# **Panels of the National Science Centre**

The Council of the National Science Centre has adopted 25 review panels (disciplines or groups of disciplines) for the purposes of qualifying and evaluating research projects, covering the entire research area in three major research fields: Arts, Humanities and Social Sciences (6 panels, HS1–HS6), Physical Sciences and Engineering (10 panels, ST1–ST10), Life Sciences (9 panels, NZ1–NZ9).

The panel names have been supported with auxiliary review panel names (HSi\_j, STi\_j and NZi\_j) identifying research domains falling within particular NCN review panels, which should only be used with regard to the panel names and their subheadings.

# Arts, Humanities and Social Sciences

# HS1 - Fundamental questions of human existence and the nature of reality

HS1_001	History of philosophy	(ancient, medieval	, modern and contemporary	) and history of ideas
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- HS1\_002 Ontology and metaphysics, particular ontologies
- HS1\_003 Epistemology (incl. sources of knowledge, criteria of truth, philosophy of language)
- HS1\_004 Logic, science methodology, philosophy of science
- HS1\_005 Philosophy of human, theories of personality, philosophy of culture, social philosophy
- HS1\_006 Nature of human mind (incl. mind's evolution, bio-psychological conditions of cognition, artificial intelligence)
- HS1\_007 Ethics: normative and descriptive, theory of morality, bioethics, professional ethics
- HS1\_008 Aesthetics (incl. theory of beauty, language of art)
- HS1\_009 Theory of religion, history of religion, religious studies
- HS1\_010 Religion and its background: anthropological, cultural, social and psychological
- HS1\_011 Language of religion, sacrum, myth, religious symbolism
- HS1\_012 World religions
- HS1\_013 Fundamental theology
- HS1\_014 Dogmatic theology, biblical theology, patristics
- HS1\_015 Moral theology, pastoral theology, liturgics
- HS1\_016 Other related subjects

### HS2 - Culture and cultural production

- HS2\_001 History of literature (including: ancient, modern, contemporary; national and world literature), literary criticism and interpretation
- HS2\_002 Theory of literature, history of literary studies, methodology and trends in literary and cultural studies, anthropology of literature, comparative literature, literary and cultural translatology
- HS2\_003 Editorial and philological studies, lexical and encyclopedic studies, documentation and bibliographical studies
- HS2\_004 Bibliology and theory of information
- HS2\_005 History of language and dialectology, modern language research and discourse analysis, textology, linguistic translatology
- HS2\_006 General linguistics, theory and methodology of linguistic research
- HS2\_007 Communication studies, theory of applied linguistics
- HS2\_008 History and theory of art, visual arts, visual culture
- HS2\_009 Conservation and restoration

- HS2\_010 Museums and exhibitions
- HS2\_011 Music and musicology, history of music
- HS2\_012 Performing arts
- HS2\_013 Film and audiovisual media
- HS2\_014 Cultural studies (including: contemporary cultural studies and cultural-anthropological studies)
- HS2\_015 Other related subjects

### HS3 - The study of the human past

- HS3\_001 Early history (ancient, medieval, early modern history), modern and contemporary history (19th 20th c.)
- HS3\_002 Social history
- HS3\_003 Political history (incl. political systems)
- HS3\_004 Economic history
- HS3\_005 Cultural history (incl. historical memory, history of material culture, historical cultural studies, cultural diversity)
- HS3\_006 Historiography, theory and methods of history
- HS3\_007 Archival science
- HS3\_008 Archaeology (incl. archaeology of Greece and Rome, archaeology of Egypt and Nubia, archaeology of Near East, archeology of the New World, pre- and protohistorical archaeology, archaeology of early medieval period, medieval archeology, archeology of modern period)
- HS3\_009 Numismatics and epigraphy
- HS3\_010 Papyrology
- HS3\_011 Ethnography and cultural anthropology (incl. descriptions of traditional cultures, anthropology of magic, worship and religion, cultural change and global processes, anthropology of socio-cultural, ethnic and identity phenomena)
- HS3\_012 Cultural heritage, cultural memory (incl. inventory of monuments and monuments of culture, local history)
- HS3\_013 Other related subjects

#### HS4 - Individuals, institutions, markets

- HS4\_001 Macroeconomics (incl. economic balance, economic growth, business cycles in global economy, labour economics)
- HS4\_002 Microeconomics, institutional economics
- HS4\_003 Econometrics, statistical methods
- HS4\_004 Population dynamics, demographic processes
- HS4\_005 Resources and sustainable development
- HS4\_006 Financial markets, international finance, public finance
- HS4\_007 Banking, corporate finance, accounting
- HS4\_008 Behavioral economics, consumption and consumer behavior, marketing
- HS4\_009 Organization studies, strategic management, concepts and methods of management, logistics
- HS4\_010 Human resource management, employment and salaries
- HS4\_011 Public economics, social infrastructure, public administration
- HS4\_012 Living conditions and standards, income distribution, poverty
- HS4\_013 International economics
- HS4\_014 Human and social geography
- HS4\_015 Land management, urban studies
- HS4\_016 Other related subjects

#### HS5 - Norms and governance

HS5_001 Theory and philosophy of law, history of law and legal t	thought
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- HS5\_002 Constitutional law, human rights, international law and international organizations
- HS5\_003 Public and social law, public governance
- HS5\_004 Penal law
- HS5\_005 Civil law
- HS5\_006 Political theory and political thought
- HS5\_007 Political systems and movements; international relations
- HS5\_008 Regional policy
- HS5\_009 Social policy (incl. social security, NGOs, social aid, social gerontology, governance and institutions of social dialogue)
- HS5\_010 Security and defence
- HS5\_011 Other related subjects

#### HS6 - Human nature and human society

#### **Physical Sciences and Engineering**

#### ST1 – Mathematics

- ST1\_001 Logic and foundations
- ST1\_002 Algebra
- ST1\_003 Number theory
- ST1\_004 Algebraic and complex geometry
- ST1\_005 Geometry
- ST1\_006 Topology
- ST1\_007 Lie groups, Lie algebras
- ST1\_008 Analysis
- ST1\_009 Operator algebras and functional analysis
- ST1\_010 Ordinary differential equations and dynamical systems
- ST1\_011 Partial differential equations
- ST1\_012 Mathematical methods of physics
- ST1\_013 Probability and statistics
- ST1\_014 Discrete mathematics and combinatorics
- ST1\_015 Mathematical aspects of computer science
- ST1\_016 Numerical analysis
- ST1\_017 Applied mathematics
- ST1\_018 Control theory and optimisation
- ST1\_019 Other related subjects

#### ST2 - Fundamental constituents of matter

- ST2\_001 Fundamental interactions and fields
- ST2\_002 Particle physics
- ST2\_003 Nuclear physics
- ST2\_004 Nuclear astrophysics

- ST2\_005 Gas and plasma physics
- ST2\_006 Electricity and magnetism
- ST2\_007 Atomic and molecular physics
- ST2\_008 Ultracold atoms and molecules
- ST2\_009 Optics, non-linear optics and nano-optics
- ST2\_010 Quantum optics and quantum information
- ST2\_011 Lasers, ultrashort pulses and laser physics
- ST2\_012 Relativity and gravitation
- ST2\_013 Thermodynamics
- ST2\_014 Non-linear phenomena
- ST2\_015 Metrology and measurement methods
- ST2\_016 Statistical physics (gases)
- ST2\_017 Complex systems
- ST2\_018 Acoustics
- ST2\_019 Foundations of physics, mathematical physics
- ST2\_020 Other related subjects

# ST3 - Condensed matter physics

- ST3\_001 Structure of solids, material growth and characterisation
- ST3\_002 Mechanical and acoustical properties of condensed matter, lattice dynamics
- ST3\_003 Transport properties of condensed matter
- ST3\_004 Electronic properties of materials, surfaces, interfaces, nanostructures, etc.
- ST3\_005 Physical properties of semiconductors and insulators
- ST3\_006 Macroscopic quantum phenomena: superconductivity, superfluidity, etc.
- ST3\_007 Spintronics
- ST3\_008 Magnetism and strongly correlated systems
- ST3\_009 Condensed matter interactions with beams of photons, electrons, etc.
- ST3\_010 Nanophysics: nanoelectronics, nanophotonics, nanomagnetism, nanoelectromechanics, etc.
- ST3\_011 Mesoscopic physics
- ST3\_012 Molecular electronics
- ST3\_013 Structure and dynamics of disordered systems, soft matter, etc.
- ST3\_014 Fluid dynamics (physics)
- ST3\_015 Statistical physics of condensed matter, phase transitions, noise and fluctuations, etc.
- ST3\_016 Physics of biological systems
- ST3\_017 Other related subjects

# ST4 - Physical and analytical chemical sciences

- ST4\_001 Physical chemistry, chemical physics
- ST4\_002 Spectroscopic and spectrometric techniques
- ST4\_003 Molecular architecture and structure
- ST4\_004 Theoretical and computational chemistry
- ST4\_005 Analytical chemistry
- ST4\_006 Instrumental methods in chemistry
- ST4\_007 Electrochemistry, microfluidics in chemistry, sensors
- ST4\_008 Organic chemistry
- ST4\_009 Biological chemistry

- ST4\_010 Polymer and biopolymer chemistry
- ST4\_011 Coordination and supramolecular chemistry
- ST4\_012 Photochemistry
- ST4\_013 Solid-state chemistry, surface physicochemistry
- ST4\_014 Catalysis
- ST4\_015 Colloid chemistry
- ST4\_016 Ionic liquids
- ST4\_017 Chemical reactions: mechanisms, thermodynamics, kinetics
- ST4\_018 Radiation and nuclear chemistry
- ST4\_019 Environmental chemistry
- ST4\_020 Inorganic chemistry
- ST4\_021 Other related subjects

# ST5 - Materials and synthesis

- ST5\_001 Structural properties of materials
- ST5\_002 Solid-state materials
- ST5\_003 Surface modification
- ST5\_004 Thin films
- ST5\_005 Polymer materials
- ST5\_006 Porous materials, ceramics, glasses
- ST5\_007 Composites, organic-inorganic hybrid materials, etc.
- ST5\_008 Metals, alloys
- ST5\_009 Biomaterials, biocompatible materials
- ST5\_010 Functional materials/nanomaterials, nanoparticles
- ST5\_011 Smart materials self assembled materials, external stimuli-responsive materials
- ST5\_012 Methods of nanomaterials/materials synthesis
- ST5\_013 Research methods on materials/nanomaterials properties
- ST5\_014 Other related subjects

### ST6 - Computer science and informatics

- ST6\_001 Computer architecture, ubiquitous computing
- ST6\_002 Computer systems, parallel/distributed systems, sensor networks, embedded systems, cyber-physical systems
- ST6\_003 Software engineering, operating systems, software development methods, programming languages
- ST6\_004 Formal methods, foundations of computer science, including theoretical computer science, quantum algorithms
- ST6\_005 Cryptography, security, privacy, quantum computing
- ST6\_006 Algorithms, parallel, distributed and network algorithms, algorithmic game theory
- ST6\_007 Artificial intelligence, intelligent systems, multi-agent systems
- ST6\_008 Computer graphics, image processing, computer vision, multimedia, computer games
- ST6\_009 Human computer interaction, speech recognition and synthesis, natural language processing
- ST6\_010 Web and information systems, database systems, internet technologies, including information retrieval and digital libraries
- ST6\_011 Machine learning, statistical data processing and applications using signal processing (e.g. speech, image, video)
- ST6\_012 Scientific computing, simulation and modelling tools
- ST6\_013 Bioinformatics, biocomputing, DNA and molecular computation

ST6_014	Other related subjects
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#### ST7 - Systems and communication engineering

- ST7\_001 Control engineering in automation and robotics
- ST7\_002 Electrical engineering: power components and/or systems
- ST7\_003 Simulation engineering and modelling
- ST7\_004 Micro- and nanosystems engineering
- ST7\_005 Micro- and nanelectronic, optoelectronic and photonic components
- ST7\_006 Communication technology, high-frequency technology
- ST7\_007 Signal processing
- ST7\_008 Communication networks
- ST7\_009 Man-machine interfaces
- ST7\_010 Hardware implementation of algorithms
- ST7\_011 Electronic, optoelectronic and photonic components and systems for applications (e.g. in biomedical engineering)
- ST7\_012 Electrical energy production, distribution and application
- ST7\_013 Other related subjects

### ST8 - Products and processes engineering

- ST8\_001 Chemical engineering, technical chemistry, environmental engineering, sanitary engineering, engineering of chemical processes
- ST8\_002 Maritime/hydraulic/water engineering, civil engineering, aerospace engineering
- ST8\_003 Computational engineering, computer-aided modelling, design and manufacturing
- ST8\_004 Fluid mechanics, technical thermodynamics
- ST8\_005 Power systems (production, distribution)
- ST8\_006 Mechatronics, fine mechanics
- ST8\_007 Machine design (modelling, shaping, machining)
- ST8\_008 Mechanics of solids
- ST8\_009 Industrial design, product and device design, ergonomics, human-machine interaction
- ST8\_010 Technical aspects of architecture, urban studies and spatial planning
- ST8\_011 Production planning and control
- ST8\_012 Technical aspects of transport
- ST8\_013 Architectural acoustics
- ST8\_014 Other related subjects

### ST9 - Astronomy and space research

- ST9\_001 Solar and interplanetary physics
- ST9\_002 Planets and small bodies of the solar system
- ST9\_003 Interstellar medium
- ST9\_004 Formation of stars and planets
- ST9\_005 Extrasolar planetary systems
- ST9\_006 Astrobiology
- ST9\_007 Stars and stellar systems
- ST9\_008 The Galaxy
- ST9\_009 Formation and evolution of galaxies
- ST9\_010 Clusters of galaxies and large-scale structure of the Universe
- ST9\_011 High energy and particle astrophysics: X-rays, gamma rays, cosmic rays, neutrinos
- ST9\_012 Relativistic astrophysics

- ST9\_013 Dark matter, dark energy
- ST9\_014 Gravitational-wave astronomy
- ST9\_015 Cosmology
- ST9\_016 Earth science with satellite techniques
- ST9\_017 Large data bases: archiving, handling and analysis
- ST9\_018 Observational and satellite techniques, telescopes, detectors
- ST9\_019 Other related subjects

### ST10 - Earth system science

ST10_001	Atmospheric chemistry, atmospheric physics, atmospheric pollution
ST10_002	Climatology, meteorology, climate change
ST10_003	Physics of the Earth's interior, seismology, geomagnetism, Earth's gravity field
ST10_004	Geochemistry, biogeochemistry
ST10_005	Mineralogy, petrology, volcanology, economic geology
ST10_006	Earth evolution, sedimentology, tectonics, regional geology, marine geology, planetary geology
ST10_007	Geomorphology, cryosphere, global and regional changes of the Earth's landscape
ST10_008	Paleontology, stratigraphy, geochronology
ST10_009	Geophysics, geomechanics, geotechnical engineering, engineering geology, mining
ST10_010	Hydrogeology, hydrology, water cycle, water pollution
ST10_011	Marine physics and chemistry
ST10_012	Geodesy, cartography, geographic information systems, Earth observations from space/remote sensing
ST10_013	Geoecosystem: atmosphere-morphosphere-lithosphere, pedosphere, hydrosphere, biosphere, anthroposphere
ST10_014	Soil science, soil pollution

- ST10\_015 Paleoclimatology, paleoecology
- ST10\_016 Changes/shaping and protection of the natural environment

### Life Sciences

### NZ1 - Molecular biology, structural biology, biotechnology

- NZ1\_001 Molecular biology
- NZ1\_002 Biochemistry
- NZ1\_003 Biophysics
- NZ1\_004 Structural biology
- NZ1\_005 Genetic engineering
- NZ1\_006 Synthetic biology
- NZ1\_007 Cell engineering
- NZ1\_008 Tissue engineering
- NZ1\_009 Biotechnology
- NZ1\_010 Microbiology
- NZ1\_011 Other related subjects

### NZ2 - Genetics, genomics

- NZ2\_001 Molecular genetics
- NZ2\_002 Genomics, transcriptomics, epigenomics
- NZ2\_003 Proteomics

- NZ2\_004 Metabolomics
- NZ2\_005 Cell genetics
- NZ2\_006 Immunogenetics
- NZ2\_007 Bioinformatics
- NZ2 008 Computational biology
- NZ2\_009 Systems biology
- NZ2\_010 Biological systems analysis, modelling and simulation
- NZ2\_011 Genetic epidemiology
- NZ2\_012 Other related subjects

### NZ3 - Cellular and developmental biology

- NZ3\_001 Cell biology
- NZ3\_002 Cell physiology
- NZ3\_003 Apoptosis
- NZ3\_004 Ageing
- NZ3\_005 Molecular neurobiology
- NZ3\_006 Cell neurobiology
- NZ3\_007 Signal transduction
- NZ3\_008 Stem cell biology
- NZ3\_009 Organogenesis
- NZ3\_010 Developmental genetics in plants
- NZ3\_011 Developmental biology in plants
- NZ3\_012 Developmental genetics in animals
- NZ3\_013 Developmental biology in animals
- NZ3\_014 Other related subjects

### NZ4 - Biology of tissues, organs and organisms

- NZ4\_001 Anatomy
- NZ4\_002 Physiology
- NZ4\_003 Comparative physiology
- NZ4\_004 Pathophysiology
- NZ4\_005 Anatomical pathology
- NZ4\_006 Endocrinology
- NZ4\_007 Neurophysiology
- NZ4\_008 Neuroendocrinology
- NZ4\_009 Systems neurobiology
- NZ4\_010 Neuroimaging and computational neuroscience
- NZ4\_011 Metabolism
- NZ4\_012 Other related subjects

#### NZ5 - Human and animal noninfectious diseases

- NZ5\_001 Etiology of human diseases
- NZ5\_002 Etiology of animal diseases
- NZ5\_003 Pathogenesis of human diseases
- NZ5\_004 Pathogenesis of animal diseases
- NZ5\_005 Diagnostics in human diseases
- NZ5\_006 Diagnostics in animal diseases
- NZ5\_007 Human disease treatment

- NZ5\_008 Animal disease treatment
- NZ5\_009 Other related subjects

### NZ6 - Human and animal immunology and infection

- NZ6\_001 Adaptive and innate immunity
- NZ6\_002 Clinical immunology
- NZ6\_003 Animal immunology
- NZ6\_004 Bacteriology
- NZ6\_005 Virology
- NZ6\_006 Parasitology
- NZ6\_007 Mycology
- NZ6\_008 Other related subjects

# NZ7 - Diagnostic tools, therapies and public health

- NZ7\_001 Epidemiology
- NZ7\_002 Environment and health risks
- NZ7\_003 Physical culture and health promotion
- NZ7\_004 Prevention in population health
- NZ7\_005 Health services, health care research
- NZ7\_006 Occupational medicine
- NZ7\_007 Rehabilitation
- NZ7\_008 Pharmacoeconomics
- NZ7\_009 Medical ethics
- NZ7\_010 Veterinary ethics
- NZ7\_011 Veterinary healthcare
- NZ7\_012 Prevention of human diseases
- NZ7\_013 Prevention of animal diseases
- NZ7\_014 Pharmacy, pharmacotherapy, pharmacology
- NZ7\_015 Toxicology
- NZ7\_016 Other related subjects

#### NZ8 - Evolutionary and environmental biology

- NZ8\_001 Evolutionary biology
- NZ8\_002 Ecology
- NZ8\_003 Animal behaviour
- NZ8\_004 Biodiversity
- NZ8\_005 Biogeography
- NZ8\_006 Marine biology
- NZ8\_007 Hydrobiology
- NZ8\_008 Ecotoxicology
- NZ8\_009 Population genetics
- NZ8\_010 Taxonomy and phylogenetic
- NZ8\_011 Botany
- NZ8\_012 Zoology
- NZ8\_013 Human biology and ecology
- NZ8\_014 Other related subjects

#### NZ9 - Fundamentals of applied life sciences and biotechnology

NZ9_001	Agronomy
NZ9_002	Animal production
NZ9_003	Forestry
NZ9_004	Horticulture
NZ9_005	Aquaculture, fisheries
NZ9_006	Environment protection
NZ9_007	Nutrition and food sciences
NZ9_008	Environmental microbiology
NZ9_009	Environmental biotechnology
NZ9_010	Bioremediation
NZ9_011	Biohazards, biological containment, biosafety, biosecurity
NZ9_012	Conservation of genetic resources
NZ9_013	Other related subjects