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The current structure of the FWO expert panels on fundamental research dates back to 2010. Given that science is always evolving, there was a need for a thorough update and reform of this structure. Bearing this in mind, the FWO Board of Trustees appointed four international working groups (life sciences; science and technology; social sciences and humanities; and interdisciplinarity) at the end of 2019. Each of these working groups was composed of fifteen Flemish and international experts from various disciplines. They were given the task of formulating a proposal for a thorough reform of the FWO panel structure. However, their work was thwarted before it had even begun by the COVID-19 pandemic. As a result, the consultation process had to be conducted completely digitally, which led us to decide to continue the work along two tracks. On the one hand, we set up a short term track to address the most pressing topics surrounding the existing panel structure. On the other hand, we plan to work on the more comprehensive reform as soon as this is possible (in light of travel, meeting and consultation restrictions).

The result of this short term process is presented in this brochure, which outlines all changes that will take effect from the call for postdoctoral fellowships to be launched in the second half of 2022. Although these reforms are the result of a completely digital process, the input from the Flemish research community was systematically incorporated into the process. In this context, at the end of 2019 the FWO organised a survey on so-called ‘orphan disciplines’, i.e. research disciplines or topics that do not directly find a natural place within the panel structure. The reactions that we received were processed and submitted to the working groups, asking them to assign a clear place to the (most cited) orphan disciplines in the new structure. In addition, the working groups themselves regularly consulted with the research community in Flanders. As the pandemic continued to impede social and professional contacts, the working group members found creative ways to involve their peers across the country in the thought processes behind the ideal FWO panel structure. These thought processes were also assessed internationally with the international members of each working group.
While the process did not lead to a radical overhaul of the basic existing panel structure – in the following pages you will still find expert panels in the five familiar science domains and only one completely new panel (Med9) – we do advise you to consider the benefits of this continuity. The scientific scope of each of the 32 fundamental expert panels was thoroughly analysed and, where necessary, expanded and, in any case, updated. Each word in these scopes was carefully considered, all stakeholders were consulted and terms were added. These panel scopes are the result of an in-depth analysis and thorough exchange of ideas among the many researchers who were involved directly or indirectly in the process. The panels reflect the present state of the art in the Flemish research community and anticipate potential developments in the near future. They are, of course, also the outcome of a complex consultation process and, as such, to some extent a compromise. It is not possible for the FWO to satisfy the individual wishes and desires of each researcher in this context. For example, a continuous focal point for the working groups was the demand from some researchers to create specific new panels. The difficulty here is that an increase in the number of panels leads to a fragmentation of the resources, less (financial) capacity for the relevant panels and a further institutional division of the research landscape. However, as was also clearly pointed out by the Flemish researchers, the future lies in multi- and interdisciplinary collaboration across the boundaries of disciplines, fields, institutions and research groups. Thus, specific modalities for the evaluation of multi- and interdisciplinary applications were elaborated and extended whilst the number of expert panels remains virtually unchanged. It is a compromise that is satisfactory for all parties.

This reformed panel structure will become effective starting from the applications for fundamental research programmes to be evaluated in 2023. In practice, this means:

» for postdoctoral fellowships, starting from the applications submitted by 01/12/2022
» for fundamental PhD fellowships, starting from the applications submitted by 01/03/2023
» for fundamental research projects, starting from the applications submitted by 01/04/2023

The panel structure of all other (non-fundamental) FWO programmes remains unchanged. As was indicated, the result is a compromise but it is one that we believe is very promising for the future.

We would like to extend our express thanks to all those who made suggestions from the diaspora. We also reserve special praise for the positive attitude of all those who participated in the broad consultation and were actively involved in shaping the new panel structure.
The Social Sciences and Humanities working group addressed the reform of nine FWO expert panels: five in Humanities (Cult1–5) and four in Social Sciences (G&M1-4). More than ten years after the last panel reform, the scientific scopes of these panels were no longer up to date. Recent changes and developments in the disciplines of these panels were not yet included in their formal description. In addition, some (new) research topics had not yet found a clear place within the FWO panel structure, as became apparent from the survey on orphan disciplines and from the many interactions of the members of the working group with the research community in Flanders. Finally, some of these panels are struggling with the multitude of applications that they need to evaluate, making it challenging to continue ensuring the highest level of quality of the evaluation process. The working group set out to find solutions to all these challenges, always in consultation with the researchers in the field and with their international peers who joined them at the (virtual) discussion table.

The details of the panel structure reform for the panels in the fields of Social Sciences and Humanities can be found in the following pages. In outlining these reforms, the working group adopted two major strategies: on the one hand, the scientific scope of each panel was analysed in detail, and, where appropriate, expanded, and, in any case, thoroughly updated. The new scopes better reflect the current state of the art in their respective scientific disciplines and a whole number of research topics which previously did not have a well-defined position in the panel structure now have a clear place. On the other hand, after in-depth discussion, a decision was taken to maintain the basic structure of the FWO expert panels in these domains - i.e. five panels in Humanities and four in Social Sciences. These nine panels are useful and necessary to ensure the funding of excellent scientific research by the FWO in these fields of science in the years ahead.
In concrete terms, the reform of the scientific scope for each panel is aimed at bringing about a number of specific improvements. The new scope of Cult1: Linguistics abandons the focus on concrete languages in favour of the inclusion of many more approaches and methodologies that are currently used in linguistic research in Flanders. Furthermore, a number of topics were defined more clearly in relation to other panels (Cult2, G&M3) so that researchers know which type of research is best submitted to which panel. The scientific scope of Cult2: Art, Art History, Architecture, Design and Literature was expanded to accommodate research topics which, as a result of reforms in the research and higher education landscape, now also occupy a more prominent place in the Flemish research landscape. The scope of panel Cult3: History and Archaeology now includes a wide range of current approaches and topics of historical and archaeological research (without claiming to be exhaustive), always placing archaeology and history on an equal footing.

Panel Cult4: Theology and Religious Studies, one of the smaller FWO panels in terms of size, continues to exist in its current constellation with an updated scope. The renewed scope of Cult5: Philosophy and Ethics reflects the rapid changes in this field and now clearly incorporates various (new) methodologies, empirical approaches and contemporary research topics. Panel G&M1: Sciences of Law and Criminology remains focused on research in these two disciplines. The (non-exhaustive) list of potential research topics in the scope was updated and, especially in the case of criminology, expanded to make it clear that all topics within these disciplines may be submitted to this panel. The scope of G&M2: Economics, Business Administration and Management lists the potential topics to be submitted in greater detail, linking the research evaluated in this panel to various other disciplines and fields.

For G&M3: Psychology, Pedagogy and Educational Sciences, the scope was also outlined in greater detail, especially with regard to pedagogy and educational sciences. It is important to realise, for this panel, that a significant part of the research on social work is being transferred to G&M4; only research projects on social work from a pedagogical perspective will still be submitted to G&M3. This finally brings us to G&M4: Media and Communication Studies, Political Science, Social Work, Social and Cultural Anthropology and Sociology, one of the largest FWO expert panels in terms of number of applications. Because of its size, which systematically places a particularly heavy workload on the panel members, the working group seriously considered splitting up this panel. After consulting the research community, it was eventually decided not to do so, but to create a separate panel for the evaluation of the postdoctoral call and the PhD call – both of these panels, however, share the same scientific scope.

Finally, the Social Sciences and Humanities working group supports the reforms regarding the evaluation of multi- and interdisciplinary research applications at the FWO. The modalities are described in detail elsewhere in this brochure and are certainly of interest to researchers in these fields of science.
The expert panel welcomes applications within all disciplines of and approaches to linguistics (applied, theoretical and historical; formal, functional and cognitive).

The panel's scope includes its recognised interdisciplinary subdisciplines (sociolinguistics, psycholinguistics, computational linguistics and language technology, translation studies, interpreting studies, linguistic anthropology, language acquisition and learning (L1/L2), philosophy of language and the history of linguistics).

Applications may pertain to the study of one or more spoken/sign language(s), as defined geographically, socially, typologically, genealogically. This includes contrastive studies and the study of bi/multilingualism. Applications may cover any aspect of language use (phonology and phonetics, morphology, syntax, lexicon, semantics, pragmatics and discourse) and rely on a range of relevant methodologies for linguistic enquiry (quantitative methods, text and corpus analysis, language documentation, linguistic ethnography, survey and interviewing, experimental methods, etc.).

Applicants in neurolinguistics are advised to submit to the Med5 panel, while applicants for psycholinguistics need to consider whether their main focus is on linguistic research questions or, alternatively, on the cognitive psychology of language use. In the latter case, they submit to panel G&M3. The inclusion of interpreting and translation studies in Cult1 presupposes a focus on utilitarian forms and processes of language mediation, as distinct from the literary and artistic uses of translation covered by panel Cult2.
This expert panel welcomes applications from all disciplines of research in the arts, art theory, art history, architecture and design, cultural studies and literature. It includes more specifically:

**ART AND ART HISTORY**
- Art and art history covering all regions, cultures and times
- History and theory of art history
- Research in the arts, artistic research, art research
- Material culture studies
- Music covering all regions, cultures and times
- Music, music history, musicology and sound studies
- Visual arts, applied arts, music, performing arts, design, architecture, interaction and game design and – one or more – combinations thereof
- Jewellery, textile and fashion design
- Film and audiovisual arts
- Performance studies: music, theatre, dance
- Conservation, restoration and technical art history
- Curatorship, museum studies and museology

**ARCHITECTURE AND DESIGN**
- Architecture covering all regions, cultures and times
- History of architectural studies
- Architecture, urban design & interior architecture covering all regions, cultures and times
- Architectural theory
- Design praxis and research by design
- Heritage history and theory, including critical heritage studies
- Adaptive reuse (theory and design)
- Participatory design
- Product development: human-centred design
- Design for well-being
— LITERATURE

» Literature covering all regions, cultures and times
» Transmission of literature (conceptual and material, from papyrus to cloud storage)
» Classical tradition and its ‘Nachleben’
» Poetica and rhetorica
» Organisation of knowledge
» Comparative literature
» Text editing, including methodologies of digital humanities
» Sociology of literary texts
» Literary history
» Literary translation studies
» Oral literature
» Literary theory
» Gender studies and literature
» Environmental humanities
» Empirical study of literature: reader-psychological and institutional-sociological study

— CROSS-FIELD DOMAINS

» Digital humanities
» Ecocriticism & environmental humanities
» Cultural studies
» Postcolonial studies
» Gender studies
» Classical tradition
This expert panel welcomes applications within all disciplines of history and archaeology, covering:

- A wide range of subjects, from prehistory to contemporary history, from national and regional to world archaeology/history.

- A wide range of approaches, from theory building and historiography to multidisciplinary research and digital humanities.

- A wide range of themes, from political, cultural, economic and social history/archaeology, to more specific themes such as gender studies, colonial and post-colonial studies, environmental and ecological archaeology/history, settlement pattern and land-use studies, material culture studies, science and technology studies, palaeodemographic studies, ethnoarchaeology, mortuary/funerary and ritual archaeology, history of religion, subaltern studies, memory studies, public history, media history, cultural/critical heritage studies (non-exhaustive list).
Theology and Religious Studies

This expert panel welcomes applications within all disciplines of theology and religious studies, seen from a historical, philological, systematic, practical, anthropological, sociological, legal, psychological and/or cultural point of view – for all theological and religious traditions.

It includes, more specifically:

- Religious anthropology
- Practical theology
- Biblical sciences
- History of religious traditions and institutions
- Comparative science of religion
- Moral theology/religious ethics
- World religions
- Non-Western religious traditions
- Sociology of religion
- Psychology of religion
- Issues of law and religion
- Theory of religion sciences
- Non-religious traditions
This expert panel welcomes applications within all disciplines of philosophy, seen from a historical, systematic, practical, speculative, anthropological and/or cultural point of view – for all philosophical traditions. This includes proposed studies with an empirical component contributing to the philosophical analysis.

It includes, more specifically:

- (Normative) ethics
- Moral sciences and applied ethics
- Logic
- Philosophy of language
- Epistemology
- Philosophy of science
- Philosophical anthropology
- Cultural philosophy
- Non-Western philosophy
- Social and political philosophy
- History of philosophy

- Philosophy of technology
- Philosophy of mind
- Metaphysics
- Aesthetics/philosophy of arts
- Philosophy of religion
- Environmental philosophy
- Philosophy of law
- Bioethics
- Scientific integrity
- Diversity and gender studies
The scope of this expert panel includes research on law and criminology.

In particular the following topics are covered (not exhaustive):

**SCOPE**

**TOPICS**

**LAW**

- **PRIVATE LAW**
  - Tort law
  - Property law
  - Contract law
  - Law of persons and family law
  - Youth law
  - Law of obligations
  - Estate planning law

- **PUBLIC LAW**
  - Administrative law and administrative procedure
  - Migration law
  - Planning, environmental and energy law
  - Constitutional law
  - Education law
  - Public health law
  - Media & telecommunications law

- **PUBLIC LAW**
  - Administrative law and administrative procedure
  - Migration law
  - Planning, environmental and energy law
  - Constitutional law
  - Education law
  - Public health law
  - Media & telecommunications law

- **CRIMINAL LAW**
  - Criminal law
  - Criminal procedure

- **SOCIAL LAW**
  - Labour law
  - Social security law
  - Social welfare law
  - Health law/medical law

- **ECONOMIC LAW**
  - Economic law
  - Financial law
  - Enterprise law
  - Company law
  - Consumer law
Sciences of Law and Criminology

- **Fundamental Rights and Freedoms**
  - Judicial Protection
    - Fundamental rights and freedoms
    - Human rights
    - Data protection & privacy
    - Alternative dispute resolution

- **International and European Law**
  - European Union law
  - Public international law
  - International organisations
  - Private international law
  - International trade law

- **Meta Law**
  - Legal philosophy
  - Legal history
  - Psychology and law

- **Methodology of Legal Research**
  - Doctrinal methodology
  - Comparative law
  - Empirical legal studies
  - Law and economics
  - Legal sociology and socio-legal studies

- **Criminology**
  - Criminological theories, crime phenomena and processes of criminalisation
    - Criminological theory
    - Etiological research (study of causes of crime)
    - Perpetrators and victims
    - Analyses of crime phenomena
    - Perceptions and attitudes concerning crime and (in)security

- **Penal and Social Reactions on Crime and Deviance**
  - Crime prevention
  - Policing, security and intelligence services
  - Criminal justice, youth justice and sentence implementation
  - Restorative and transitional justice (alternative conflict resolution)
  - Forensic care/welfare
  - Policy and management in policing, security and penal institutions
  - Penal policies, media and society

- **Innovative Criminology**
  - Big data
  - New technologies
  - Innovative methods
  - Innovative security

- **Methodology of Criminological Research**
  - Quantitative research methods
  - Qualitative research methods
  - Crime data
This expert panel welcomes applications within all disciplines of economics, business administration and management. In particular, the following topics are covered (not exhaustive):

### BUSINESS ADMINISTRATION AND MANAGEMENT

- **ACCOUNTING AND AUDITING**
  - Auditing & assurance
  - Accounting education
  - Financial reporting & analysis
  - Accounting and governance
  - Accounting history
  - Accounting and information systems
  - Management accounting
  - Public sector and not-for-profit accounting
  - Social and environmental accounting, and ethical issues in accounting
  - Taxation

- **CORPORATE AND (PUBLIC) FINANCE**
  - Entrepreneurial finance
  - Raising capital

- **MARKETING**
  - Marketing communications
  - Business-to-business marketing
  - Consumer behaviour
  - Marketing strategy
  - Modelling
  - Product and brand management
  - Innovation
  - Pricing & promotions
  - Retailing & omni-channel marketing
  - Services marketing
  - Sustainability
  - Digital transformation
G&M2 Economics, Business Administration and Management

— STRATEGY AND ORGANISATION
  » Strategy
  » Entrepreneurship
  » Innovation and technology management
  » Organisational behaviour
  » Human resource management
  » Service design and innovation
  » International business
  » Sustainability and corporate social responsibility
  » Organisation studies

— MANAGEMENT SCIENCE
  » Operations research
  » Information management and systems
  » Business analytics, models and data science
  » Human resource management (incl. leadership)
  » Innovation and entrepreneurship
  » Operations management and supply chain management
  » Transport management

— ECONOMICS

— MICROECONOMICS
  » Microeconomics
  » Behavioural economics
  » Neo-classical economics
  » Economics of production and firm behaviour
  » Industrial economics
  » Welfare economics
  » Labour economics
  » Economics of information and uncertainty

— MACROECONOMICS, FINANCE, PUBLIC ECONOMICS AND INTERNATIONAL ECONOMICS
  » Macroeconomics
  » Monetary economics

— MATHEMATICAL AND QUANTITATIVE METHODS
  » Econometrics
  » Mathematical economics
  » Statistical methods
  » Experimental design

— APPLIED ECONOMICS
  » Regional and transport economics
  » Network economics
  » Global value chains
  » Economics of gender
  » Development economics
  » Environmental, natural resource and agricultural economics

» Natural resource management
» Business informatics and digital transformation
» Smart services/smart industry
» Financial markets
» Public economics, government scope and budget, taxation and fiscal policy
» International trade
» Trade policy
» Migration
The scope of this expert panel includes research on psychology, pedagogy and educational sciences.

In particular the following topics are covered (not exhaustive):

### PSYCHOLOGY
- Human experimental psychology and cognitive science
  - Attention
  - Perception
  - Action
  - Language and psycholinguistics from a psychological perspective
    - Learning
    - Motivation and emotion

- Comparative and animal psychology

- Biological and physiological psychology, affective and behavioural neurosciences
  - Biological psychology
  - Genetics and behaviour
  - Neuropsychology
  - Psychophysiology

- Psychopharmacology
- Neuro-imaging

- Developmental psychology
  - Cognitive and perceptual development
  - Psychosocial development, personality development
  - Psychogerontology

- Social psychology and cross-cultural psychology
  - Group and interpersonal processes
  - Social perception and cognition

- Personality psychology

- Clinical psychology
  - Psychopathology
  - Psychotherapy

- Health psychology
  - Sport psychology
Educational psychology and school psychology

- Work, organisational and personnel psychology
  - Personnel psychology
  - Organisation psychology
  - Ergonomics
  - Consumer psychology
- Quantitative and qualitative methods in psychology
- Other domains
  - History of psychology
  - Philosophy of psychology

PEDAGOGY

- General pedagogy
  - Historical pedagogy
  - Comparative, intercultural and global pedagogy
  - Philosophical pedagogy
- Family pedagogy
  - Child studies
  - Early childhood education and care
  - Parental education
- Social pedagogy and social work from a pedagogical perspective
  - Citizen and community formation
  - Social-pedagogical assistance
  - Non-formal learning and adult education
  - Leisure education
- Cultural pedagogy
  - Culture and art education
  - Media education (incl. e-culture)
  - Cultural participation
- Orthopedagogics and special needs education
  - Education for children, adolescents and adults with special needs
  - Handicap and developmental disorder/problem
  - Behavioural and emotional disorder/problem
- Assessment, treatment planning, prevention and assistance
- Disability studies
- Quantitative and qualitative methods in pedagogy

EDUCATIONAL SCIENCES

- Micro: students in class
  - Instruction psychology and design
  - Teacher training, training skills
  - Professional education, education and life-long learning
  - Education technology
- Meso: schools and educational institutes
- Macro: policies and management
- Subject didactics
- Quantitative and qualitative methods in educational sciences
This expert panel covers media and communication studies, political science, social work, social and cultural anthropology, and sociology.
The **Life Sciences** working group was responsible for the reform of the expert panels in the fields of biological sciences (panels Biol-4) and medical sciences (panels Med1-8). After a careful review of all topics and an evaluation of both the workload of the individual panels and the needs of the field, this working group decided to found a new panel: **Med9: Movement & Sports Sciences, Dermatology, Physiotherapy & Rehabilitation Sciences, Dentistry and Maxillofacial Medicine, Orthopedics & Musculoskeletal Sciences, Rheumatology**. The working group considers this a necessary step to relieve some central tensions within the panel structure in the field of medical sciences. On the one hand, both our frequent contacts with the research community and the FWO survey on the so-called ‘orphan disciplines’ indicated persistent concerns about the position of movement and sport sciences, which were often cited as orphan disciplines. On the other hand, the Med5 and Med8 panels have for years been dealing with a very high workload in terms of the number of applications that they receive and the diversity of research topics that they need to evaluate. The new Med9 panel addresses both these issues. It leads to a thorough restructuring of research topics within the new panels Med5, Med8 and Med9 – you can read the details of their scientific scopes in the following pages – providing each of these panels with greater thematic and scientific coherence, while at the same time stimulating a reallocation of the submitted applications so that each panel can continue to function optimally in all steps of the evaluation procedure.

For the field of biological sciences the working group considered whether a reorganisation of the panels based on the division into plants, animals and micro-organisms would be an improvement. Consultation with the research community indicated, however, that researchers are generally satisfied with the
existing panel structure and organisational logic, which was therefore kept. It is based on the principle of ascending biological complexity (from molecules through to ecosystems) and implies a logical, simple and natural approach to the panel structure.

The working group also introduced various other important reforms in the panels. As in all the other working groups, the scientific scopes of all panels in the life sciences were renewed. More than ten years after the last panel structure reform, these were in need of a thorough update. To this end, the scope of each panel was analysed in detail, and, where necessary, extended and, in any case, thoroughly updated; this was done in consultation with the research community and in line with the latest national and international developments. During this process, the most cited orphan disciplines such as biomedical aspects of sex and gender studies (Med7) were also assigned a clear place in the panel structure.

Furthermore, the working group addressed the position of research in veterinary sciences, which now has a more clearly defined place in the medical panels. Finally, clinical research was added to the scope of all medical panels where this was not yet included, except for the Med1 panel (where the focus is on basic, translational and preclinical research). In this context it is important to note that clinical research and innovative intervention studies are only eligible if they address a fundamental scientific question. All details of the new panel structure for the panels in the fields of biological sciences and medical sciences can be found in the following pages.

Finally, the Life Sciences working group supports the new treatment of multi- and interdisciplinary research applications at the FWO. This aspect of the panel structure reform is described in detail elsewhere in this brochure and is highly relevant to researchers in these fields of science.
The scope of this expert panel includes fundamental biological research, which focuses on research methodologies and/or by content on biological aspects from macromolecules to cellular level. The aim of the research is the fundamental knowledge of biological processes without immediate application goals (such as medical, bio-medical, agricultural and biotechnological).

In particular, the following topics are covered (not exhaustive):

- Research at the molecular level of the structure, function and turnover of biological macromolecules and metabolites.
- Research at the (sub)cellular level of biological phenomena.
- Research on methods and techniques at molecular-biological level.
- Computational biology for the processing, storage, visualisation and modelling of molecular biological data, bioinformatics, -omics technology and system-wide approaches.

### Examples of Disciplines (Not Exhaustive)

#### Molecular Level
- Biochemistry
- Biomolecules
- Biophysics (biological aspects and application of physics)
- Molecular genetics
- Structural biology
- Systems biology

#### Cellular Level
- Bioinformatics
- Cellular biology
- Computational biology
- Glycobiology
- Imaging
- Molecular developmental biology
- Molecular microbiology
- Molecular modelling
- Stem cell biology
The scope of this expert panel includes fundamental biological research, which focuses by content and/or methodology on the functioning of cell communities, organs and (micro-)organisms. The finality of the research is the fundamental knowledge of biological processes without immediate application goals (such as medical, biomedical, agricultural, biotechnological).

In particular, the following topics are covered (not exhaustive):

- Research on physiological processes and their regulation and the underlying molecular mechanisms in all living organisms.
- Functional-morphological research in relation to organogenesis, development, differentiation or ageing.
- Research on signalling processes in all living organisms.
- Research on abiotic and biotic stress responses in plants and animals, including adaptive physiological research.
- Ethological research.
- Research on the interactions between multicellular eukaryotes and micro-organisms.

Examples of disciplines (not exhaustive):

» Chronobiology
» Developmental or ageing biology
» Ecophysiology
» Endocrinology
» Functional morphology
» Neurobiology and behaviour
» Plant, animal or microbial physiology
» Stress physiology
» Systems biology at organism and organ level
The scope of this expert panel includes fundamental biological research, which focuses by content and/or methodology on biological aspects, from organisms to the biological community and the ecosystem. The end goal of the research is the fundamental knowledge of biological processes without immediate application goals (such as medical, biomedical, agricultural, biotechnological).

In particular, the following topics are covered (not exhaustive):

- Research on the evolution, identification and classification of organisms.
- Research on the dynamics and the functioning of individuals, populations and communities in the environment.
- Research on the dynamics and the functioning of ecosystems.

Examples of disciplines (not exhaustive):

- Auto-ecology
- Behavioural ecology
- Biodiversity
- Biogeochemistry
- Biogeography
- Community ecology
- Computational ecology
- Ecosystem ecology
- Evolutionary biology
- Evolutionary ecology
- Functional morphology in an ecological/evolutionary context
- Global ecology, including global change biology
- Landscape ecology
- Macro-ecology
- Molecular and chemical ecology
- Palaeo-ecology
- Palaeontology
- Phylogenetics
- Population biology and population genetics
- Taxonomy
The scope of this expert panel includes biological and biotechnological research, which focuses on generating fundamental knowledge of biology aiming at applications in the environment, agriculture and forestry, industry, and/or society, but excluding (bio-)medical research.

In particular, the following topics are covered (not exhaustive):

- Handling and processing of living material and the application of living organisms (plants, animals, microorganisms), parts thereof or biological principles in production processes and biosystems.
- (Bio-)chemistry of technological processes and biosystems with the purpose of analysing, controlling or improving them.
- Research on animals, plants and micro-organisms with economic and societal implications.
- Research on (sustainable) management of ecosystems, biodiversity conservation and environmental technological processes.

Examples of disciplines (not exhaustive):

- Agriculture and horticulture
- Agrochemistry / agro-technology
- Animal production (including aquaculture and fishery) and genetics
- Applied and industrial biotechnology (microbiology, plant, animal)
- Applied animal physiology, animal welfare, animal nutrition
- Applied biochemistry, applied molecular biology, applied organic chemistry and synthetic biology
- Applied ecology / physical ecology
- Applied plant physiology / plant protection
- Bioprocess technology, bioprocess modeling and computational biology
- Conservation biology
- Ecotoxicology
- Environmental (bio-)technology and bioremediation
- Food sciences (non-medical; food chemistry, food microbiology, food technology)
- Forestry
- Nature-based solutions/ bio-inspired design
- Plant production and genetics
- Soil science (biological aspects)
The scope of this expert panel includes basic, translational and preclinical research on pharmaceutical sciences and medical biochemistry in humans and animals.

Innovative intervention studies (including medical devices, technologies and tools for prevention, diagnosis and treatment of human and animal diseases) are eligible only if they address a fundamental scientific question.

In particular, the following topics are covered (not exhaustive):

- **In vivo and in vitro pharmacology** (human and animal) of small molecules & biopharmaceuticals, pharmacokinetics (drug ADME), pharmacodynamics (effects on biological systems), analysis and synthesis of pharmaceutical compounds. It further covers molecular and cellular mechanisms, cellular communication, including cell signalling and signal transduction, ion channels & transport proteins.
- **In vivo and in vitro toxicology** of small molecules & biopharmaceuticals and covers toxicokinetics as well as toxicodynamics; it includes analytical, pharmaceutical, forensic and systems toxicology, food toxicology.
- Pharmaceutical (bio)technology, drug discovery and drug development technology, drug delivery and drug disposition (including medicinal plants and natural products).
- Bromatology, medicinal chemistry, enzymology, pharmaceutical material technology, radiopharmacy, pharmacognosy.
- Structural and functional research of human proteins, covering their role in cellular basic processes and including proteome analyses (functional and spatial proteomics).
- Biochemical and metabolic research, including proteins/nucleic acids/lipid/carbohydrate metabolism, biomarker technology (detection), animal free laboratory research, including development of New Approach Methodology (NAM).
- Target identification and validation.
- Medical biochemistry.
The scope of this expert panel includes basic, translational and clinical research on bio-informatics, genetics, functional genomics, developmental and stem cell biology in humans and animals.

Clinical research and innovative intervention studies (including medical devices, technologies and tools for prevention, diagnosis and treatment of human and animal diseases) are eligible only if they address a fundamental scientific question.

In particular, the following topics are covered (not exhaustive):

- Bioinformatics
- Complex genetics
- Developmental biology and -genetics
- Functional genomics
- Genetics: human and clinical
- Genomics
- Statistical genetics
- Stem cell biology
- Systems biology, including single cell and spatial ‘omics’
- Veterinary genetics
The scope of this expert panel includes basic, translational and clinical research on immunology and microbiology in humans and animals.

Clinical research and innovative intervention studies (including medical devices, technologies and tools for prevention, diagnosis and treatment of human and animal diseases) are eligible only if they address a fundamental scientific question.

In particular, the following topics are covered (not exhaustive):

**SCOPE**

**TOPICS**

- Adaptive immunity
- Autoimmunity
- Clinical bacteriology
- Clinical immunology and allergology
- Clinical mycology
- Clinical parasitology
- Clinical virology
- Immune mediated disorders
- Immunomodulation and immunotherapy
- Infections
- Inflammation and immunopathology
- Innate immunity
- Microbiomics
- Molecular and cellular immunology
- Molecular bacteriology
- Molecular virology
- Pathogenesis of infectious and immune diseases
- Transplantation immunity
- Tumor immunology
- Vaccinology
- Veterinary immunology
- Veterinary microbiology and parasitology
The scope of this expert panel includes basic, translational and clinical cancer research in humans and animals.

Clinical research and innovative intervention studies (including medical devices, technologies and tools for prevention, diagnosis and treatment of human and animal diseases) are eligible only if they address a fundamental scientific question.

In particular, the following topics are covered (not exhaustive):

- Cancer) imaging
- Cancer genetics and -genomics
- Cancer stem cells
- Cancer therapy and cancer medicines
- Cell cycle, apoptosis and signal transduction
- Epidemiology/ health outcomes on cancer
- Gene manipulation / gene therapy
- Hemato-oncology
- Invasion, metastasis and interaction with the micro-environment, angiogenesis
- Mechanisms for the development of cancer (oncogenesis)
- Prevention/early) diagnosis/ biomarkers
- Radiotherapy and radiobiology
- Translational surgical and related therapies
- Tumor immunology and immunotherapy
The scope of this expert panel includes basic, translational or clinical research in neurology, neuroscience & sensory systems, ENT medicine, ophthalmology and psychiatry in humans and animals.

Clinical research and innovative intervention studies (including medical devices, technologies and tools for prevention, diagnosis and treatment of human and animal diseases) are eligible only if they address a fundamental scientific question.

In particular, the following topics are covered (not exhaustive):

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**SCOPE**

**NEUROSCIENCES, NEUROLOGY AND SENSORY SYSTEMS**
- Cell biology
- Physiology and pathophysiology
- Imaging
- Neuro-/electrophysiology
- Sensory systems
- Motor control
- Behavioural and cognitive neurosciences
- Neurodegeneration
- Neurogenetics
- Pain

**ENT MEDICINE**
- Rhinology
- Otology
- Laryngology
- Head and neck
- Logopedic and audiologcial sciences

**OPHTHALMOLOGY**
- Angiogenesis
- Inflammation
- Imaging
- Metabolic disorders
- Neurodegeneration
- Neuro-ophthalmology
- Ocular surface and anterior segment
- Retinal degenerations
- Visual neuroscience
- Ophthalmic genetics

**PSYCHIATRY**
- Psychopathological mechanisms
- Brain imaging and electrophysiology
- Cognitive and behavioural research
- Developmental psychopathology
- (Neuro) intervention research
- Psychoendocrinology and psychoimmunology
- Psychiatric genetics
The scope of this expert panel includes basic, translational or clinical research in the respiratory system, the cardiovascular system, hematology and nephrology in humans and animals.

Clinical research and innovative intervention studies (including medical devices, technologies and tools for prevention, diagnosis and treatment of human and animal diseases) are eligible only if they address a fundamental scientific question.

In particular, the following topics are covered (not exhaustive):

**RESPIRATORY RESEARCH**
- Cell biology
- Physiology and pathophysiology
- Imaging
- Electro physiology

**CARDIOVASCULAR RESEARCH**
- Signal transduction
- Membrane transport and ion channels
- Imaging
- Electro physiology
- Cell biology
- Physiology and pathophysiology

**HEMATOLOGY**
- Cell biology
- Physiology and pathophysiology
- Imaging

**NEPHROLOGY AND HOMEOSTASIS**
- Cell biology
- Physiology and pathophysiology
- Imaging
The scope of this expert panel includes basic, translational or clinical research in endocrinology, gastroenterology, hepatology, metabolism and nutrition, reproduction and the urogenital system in humans and animals.

Clinical research and innovative intervention studies (including medical devices, technologies and tools for prevention, diagnosis and treatment of human and animal diseases) are eligible only if they address a fundamental scientific question.

In particular, the following topics are covered (not exhaustive):
The scope of this expert panel includes basic, translational and clinical research in human and veterinary health sciences.

Clinical research and innovative intervention studies (including medical devices, technologies and tools for prevention, diagnosis and treatment of human and animal diseases) are eligible only if they address a fundamental scientific question.

In particular, the following topics in communicable and non-communicable diseases are covered (not exhaustive):

> Bio-banking
> Epidemiology, bio-statistics, bioinformatics and population research
> Family medicine
> Food safety
> Global health
> Health economics
> Legal aspects of medicine
> Medical education
> Medical ethics, ethics of healthcare, bio-ethics
> Nursing sciences
> Palliative care
> Pharmaceutical care and therapeutic adherence
> Preventive medicine
> Primary care
> Public health and health services, health organisation, management and policy
The scope of this expert panel includes basic, translational and clinical research in movement & sports sciences, dermatology, physiotherapy & rehabilitation sciences, dentistry and maxillofacial medicine, orthopedics & musculoskeletal sciences and rheumatology in humans and animals.

Clinical research and innovative intervention studies (including medical devices, technologies and tools for prevention, diagnosis and treatment of human and animal diseases) are eligible only if they address a fundamental scientific question.

In particular, the following topics are covered (not exhaustive):

**Movement & Sports Sciences** (biophysical and biomedical aspects)
- Exercise physiology & nutrition
- Biomechanics
- Motor control & motor learning
- Preventive medicine
- Physical activity

**Dermatology**
- Cell biology
- Physiology and pathophysiology
- Imaging
- Dermato-cosmetics

**Physiotherapy and Rehabilitation Sciences**
- Rehabilitation sciences
- Physiotherapy
- Sports medicine
- Physical activity

**Dentistry and Maxillofacial Medicine**
- Cell biology
- Physiology and pathophysiology
- Imaging
- Oral biology
- Oral microbiology
- Dental materials and implants

**Orthopedics and Musculoskeletal Sciences**
- Cell & tissue biology
- Physiology and pathophysiology
- Imaging
- Implants

**Rheumatology**
- Cell biology
- Physiology and pathophysiology
- Imaging
The Science and Technology working group addressed the reform of the nine expert panels in this domain. Although information on the main focal points in these panels was already available from the FWO survey on orphan disciplines, the working group set about its task by organising its own survey of the research community, asking the researchers how they experienced the topicality of the current topics of the panels. More than 200 researchers responded to our survey, providing us with a detailed picture of the main problem areas in the W&T panels. Examples of the topics that emerged from this survey are the position of statistics and more generally applied mathematical topics; the large scientific dichotomy within the W&T8 panel, combining earth and space sciences; and the need to accommodate bio-inspired topics within different panels. Apart from this specific substantive input, there were also more generic comments.

Various respondents indicated that the ERC panels are more open to new fields of research and that the FWO should make further efforts to encourage multi- and interdisciplinary research. Finally, it became clear that, after ten years, the panel scopes were in need of a complete update. The working group began its work on the basis of this extensive input, always in consultation with the research community in Flanders and with the international experts who participated in the (virtual) debate.

The position of statistics and applied mathematical topics was a first important focal point for this working group. Statistics was the most cited orphan discipline in the FWO survey and our contacts with researchers also indicated concern about handling statistical applications and more generally applied mathematical applications within the FWO expert panels. The working group reflected at length about which panel structure would be the most appropriate to provide all researchers active in the broad field of mathematics with a good home base for submitting their research proposals. In the end it was decided to maintain one W&T1 Mathematical Sciences panel but
with a substantially expanded scope in which not only pure mathematics but also applied mathematical topics and statistics are assigned a prominent role. This relationship will also be reflected in the composition of the W&T1 expert panel. This panel should thus become the natural home base for all applications in the broad field of mathematical research. More applied mathematical topics with a statistical component can, however, still be handled in other panels (including G&M3, Med8, W&T5, etc.).

The challenging scientific constellation of W&T8 Sciences of the Earth and Space was a second important focal point. While this panel was set up more than ten years ago along the lines of ERC, it was found in practice that it is often not simple to evaluate research proposals on earth and space sciences within one and the same panel. The concerns expressed by panel members about this scientific dichotomy, which requires a great deal of effort from them, were picked up by the working group. Various options were examined, such as a possible split of the panel or a regrouping of the topics from the existing W&T8 panel to other expert panels. However, neither of these options proved to be suitable: on the one hand, the resulting sub-domains would be too small to function as a separate panel, and, on the other hand, they are too large to be simply added to another expert panel. To avoid a cascade effect which would compromise the basic structure of the entire Science and Technology domain, the decision was taken to maintain the W&T8 panel in its existing constellation. The panel members will be thoroughly informed about this context and the FWO will also see to it that the W&T domain board, which advises the Board of Trustees on the selection of new panel members, always includes an expert from both earth and space sciences.

The thorough update of the scientific scopes of all nine Science and Technology panels finally proved to be the most comprehensive task of this working group. The scope of each panel was submitted to a detailed analysis, and, where necessary, expanded or finetuned, and, in any case, thoroughly updated, so that recent developments in the Flemish and international research community are now reflected in these panels. The details of this exercise can be found in the following pages, as well as a complete description of the scope of each W&T panel. In many cases, the update also led to a new title for the panel. We also took the opportunity to define the boundaries between some panels more clearly and to accommodate the most cited orphan disciplines. Bio-related topics, for example, are now represented more visibly in different panels and there is a better definition as to which topics can be submitted in W&T9 and which ones are more suited for the Cult2 panel. In this way, nine updated W&T panels were created, which will ensure that the research funding of this field of science by the FWO will be streamlined in the coming years.

Finally, the Science and Technology working group also supports the reforms regarding the evaluation of multi- and interdisciplinary research applications at the FWO. The modalities are described in detail elsewhere in this brochure and are certainly of interest to researchers in these fields of science.
The scope of expert panel W&T1 includes fundamental research in pure mathematics, applied mathematics and statistics. The panel welcomes proposals in all subfields of mathematics. The proposed research should contribute to the development of new mathematical and/or statistical techniques, theories, concepts or models, or the mathematical solution of challenging problems. Also application-oriented proposals are welcomed provided the project includes fundamental advances in mathematical and/or statistical sciences.

More specifically, the scope includes the following topics:

- Logic and foundations
- Algebra
- Number theory
- Algebraic and complex geometry
- Geometry, global analysis and Lie theory
- Topology
- Analysis
- Probability and uncertainty
- Operator algebras and functional analysis
- Partial differential equations
- ODE and dynamical systems
- Combinatorics and discrete mathematics
- Cryptography and coding
- Mathematical aspects of computer science
- Mathematical physics
- Numerical analysis
- Computational mathematics, statistics and scientific computing

- Financial mathematics
- Biomathematics
- Mathematics with applications to sciences and engineering
- Mathematics with applications to industry and society
- Mathematical epidemiology
- Control theory, optimisation and operations research
- Mathematics of decision making and game theory
- Mathematical statistics
- Biostatistics
- Statistical methodology in epidemiology and public health
- Statistical methodology in social, behavioural and educational sciences
- Statistics and mathematics for data science
- Industrial statistics
- Design of experiments and sampling techniques
- Official statistics
The scope of expert panel W&T2 is fundamental research in theoretical, computational and experimental physics in the domains listed beside. Research for which the main goal is applied physics falls outside the scope of this panel. Topics related to the physics of materials should be submitted to the dedicated panel.

More specifically, the scope includes the following topics:

- Theory of fundamental interactions and elementary particles
- Experimental particle physics
- Nuclear and particle astrophysics
- Classical and quantum physics of gravitational interactions, including cosmology
- Gravitational wave physics
- Nuclear physics
- Gasses, fluids and plasmas
- Optics, quantum optics and fundamental aspects of photonics
- Theoretical quantum physics, including quantum information
- Thermal and statistical physics
- Complex systems and non-linear systems
- Theoretical bio-physics research
The scope of the expert panel W&T3 covers fundamental research of condensed matter, including both (bio-)physics and chemistry. This encompasses theoretical and computational condensed matter physics and chemistry and in-silico design of materials; experimental condensed matter chemistry and physics; as well as physical chemistry-chemical physics of condensed matter.

Topics to be addressed include theoretical and experimental determination of properties; synthesis and characterisation of materials (from bulk down to nanoscale); computational models and advanced measurement techniques.

More specifically, the scope covers the following aspects on:

- **MATERIALS AND SYSTEMS**
  - Solid state materials and soft condensed matter, including condensed matter aspects of biophysics
  - Inhomogeneous, disordered and partially ordered systems
  - Physics and chemistry of surfaces and interfaces, low-dimensional, self-assembled and nanoscale systems
  - Synthesis, nucleation and deposition, growth and surface modification

- **PROPERTIES AND PHENOMENA**
  - Structure, defects, phase transitions and structure-property relationships
  - Properties of condensed matter: transport, mechanical, acoustical, electronic, ionic, optical, magnetic, electrochemical...
    - etc. and their characterisation
  - Electronic structure and transport mechanisms
  - Collective quantum phenomena and excitations
  - Condensed matter – beam interactions (photons, electrons, etc.), spectroscopic and microscopic methods;
    - nuclear solid state physics and instrumental physical chemistry
The scope of the expert panel W&T4 includes fundamental research in chemistry in the broadest sense, as indicated in the following list of sub-disciplines. It relates to novel and innovative basic research on phenomena that occur in chemical processes that typically lead to new structures, compounds or materials, or to new related insights.

This often includes design strategy, synthesis, structure determination, characterisation, analysis and/or modelling of these processes and structures, compounds or materials.

More specifically, in the following sub-disciplines:

- Quantum and computational chemistry
- Environmental and atmospheric chemistry
- Macro-, supramolecular and polymer chemistry
- Molecular design
- Inorganic chemistry
- Organic chemistry
- Radiochemistry
- Analytical chemistry and spectroscopy
- Chemometrics and metrology
- Electrochemistry
- Materials chemistry
- Organometallic chemistry
- Homogeneous and heterogeneous catalysis
- Photo chemistry
- Plasma chemistry
- Physical chemistry
- Chemical aspects of biochemistry and medicinal chemistry
- Mechanisms, dynamics and kinetics of chemical reactions
The scope of expert panel W&T5 includes fundamental research, which focuses by content and/or methodology on all areas of informatics and information systems, computer science, scientific computing, intelligent systems and machine learning. The finality of the research is to generate fundamental and innovative knowledge on algorithmic design, computer methodologies and processes with long-term practical applications.

More specifically:

» Theoretical computer science
» Software engineering, programming languages and systems, system software
» Databases, web and information systems and their management
» Computer networks
» Artificial intelligence
» Machine learning, data-mining
» Statistical data processing (speech, image, video, language, other)
» Bio-informatics
» Computer graphics and visualisation
» Parallel and distributed computing, scientific computing, high-performance computing
» Computer architectures, software for embedded and real-time systems
» Human centered computing
» Security, privacy, cryptography
» Quantum computing (formal methods, algorithms and other computer science aspects)
The scope of expert panel W&T6 is fundamental engineering research targeting in content and/or methodology chemical and material science engineering. The final outcome of the research is fundamental and innovative knowledge with a long term applicability objective.

More specifically:

**SCOPE**

- Chemical and Material Science Engineering
- (Electro)chemical and biochemical process engineering, unit operations, bioreactor technology
- Heterogeneous/technical catalysis
- Adsorption, separation, transport phenomena, thermal and fluid engineering
- Rheology, microfluids and multiphase flow
- Nanostructure functional materials and biomaterials
- Porous materials and membranes
- Materials for energy
- Environmental engineering and technology, sustainable development and hazardous materials
- Ceramics, metals and powders, polymers, composites and textiles
- Soft condensed matter
- Surface engineering and tribology
- Materials properties, characterisation and testing
- Materials degradation and durability
- Computational methods and multiscale modelling in material science and chemical engineering
- Product design and formulation
The scope of the expert panel W&T7 is fundamental engineering research targeting in content and/or methodology electrical, electronic and mechanical systems and processes. The final outcome of the research is fundamental and innovative knowledge with a long term applicability objective.

More specifically:

» Micro-, nano-, quantum, printed electronics (incl. EMC and power management)
» Circuits and systems (incl. CAD): analog, digital, mixed signal electronics
» Electronics with advanced materials, reliability
» Photonics and opto-electronics components
» Communication systems, wireless and high frequency technology
» Computer hardware and reconfigurable architectures
» Bio-engineering: bio-electronics, bio-mechanics, bio-medical engineering, bio-sensors
» Signal processing (speech, image)
» System identification and control (incl. dynamics and modal analysis), engineering and automation
» Power engineering (incl. power electronics and nuclear technology)

» Renewable energy: generation and energy conversion systems
» Robotics, sensors and actuators
» Mechanical and mechatronic design, engineering and optimisation, life cycle analysis
» Embedded systems, IoT, sensor networks
» Electromagnetism and acoustics
» Engineering mechanics (structural dynamics, vibro-acoustics, multibody dynamics), reliability
» Micro engineering and precision engineering
» Manufacturing technology and engineering, (incl. computer integrated manufacturing)
» Tribology
» Combustion technology and fire dynamics
» Thermal and fluid engineering
» Technical thermodynamics
The scope of expert panel W&T8 encompasses fundamental research in the fields of Earth and space sciences.

Earth sciences cover the disciplines of geology, hydro(geo)logy, geophysics, atmospheric sciences, oceanography, paleontology, climatology, global environmental change, natural resources management, physical geography, geoarchaeology and the sustainability of Earth’s resources.

Space sciences includes observational and theoretical research on cosmology, the formation and evolution of galaxies, galaxy clusters and the Milky Way, the formation and evolution of stars and stellar clusters, exoplanetary and planetary science, and meteorites, as well as solar, heliospheric and interplanetary physics. It also includes the development of instrumentation and other tools for these areas of research.

More specifically, the following areas are included:

**Earth Sciences**
- Petrology, mineralogy
- Geochemistry
- Sedimentology, soil science, stratigraphy
- Oceanography, marine geology
- Hydrology, hydrogeology, environmental geology, water resource management, hydraulic engineering
- Applied geology, economic geology
- Physical geography, geomorphology, hydrography
- Geophysics, geodynamics, geomagnetism, paleomagnetism, applied geophysics
- Paleontology, Geomicrobiology
- Structural geology, tectonics
- Atmospheric sciences, meteorology
- Climatology, climate change, climate modelling, paleoenvironment, paleoclimatology
- Archaeometry, geoarchaeology
- Cartography, geoinformation science

**Space Sciences**
- Stellar astrophysics (interiors, atmospheres, winds, clusters, formation and binarity)
- Solar system science (planetary sciences, meteoritics)
- Solar physics (Sun, heliosphere)
- Galaxies (formation, evolution, and clusters of)
- Cosmology
- Galactic astronomy (Milky Way and its contents)
- Exoplanets (detection, formation and evolution)
- Astronomical instrumentation
- Astrochemistry/astrobiology
- Multimessenger astrophysics (observational gravitational, high-energy, and particle astrophysics)
- Time-domain astrophysics

**Sustainability of Earth’s resources (water, soil and minerals)**
The scope of expert panel W&T9 is the science, technology and sociotechnical analysis of the built environment in the broadest sense of the term. This includes all aspects of the built environment and human interactions within it, every phase of its (re-)production process, scales from construction materials through to entire urban and regional systems, and interactions with the bounding natural environment. The finality of this research is to generate fundamental and innovative knowledge with long-term practical applications. Projects addressing architectural design and architectural humanities should be addressed to the Cult2 panel.

More specifically:

- Built environment and sustainability, sustainable development
- Environment and climate change, societal impact and policy in relation to the built environment
- Human, economic and social geography
- Cities, urban, regional and rural studies
- Land use and planning and their relation to the built environment
- Mobility and transportation
- Geotechnical, civil and construction engineering
- Structural engineering, structural safety and assessment, non-destructive testing
- Construction design and technology
- Science of construction materials
- Building physics (including thermal, acoustic, lighting and fluids)
- Built heritage and conservation technology
The importance of multi- and interdisciplinary research is well and truly recognised in today’s scientific world. Researchers often and effectively collaborate with peers in other disciplines across scientific, institutional and/or historical borders. For the FWO, which aims to support excellent research, it is therefore of great importance that research proposals with such multi- or interdisciplinary characteristics are evaluated to the best of our abilities. With this in mind, the Interdisciplinarity working group developed a new approach to the evaluation of multi- and interdisciplinary applications as part of the panel structure reform.

A first pillar of this new approach is that specific interdisciplinary research proposals are evaluated in the Specific Interdisciplinary Panel. This panel will be the successor of the existing Interdisciplinary Expert Panel. The new Specific Interdisciplinary Panel works in a different way to the interdisciplinary Expert Panel in two respects. Firstly, the formal requirements for disciplinary collaboration are relaxed: it is no longer necessary for the collaboration to take place between disciplines in two separate scientific areas as defined by the FWO (Bio, Cult, G&M, Med and W&T); collaborations between disciplines in the same scientific area will now also be eligible for submission to the Specific Interdisciplinary Panel. Of course, applications should be submitted to the expert panel that has the most expertise in the relevant field. This means that research proposals with interdisciplinary collaboration between disciplines that are represented within a single FWO Expert Panel should be submitted to that panel (and not the Specific Interdisciplinary Panel). Secondly, the Specific Interdisciplinary Panel evaluates the quality of the interdisciplinarity of the applications that it receives and takes this into account in its overall evaluation. The panel does so on the basis of a functional definition of interdisciplinarity, the details of which can be found in the following...
Interdisciplinarity

Applicants will be asked to explicitly demonstrate the quality of the interdisciplinary collaboration in their proposal on the basis of this definition (via a separate question in the application form). In this way, interdisciplinarity is treated as an important and intrinsic added value of the research proposals submitted to the Specific Interdisciplinary Panel, which will include this in its evaluation procedure.

A second pillar of the new approach is the new handling of multidisciplinary applications in the regular panels for fundamental research projects and post-doctoral fellowships. Multidisciplinary applications are defined as research proposals that involve collaboration between different disciplines, but that do not meet the functional definition of interdisciplinarity as used by the Specific Interdisciplinary Panel, for example because one discipline is predominant and the other disciplines are subordinate or because there is little or no scientific progress in one of the disciplines involved. For such multidisciplinary applications the modalities of the external peer review are changed. At the request of the applicant, an external reviewer can be selected with a different scientific expertise than that included in the panel scope. This reviewer writes an evaluation report based on his/her expertise, knowing that the application will be handled in a panel with a different scientific profile. For example: a project on cell biology with a statistical component is submitted in Bio1: Molecular and Cellular Biology, but at the request of the applicant an external review is written by an expert in statistics in order to ensure an adequate evaluation of the statistical part of the application. Another example is a project proposal in the field of physics didactics that is submitted to G&M3: Psychology, Pedagogy and Educational Sciences, but at the request of the applicant one external review is written by an expert in physics who evaluates in particular the physical part of the application. The initiative to involve an expert with another scientific profile always comes from the applicant, who may indicate this in the application form.

Neither the FWO nor the panel takes any action in this respect. The request is always binding and the applicant indicates the required scientific profile of the external reviewer. Only one such external review can be requested per application and this review is always counted as one of the two external reviews of the application.

The reforms of the evaluation of multi- and interdisciplinary projects as presented here, which are also supported by the other working groups, are aimed at further optimising the evaluation practices in all of the FWO’s fundamental research panels. The shift in mindset that they aim to bring about in the way we deal with such multi-faceted applications for funding should benefit the Flemish research landscape.
To do so, the panel uses the following functional definition of interdisciplinarity:

» There is more than one discipline involved and these disciplines are sufficiently distinct.

» The disciplines are at the same coordinated level; each discipline is essential to achieve the expected outcome.

» The use of different, sufficiently integrated disciplines leads to synergy. Due to this synergy, the state of the art is advanced in all involved disciplines and/or in a shared area.