Numerical analysis and scientific computing
- Control theory and optimization
- Application of mathematics in sciences

Physics (PHY)

Fundamental constituents of matter

- Fundamental interactions and fields
- Particle physics
- Nuclear physics
- Nuclear astrophysics
- Gas and plasma physics
- Electromagnetism
- Atomic, molecular physics
- Quantum optics and quantum information
- Lasers, ultra-short lasers and laser physics
- Acoustics
- Relativity
- Classical physics
- Thermodynamics
- Non-linear physics
- General physics
- Metrology and measurement
- Statistical physics (gases)

Condensed matter physics

- Structure of solids and liquids
- Mechanical and acoustical properties of condensed matter, Lattice dynamics
- Thermal properties of condensed matter
- Transport properties of condensed matter
- Electronic properties of materials and transport
- Semiconductors
- Superconductivity
- Superfluids
- Spintronics
- Magnetism and strongly correlated systems
- Nanophysics: nanoelectronics, nanophotonics, nanomagnetism, nanoelectromechanics
- Mesoscopic physics
- Molecular electronics

Soft condensed matter
Fluid dynamics (physics)
Statistical physics (condensed matter)
Phase transitions, phase equilibria

Universe sciences

Astronomy (including astrophysics, space science)
Surface science and nanostructures
Chemical physics
Medical physics
Surface physics

Social Sciences and Humanities (SOC)

Sociology, social anthropology, political science, law, communication

Social structure, inequalities, social mobility, interethnic relations
Ageing, work, social policies
Kinship, cultural dimensions of classification and cognition, identity, gender
Myth, ritual, symbolic representations, religious studies
Ethnography
Globalization, migration, interethnic relations
Transformation of societies, democratization, social movements
Human and social geography
Political systems and institutions, governance
Legal systems, constitutions, foundations of law
Private, public and social law
Global and transnational governance, international law, human rights
Communication networks, media, information society
Social studies of science and technology
History of science and technology

Cognition, psychology, linguistics, philosophy and education

Evolution of mind and cognitive functions, animal communication
Human life-span development
Neuropsychology and cognitive psychology
Clinical and experimental psychology
Formal, cognitive, functional and computational linguistics
Typological, historical and comparative linguistics
Psycholinguistics and neurolinguistics: acquisition and knowledge of language, language pathologies
Use of language: pragmatics, sociolinguistics, discourse analysis, second language teaching and learning, lexicography, terminology
Language pathologies, lexicography
Philosophy, history of philosophy
Epistemology, logic, philosophy of science
Ethics and morality, bioethics
Education: systems and institutions, teaching and learning
Education policy

Literature, arts, music, cultural and comparative studies

Classics, ancient Greek and Latin literature and art
History of literature
Literary theory and comparative literature, literary styles
Textual philology, palaeography and epigraphy
Visual arts, performing arts, design
Museums and exhibitions
Numismatics, epigraphy
Music and musicology, history of music
History of art and architecture
Cultural studies, cultural diversity
Cultural memory, intangible cultural heritage

Archaeology, history and memory

Archaeology, archaeometry, landscape archaeology
Prehistory and protohistory
Ancient history
Medieval history
Modern and contemporary history
Colonial and post-colonial history, global and transnational history, entangled histories
Military history
Historiography, theory and methods of history
History of ideas, intellectual history, history of sciences and techniques
Social, economic, cultural and political history
Collective memories, identities, lieux de mémoire, oral history
Cultural heritage, cultural memory