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
SH1_2	Development, economic growth
SH1_3	Microeconomics, behavioural economics
SH1_4	Marketing
SH1_5	Political economy, institutional economics, law and economics
SH1_6	Econometrics, statistical methods
SH1_7	Financial markets, asset prices, international finance
SH1_8	Banking, corporate finance, accounting
SH1_9	Competitiveness, innovation, research and development
SH1_10	Organization studies: theory & strategy, industrial organization
SH1_11	Labour economics, income distribution and poverty
SH1_12	Public economics
SH1_13	International trade
SH1_14	History of economic thought and quantitative 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	Social policies, work and 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 studies, constitutions, comparative law, human rights
SH2_9	Global and transnational governance, international studies
SH2_10	Communication networks, media, information society
SH2_11	Social studies of science and technology
SH3 Environment, Space and Population: Environmental studies, geography, demography, migration, regional and urban 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, aging, health and society
SH3_6	Households, family and fertility
SH3_7	Migration
SH3_8	Mobility, tourism, transportation and logistics
SH3_9	Spatial development and architecture, land use, regional planning
SH3_10	Urban studies, regional studies
SH3_11	Social geography, infrastructure,
SH3_12	Geo-information and spatial data analysis
SH4 The Human Mind and Its Complexity: Cognitive science, psychology, linguistics, education	
SH4_1	Evolution of mind and cognitive functions, animal communication
SH4_2	Human life-span development
SH4_3	Neuropsychology
SH4_4	Cognitive and experimental psychology: perception, action, and higher cognitive processes
SH4_5	Social and clinical psychology
SH4_6	Linguistics: formal, cognitive, functional and computational linguistics
SH4_7	Linguistics: typological, historical and comparative linguistics
SH4_8	Psycholinguistics and neurolinguistics: acquisition and knowledge of language, language pathologies
SH4_9	Use of language: pragmatics, sociolinguistics, discourse analysis, second language teaching and learning, lexicography, terminology
SH4_10	Philosophy of mind, epistemology and logic
SH4_11	Education: systems and institutions, teaching and learning
SH5 Cultures and Cultural Production: Literature and philosophy, 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, palaeography and epigraphy
SH5_5	Visual arts, performing arts, design
SH5_6	Philosophy, history of philosophy
SH5_7	Museums and exhibitions
SH5_8	Music and musicology, history of music
SH5_9	History of art and 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, entangled histories

SH6_8	Social and economic history
SH6_9	gender history
SH6_10	History of ideas, intellectual history, history of sciences and techniques
SH6_11	Cultural history, history of collective identities and memories
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
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, biophysics

PE3_1 Structure of solids and liquids
PE3_2 Mechanical and acoustical properties of condensed matter, Lattice dynamics
PE3_3 Transport properties of condensed matter
PE3_4 Electronic properties of materials, surfaces, interfaces, nanostructures…
PE3_5 Semiconductors and insulators: material growth, physical properties
PE3_6 Macroscopic quantum phenomena: superconductivity, superfluidity…
PE3_7 Spintronics
PE3_8 Magnetism and strongly correlated systems
PE3_9 Condensed matter – beam interactions (photons, electrons…)
PE3_10 Nanophysics: nanoelectronics, nanophotonics, nanomagnetism, nanoelectromechanics…
PE3_11 Mesoscopic physics
PE3_12 Molecular electronics
PE3_13 Structure and dynamics of disordered systems: soft matter (gels, colloids, liquid crystals…), glasses, defects…
PE3_14 Fluid dynamics (physics)
PE3_15 Statistical physics: phase transitions, noise and fluctuations, models of complex systems…
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 Characterization 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 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
PE5_18	Molecular chemistry
PE5_19	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, 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: 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 Industrial design (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
PE8_16 Architectural engineering

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
PE10_18	Cryosphere, dynamics of snow and ice cover, sea ice, permafrosts and ice sheets

Life Sciences

LS1 Molecular and Structural Biology and Biochemistry: Molecular synthesis, modification and interaction, biochemistry, biophysics, structural biology, metabolism, signal transduction

LS1_1	Molecular 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	Lipid synthesis, modification and turnover
LS1_7	Carbohydrate synthesis, modification and turnover
LS1_8	Biophysics (e.g. transport mechanisms, bioenergetics, fluorescence)
LS1_9	Structural biology (crystallography and EM)
LS1_10	Structural biology (NMR)
LS1_11	Biochemistry and molecular mechanisms of signal transduction

LS2 Genetics, Genomics, Bioinformatics and Systems Biology: Molecular and population 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, stem cell biology

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, tumorigenesis, cardiovascular disease, metabolic syndrome

LS4_1 Organ physiology and pathophysiology
LS4_2 Comparative physiology and pathophysiology
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 and psychiatric disorders

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 Behavioural 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: The immune system and related disorders, infectious agents and diseases, prevention and treatment of infection

LS6_1	Innate immunity and inflammation
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 (e.g. autoimmunity)
LS6_13	Veterinary medicine and infectious diseases in animals

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 and Surgery
LS7_5	Toxicology
LS7_6	Gene therapy, cell therapy, regenerative medicine
LS7_7	Radiation therapy
LS7_8	Health services, health care research
LS7_9	Public health and epidemiology
LS7_10	Environment and health risks, occupational medicine
LS7_11	Medical ethics

LS8 Evolutionary, Population and Environmental Biology: Evolution, ecology, animal behaviour, population biology, biodiversity, biogeography, marine biology, eco-toxicology, microbial ecology

LS8_1	Ecology (theoretical and experimental; population, species and community level)
LS8_2	Population biology, population dynamics, population genetics
LS8_3	Systems evolution, biological adaptation, phylogenetics, systematics, comparative biology
LS8_4	Biodiversity, conservation biology, conservation genetics, invasion biology
LS8_5	Evolutionary biology: evolutionary ecology and genetics, co-evolution
LS8_6	Biogeography, macro-ecology
LS8_7	Animal behaviour
LS8_8	Environmental and marine biology
LS8_9	Environmental toxicology at the population and ecosystems level
LS8_10	Microbial ecology and evolution
LS8_11	Species interactions (e.g. food-webs, symbiosis, parasitism, mutualism)

LS9 Applied life Sciences and Non-Medical Biotechnology: Agricultural, animal, fishery, forestry and food sciences; biotechnology, genetic engineering, synthetic and chemical biology, industrial biosciences; environmental biotechnology and remediation		
	LS9_1	Applied genetic engineering, transgenic organisms, recombinant proteins, biosensors
	LS9_2	Synthetic biology, chemical 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	Applied biotechnology (non-medical), bioreactors, applied microbiology
	LS9_10	Biomimetics
	LS9_11	Biohazards, biological containment, biosafety, biosecurity