Changes to ERC primary panel structure and description which the ERC Scientific Council is expecting to introduce in Work Programme 2021 calls for proposals

17 December 2019

**Physical Sciences & Engineering**

<table>
<thead>
<tr>
<th>PE1</th>
<th>Mathematics</th>
<th>All areas of mathematics, pure and applied, plus mathematical foundations of computer science, mathematical physics and statistics.</th>
</tr>
</thead>
<tbody>
<tr>
<td>PE2</td>
<td>Fundamental Constituents of Matter</td>
<td>Particle, nuclear, plasma, atomic, molecular, gas, and optical physics.</td>
</tr>
<tr>
<td>PE3</td>
<td>Condensed Matter Physics</td>
<td>Structure, electronic properties, fluids, nanosciences, biological physics.</td>
</tr>
<tr>
<td>PE4</td>
<td>Physical and Analytical Chemical Sciences</td>
<td>Analytical chemistry, chemical theory, physical chemistry/chemical physics.</td>
</tr>
<tr>
<td>PE5</td>
<td>Synthetic Chemistry and Materials</td>
<td>New materials and new synthetic approaches, structure-properties relations, solid state chemistry, molecular architecture, organic chemistry.</td>
</tr>
<tr>
<td>PE6</td>
<td>Computer Science and Informatics</td>
<td>Informatics and information systems, computer science, scientific computing, intelligent systems.</td>
</tr>
<tr>
<td>PE7</td>
<td>Systems and Communication Engineering</td>
<td>Electrical, electronic, communication, optical and systems engineering.</td>
</tr>
<tr>
<td>PE8</td>
<td>Products and Processes Engineering</td>
<td>Product and process design, chemical, civil, environmental, mechanical, vehicle engineering, energy processes and relevant computational methods.</td>
</tr>
<tr>
<td>PE9</td>
<td>Universe Sciences</td>
<td>Astro-physics/-chemistry/-biology; solar system; planetary systems; stellar, galactic and extragalactic astronomy; cosmology; space sciences; astronomical instrumentation and data.</td>
</tr>
</tbody>
</table>

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1 Note: These planned changes do not concern calls for proposals under ERC Work Programme 2019 and 2020.
**PE10  Earth System Science**
Physical geography, geology, geophysics, atmospheric sciences, oceanography, climatology, cryology, ecology, global environmental change, biogeochemical cycles, natural resources management.

**PE11  Materials Engineering**
Advanced materials development: performance enhancement, modelling, large-scale preparation, modification, tailoring, optimisation, novel and combined use of materials, etc.

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**Life Sciences**

**LS1  Molecules of Life: Biological Mechanisms, Structures and Functions**
For all organisms: Molecular biology, biochemistry, structural biology, molecular biophysics, synthetic and chemical biology, drug design, innovative methods and modelling.

**LS2  Integrative Biology: From Genes and Genomes to Systems**
For all organisms: Genetics, epigenetics, genomics and other ‘omics studies, bioinformatics, systems biology, genetic diseases, gene editing, innovative methods and modelling, ‘omics for personalised medicine.

**LS3  Cellular, Developmental and Regenerative Biology**
For all organisms: Structure and function of the cell, cell-cell communication, embryogenesis, tissue differentiation, organogenesis, growth, development, evolution of development, organoids, stem cells, regeneration, therapeutic approaches.

**LS4  Physiology in Health, Disease and Ageing**
Organ and tissue physiology, comparative physiology, physiology of ageing, pathophysiology, inter-organ and tissue communication, endocrinology, nutrition, metabolism, interaction with the microbiome, non-communicable diseases including cancer (and except disorders of the nervous system and immunity-related diseases).

**LS5  Neuroscience and Disorders of the Nervous System**
Nervous system development, homeostasis and ageing, nervous system function and dysfunction, systems neuroscience and modelling, biological basis of cognitive processes and of behaviour, neurological and mental disorders.

**LS6  Immunity, Infection and Immunotherapy**
The immune system, related disorders and their mechanisms, biology of infectious agents and infection, biological basis of prevention and treatment of infectious diseases, innovative immunological tools and approaches, including therapies.
**LS7**  Prevention, Diagnosis and Treatment of Human Diseases
Medical technologies and tools for prevention, diagnosis and treatment of human diseases, therapeutic approaches and interventions, pharmacology, preventative medicine, epidemiology and public health, digital medicine.

**LS8**  Environmental Biology, Ecology and Evolution
For all organisms: Ecology, biodiversity, environmental change, evolutionary biology, behavioural ecology, microbial ecology, marine biology, ecophysiology, theoretical developments and modelling.

**LS9**  Biotechnology and Biosystems Engineering
Biotechnology using all organisms, biotechnology for environment and food applications, applied plant and animal sciences, bioengineering and synthetic biology, biomass and biofuels, biohazards.

**Social Sciences & Humanities**

**SH1**  Individuals, Markets and Organisations
Economics, finance, management.

**SH2**  Institutions, Governance and Legal Systems
Political science, international relations, law.

**SH3**  The Social World and Its Diversity
Sociology, social psychology, social anthropology, education sciences, communication studies.

**SH4**  The Human Mind and Its Complexity
Cognitive science, psychology, linguistics, theoretical philosophy.

**SH5**  Cultures and Cultural Production
Literary studies, cultural studies, study of the arts, philosophy.

**SH6**  The Study of the Human Past
Archaeology and history.

**SH7**  Human Mobility, Environment, and Space
Human geography, demography, health, sustainability science, territorial planning, spatial analysis.