A Revision of the Review Panels within Natural and Engineering Sciences

Swedish Research Council

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A Revision of the Review Panels within Natural and Engineering Sciences

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Summary

This document presents a revised panel structure for applications within Natural and Engineering Sciences, the rationale for the new structure, and the process by which it was formed. The panel structure last received a major revision in 2012. The goal in this revision is to tackle the large variation in the number of applications handled by each of the current 19 panels, to achieve a more even distribution of applications between panels so that a high quality review process can be maintained across all subject areas.

The respective panel budgets will be revised to reflect the changes of size, so the overall reorganisation aims to be neutral, both financially and in terms of scientific areas supported by the council. While the revision does reflect changes in the scientific landscape, it does not reflect any strategic prioritisation of any specific scientific areas within natural and engineering sciences.

1. Background

The evaluation of applications for regular project grants, starting grants, and directed research programmes in Energy research, takes place within nineteen subject panels. These panels were fixed in 2012 (Appendix 1) as part of an extensive reform which considered not only the subject panels but also the evaluation process itself. Each panel name is accompanied by a list of "focus areas" which provide further indication of the scope of each panel. The list of focus areas described in 2012 have been updated on an ad hoc basis, with occasional changes from year to year.

For a number of different reasons, the number of applications handled by each panel has diverged considerably. Appendix 2 lists the number of applications for each grant category handled by each of the panels, since 2015. As a visual summary of the extreme cases, in the figure below we present the largest three, and the smallest three panels from 2020, and the historical data back until 2013.

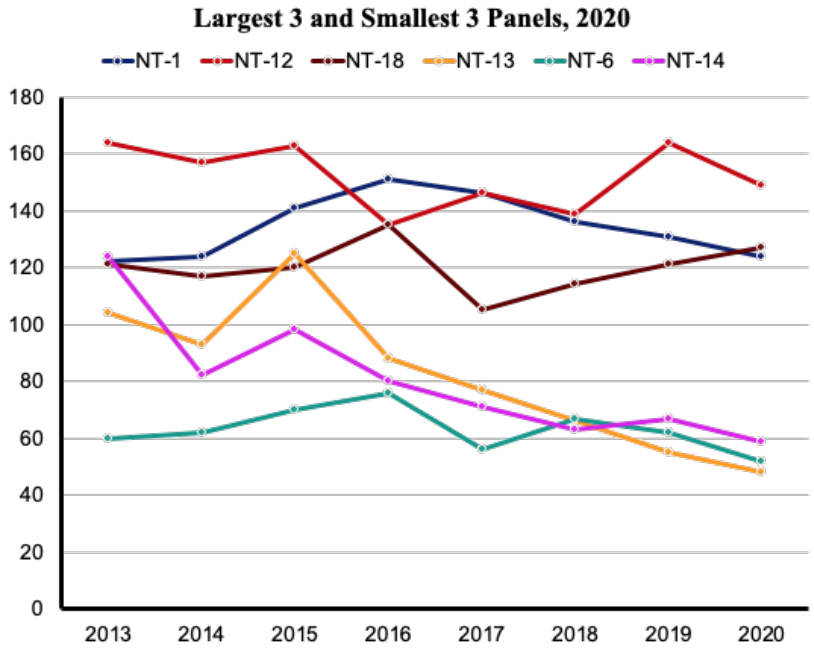


Figure 1 Historical data for number of applications in the largest and smallest panels from 2020.

Figure 1 shows that the largest groups are not getting smaller, while the smallest groups are experiencing a clear downward trend, with a factor of three difference between them in 2020.

2. Goals

The variation in panel size is a problem for the quality of the research evaluation process. For large panels, even taking into account the expansion of the number of panel members, based on feedback from panel chairs and the members themselves, the evaluation workload for reviewers is too high. This poses a risk to the quality of the evaluation process. At the other end of the scale, the small panels risk a big fluctuation in quality in the funded applications from year to year.

The goals of the present revision was to reconsider the division of research topics between panels so as to even out the workload between panels while retaining (or even improving) the scientific cohesion within panels.

The revision did not include any strategic agenda in terms of prioritised research areas, or budget adjustment, thus the outcome of the revision should be financially neutral.

Since the evaluation process is not within scope for the revision, although the number of panels was not fixed at 19, for practical reasons the council aimed for a similar number of panels after the revision. Coincidentally, through a combination of new panels and merged panels, the number of panels in the revision remained at 19.

3. The Process

The process for developing the new panel structure is illustrated in the figure below.

3.1 Reference group consultation (1)

Starting with the outlying panels (small and big) we formed reference groups consisting of previous and current panel chairs (typically having served within the last five year period), as well as current and previous Science Council observers (panel members who observe and advise on the complete evaluation process). Typically these groups were within a single panel, but in some cases we formed mixed groups spanning several panels. Within these groups possible adjustments to the panel structure were discussed, supported by data from previous application years, including a detailed analysis of the sub areas to which applicants applied (as specified by the SCB codes that applicants indicate with every application), as well as keywords and the full abstracts of all applications which were used for more specific analyses of number of applications within specific topics.

The result of this initial consultation process was a preliminary version of the new panel structure (Appendix 3).

3.2 Survey

Version 1 was sent out as part of a survey to all applicants who had applied to the Swedish Research Council in the period 2017-2020, a four-year window matching the four-year duration of grants.

Aim of the survey was to:

1. obtain an estimate of the improvement in panel size with the new proposal (i.e. the main goal of the revision),
2. gather data on the numbers of applicants for each of the proposed focus areas (as input to possible further adjustments, and as input to future panel chairs when choosing panel members), and
3. obtain feedback from researchers to gauge the response to the major changes and identify problem areas.

The survey asked the following questions:

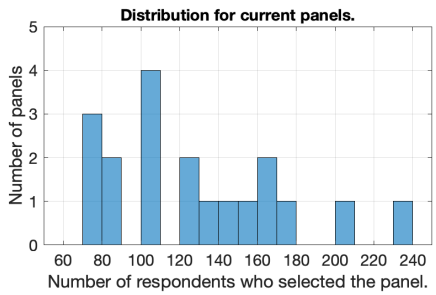
1. Which of the following proposed new review panels would have been the best fit for your most recently submitted project or starting grant application to the Swedish Research Council?
2. Which one focus area was most significant in your choice of this review panel?
3. Which of the current review panels was your actual first choice for your most recent application?

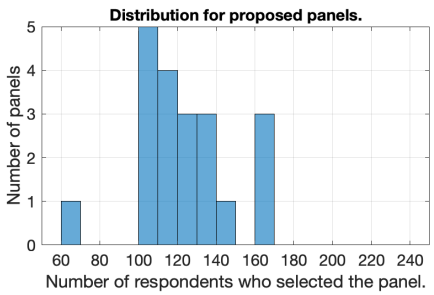
The survey was sent out to 3950 researchers, and received 2464 replies (62% answer frequency). Additional comments were provided by over 900 respondents.

Appendix 4 presents the quantitative data from the survey, including:

- Data for questions 1 and 3 showing the distribution of applicants to the new and old panels among respondents,
- Histograms for the chosen focus areas, listed per panel, and
- Histograms showing the correlations between responses to questions 1 and 3, viewed in both directions, i.e., (a) for each "old" panel, where will its applications end up in the new panel structure, and (b) for each "new" panel, from which old panels will the applications come.

To understand the likelihood that the new panel division will reach its goal with respect to achieving a more uniform distribution of panel sizes, we consider the data from the survey, assuming that the response rate is uniform across panels. Each survey respondent has selected one current panel (the panel of their latest application) and one new panel (the new panel that would have been the best fit for that application). From this data we form two histograms, one for the current panels and one for the proposed panels. The x-axis indicates the number of respondents who chose the same panel, with a bin size of 10. The y-axis shows the number of panels having that number of respondents. For example, there are four of the current panels which had 100-110 respondents in the survey.





Assuming that the response rate from applicants is uniform across the current panels, the graphs indicate a significant improvement in the uniformity of panel sizes for the new panels compared to the old.

3.3 Reference group consultation (2)

While the survey gave a clear indication that the new panel proposal would provide the desired improvement in panel size, the extensive comments raised a number of important issues. The reference groups were called on for further discussion, leading to a number of updates in the final proposal.

Summary of changes in response to the survey:

- **Geology-Biology panels, NT-A - NT-F**
  In response to the survey, we modified the focus areas and specified some additional areas for panels NT-A and NT-F. We further changed the name of NT-E to *Cell biology, developmental biology and microbiology* which better describes the areas covered by this panel. We also included a formulation in the introductory texts for NT-C - NT-F specifying that large omics studies and research such as computational biology and bioinformatics are included where the biological question is relevant to the subject of the panel.
- **Chemistry-Physics panels, NT-G - NT-M**
  The placement of analytical chemistry was thoroughly reviewed and discussed. In the new panel structure, analytical chemistry remains together with physical and theoretical chemistry in NT-G but with an update of the focus areas. We have also included additional focus areas in panels NT-G, NT-H and NT-M to better describe their coverage.
  In response to the survey we have moved the focus areas fusion and space physics from NT-L to NT-M. The preliminary name for NT-K was changed to *Applied and Engineering Physics* to address possible misunderstanding of the scope of the panel in relation to the current NT-13. Further, the name of NT-I was changed to *Materials Science and Engineerin*g, and NT-L was changed to *Astronomy and Subatomic Physics.*
- **Mathematics, Computing, and Engineering groups, NT-N - NT-S**
  The survey showed that the two large changes in this group – the introduction of a new mathematics-related panel NT-R, and the panel NT-P (subsuming NT-14 *Signals and Systems* and a large part of NT-13) –were broadly well received. The preliminary name for NT-P was changed to *Systems and Electrical Engineering* to address possible misunderstanding of the scope of the panel in relation to the current NT-13. Further discussions with the reference groups led to improvements in the list of focus areas for several of the panels.

A frequent concern from respondents relates to proposals that cross boundaries between panels. These concerns were most often about lack of clarity about the appropriate panel for a given topic. In some cases this was the result of a simple

omission of a focus area to provide clear guidance to the applicants. In other areas it was because the topic does not have a single "home", and the appropriate panel therefore depends on the area in which the main scientific contribution lies. In response to this, the application process will more clearly acknowledge that some topics are common to more than one panel, and to include some focus areas in multiple panels. Further to this, we will provide the means for applicants to clarify their choice of panel in relation to the main scientific thrust of the proposal. In the guidelines for applicants the following preface will clarify this:

> "…As always, some applications will naturally fall on the boundaries between panels, and some research areas are relevant to, and may even be mentioned explicitly by, more than one panel. Examples of such areas are Bioinformatics, Biophysics, Biomechanics, Machine learning, and Data Science.
>
> In these and other cases, applicants are advised to apply for the panel which best reflects the application's main scientific contribution. From 2021 applicants will be given the opportunity to clarify their choice of panel in relation to their application, and highlight any closely related panels."

4. The Panels of The Science Council for Natural and Engineering Science (2021)

Each application for a project or starting grant within Natural and Engineering Sciences will be evaluated by one of 19 panels. For each panel there is a brief description of the panel and a list of the main focus areas covered. These focus areas are neither an attempt at a complete scientific classification, nor a reflection of research priorities.

As always, some applications will naturally fall on the boundaries between panels, and some research areas are relevant to, and may even be mentioned explicitly by, more than one panel. Examples of such areas are Bioinformatics, Biophysics, Biomechanics, Machine learning, and Data Science. In these and other cases, applicants are advised to apply for the panel which best reflects the application's main scientific contribution.

From 2021 applicants will be given the opportunity to clarify their choice of panel in relation to their application, and highlight any closely related panels.

NT-A Atmospheric, Aquatic, and Soil Sciences

This panel covers research in ongoing chemical, physical, biological and biogeochemical processes within and between, soil, air and water. Environmental and climate related research that do not extend over geological time scales are also included.

Focus Areas: Biogeochemistry, Climatology, incl. climate modelling; Environmental chemistry; Hydrology; Limnology; Meteorology and atmospheric science; Oceanography; Soil science

NT-B Geology, Geochemistry, and Geophysics

This panel covers studies of planet Earth as a dynamic system, involving a wide range of earth science related disciplines, including any aspects of interactions on geologic time scales, within and between the five major components of the earth system – atmosphere, biosphere, cryosphere, geosphere and hydrosphere.

Focus Areas: Geochemistry; Geodesy; Geology; Geophysics; Geotechnical engineering; Glaciology; Mineralogy and petrology; Palaeoclimatology, incl. palaeoclimate modelling; Palaeoecology; Palaeoceanography, incl. palaeoceanographic modelling; Palaeogenetics; Palaeontology and palaeobiology; Physical geography; Sedimentology; Tectonics; Quaternary geology, incl. Paleolimnology

NT-C Evolutionary Biology and Genetics

This panel covers biological research with an evolutionary perspective, including evolutionary ecology and evolutionary developmental biology. Research can also include relationships between species, genetic variation and heredity in organisms through studies of systematics and genetics. The models used range from microorganisms to plants and animals including fossilized material. Large omics studies and research such as computational biology and bioinformatics where the biological question is relevant to the subject of this panel are also included.

Focus Areas: Biological systematics; Comparative biology; Evolutionary biology; Evolutionary ecology; Evolutionary developmental biology; Evolutionary genomics; Phylogenetics; Population genetics

NT-D Ecology and Organism Biology

This panel covers research on the ecology of populations, communities and systems using models ranging from microorganisms to plants and animals. This panel also covers biological research with a focus on the organism, including physiological and/or behavioural studies using experimental systems ranging from plants to animals. Large omics studies and research such as computational biology and bioinformatics where the biological question is relevant to the subject of this panel are also included.

Focus Areas: Behavioural ecology; Biodiversity; Community ecology; Ecophysiology, Ecosystems, Ethology; Marine biology; Microbial ecology; Plant and Zoophysiology; Plant-environment, -microbe-interactions; Toxicology

NT-E Cell Biology, Developmental Biology, and Microbiology

This panel covers biological research with focus on the cellular level up to the organism level, with systems ranging from microorganisms to higher animals and plants. Omics, computational biology and bioinformatics within the biological area of the panel is also covered.

Focus Areas: Cell biology; Developmental biology; Epigenetics; Functional genomics; Immunology; Microbiology; Neurobiology and neurochemistry

NT-F Biochemistry, Molecular Biology, and Structural Biology

This panel covers biomolecular research such as function, molecular mechanism, interactions and structure of biomolecules using experimental and computational methods, including structural bioinformatics.

Focus Areas: Biochemistry; Molecular biophysics; Molecular biology; Molecular biotechnology; Structural biology

NT-G Analytical, Physical, and Theoretical chemistry

This panel covers research dealing with fundamental studies of molecular properties and chemical processes, as well as analytical and theoretical methods developments.

Focus Areas: Analytical chemistry; Non-targeted and targeted analysis; Physical chemistry; Molecular spectroscopy; Surface and colloid chemistry; Soft Matter; Biophysical chemistry; Theoretical chemistry; Molecular simulations; Quantum chemistry

NT-H Inorganic, Materials, and Organic Chemistry

This panel covers research in inorganic, materials and organic chemistry, including experimental and theoretical studies of synthesis, properties and characterization.

Focus Areas: Inorganic chemistry; Bioinorganic chemistry; Coordination chemistry; Electrochemistry; Solid-state chemistry; Materials chemistry; Green chemistry; Organic chemistry; Medicinal chemistry; Organometallic chemistry; Polymer chemistry

NT-I Materials Science and Engineering

This panel covers research dealing with the design, properties, performance, processing, structure and characterisation of materials.

Focus Areas: Biomaterials; Ceramics; Composite materials and composite engineering; Corrosion engineering; Manufacturing, surface and joining technology; Materials design; Metallic materials and metallurgy; Polymers and polymer engineering; Thin film materials

NT-J Bioprocess Technology, Chemical Engineering, and Environmental Engineering

This panel covers technological and engineering research within the chemical, bioprocess and environmental area.

Focus Areas: Biocatalysis and enzyme technology; Bioenergy; Bio-nanotechnology; Bioprocess technology; Catalysis; Chemical engineering; Environmental technology; Food chemistry; Food technology; Natural resources engineering; Paper, pulp and fibre technology; Pharmaceutical biotechnology; Water engineering

NT-K Applied and Engineering Physics

This panel covers research aiming to utilize physics principles for applications in natural science and engineering. The themes, systems and devices handled by the panel therefore cover a wide range of fields within physical sciences, photonics as well as applications towards life science. Many of the topics covered by the panel can be classified as belonging to the general fields of nanoscience and nanotechnology.

Focus Areas: Semiconductor physics; Electronic devices; Surface physics; Low-temperature physics; Magnetism and spintronics; Superconductivity; Photonics; Optoelectronic technology and instrumentation; Sensor technology; Biophysics; Mesoscopic physics

NT-L Astronomy and Subatomic Physics

This panel covers research dealing with fundamental physics of the smallest and largest scales. The micro-cosmos includes studies of atomic nuclei and elementary particles, whereas the macro-cosmos refers to all fields of extra-terrestrial sciences.

Focus Areas: Accelerator physics; Astronomy; Astroparticle physics; Astrophysics; Cosmology; Mathematical physics; Nuclear physics; Particle physics; Radiation physics (non-medical aspects);

NT-M Physics of Light and Matter

This panel covers research dealing with the fundamental properties of matter and light. It incorporates research ranging from investigation of single atoms to studies of the properties of the solid state. The theoretical methods include analytical, numerical as well as statistical approaches.

Focus Areas: Atomic physics; Molecular physics; Cluster physics; Condensed matter physics; Soft matter physics, Plasma physics; Space physics, Fusion; Chemical physics; Fundamental optics; Quantum information and quantum optics; Quantum liquids and quantum materials

NT-N Mechanical Engineering

This panel covers research on fundamental aspects of mechanical engineering. It incorporates theoretical developments as well as experimental observations and simulations of complex mechanical systems.

Focus Areas: Aerospace engineering; Biomechanics; Energy engineering; Fluid mechanics and acoustics; Mechanics of materials; Nuclear engineering; Rheology; Solid mechanics; Tribology; Vehicle engineering

NT-O Biomedical Engineering

This panel covers research in engineering science with a focus on methods to study, diagnose, or treat medical conditions, as well as on the development of engineering principles and methods for medical research.

Focus Areas: Artificial organs; Biomaterials; Biomechanics; Bio-optics; Biosensor technology; Medical biotechnology; Medical equipment engineering; Medical ergonomics; Medical Image and Signal Processing; Medical informatics; Medical laboratory technology and measurement technology; Medical materials and prosthesis technology; Physiological Measurement Technology and Modelling; Radiation physics (medical aspects); Radiology and image processing; Speech Technology and Technical Audiology

NT-P Systems and Electrical Engineering

This panel covers research on fundamental methods for the modelling, analysis, design, implementation and evaluation of systems. It incorporates many aspects from hardware components and electrical circuits to algorithms and software including principles for systems engineering, learning, optimisation and control.

Focus Areas: Analog and digital electronics; Communication and information theory; Computer vision; Control engineering; Electrical and power engineering; Machine learning; Networked systems; Radio engineering; Robotics; Signal processing

NT-Q Computer Science

This panel covers research in Computer Science, in a broad sense, including the subjects listed below.

Focus Areas: Algorithms; Artificial intelligence; Computer systems (computer architecture, embedded systems, computer networks, and operating systems); Human-computer interaction; Information systems; Parallel and distributed computing; Programming languages and systems; Security; Software engineering; Theory of computation

NT-R Computational Mathematics, Data Science, and Statistics

This panel covers research in which the main scientific contribution is to develop foundations and methodology for statistics, data science and computational methods in science, through mathematical and algorithmic advances.

Focus Areas: Computational mathematics and numerical analysis; Foundations of data science; Natural language processing; Operations Research; Scientific computing; Statistics

NT-S Mathematics

This panel covers research in Mathematics, principally within the subjects listed below.

Focus Areas: Analysis; Algebra; Applied mathematics; Discrete mathematics; Geometry; Mathematical logic; Number theory; Probability theory; Topology

Appendices

Appendix 1: The Current Review Panels 2012-2020

NT-1 Mathematical Sciences

Focus areas: Algebra; Computational mathematics and numerical analysis; Discrete mathematics; Geometry; Mathematical logic; Mathematical analysis; Optimization; Probability theory and statistics; Systems theory; Applied mathematics

NT-2 Computer science

Focus areas: Computer architecture; Systems engineering; Computer engineering; Interaction Technologies; Human-Computer interaction (Interaction Design); Software engineering; Language technology (Computational linguistics); Information systems; Theoretical computer science

NT-3 Subatomic physics, space physics and astronomy

Focus areas: Accelerator physics; Astrophysics; Astronomy; Astroparticle physics; Fusion; Cosmology; Mathematical physics; Nuclear physics; Plasma physics; Particle physics; Space physics; Radiation physics (non-medical aspects)

NT-4 Atomic and molecular physics, optics and condensed matter physics

Focus areas: Atomic and molecular physics; Computational physics; Chemical physics; Cluster physics; Condensed matter physics; Quantum information and quantum optics; Quantum liquids and quantum materials; Macromolecular physics; Optics; Statistical physics; Structural and vibrational physics

NT-5 Analytical, physical and theoretical chemistry

Focus areas: Analytical chemistry; Biophysical chemistry; Physical chemistry; Chemometrics; Quantum chemistry; Microfluidics; Molecular simulations; Theoretical chemistry; Surface and colloid chemistry

NT-6 Organic and inorganic chemistry

Focus areas: Bioinorganic chemistry; Electrochemistry; Pharmaceutical chemistry; Solid-state chemistry; Cluster chemistry; Nuclear chemistry; Solution chemistry; Materials chemistry (synthesis aspects); Organometallic chemistry; Inorganic chemistry; Organic chemistry; Polymer chemistry

NT-7 Geology and geophysics

Focus areas: Geodesy; Geophysics; Geology; Geotechnical engineering; Glaciology; Quaternary geology; Mineralogy; Physical geography; Palaeoclimatology; Palaeontology and palaeobiology; Petrology; Tectonics

NT-8 Soil, air and water processes

Focus areas: Geochemistry; Hydrology; Environmental chemistry; Climatology; Soil science; Meteorology and atmospheric science; Oceanography

NT-9 Biochemistry and structural biology

Focus areas: Biochemistry; Glycobiology; Nucleic acids biochemistry; Protein chemistry and enzymology; Molecular biophysics; Molecular biotechnology; Structural biology

NT-10 Cell and molecular biology

Focus areas: Cell biology; Epigenetics; Functional genomics; Immunology; Molecular biology; Neurobiology and neurochemistry; Proteomics

NT-11 Organism biology

Focus areas: Bioinformatics; Botanics; Genetics; Microbiology; Systems biology; Toxicology; Developmental biology; Zoology

NT-12 Ecology, systematics and evolution

Focus areas: Biological systematics; Ecology; Ethology; Evolutionary biology

NT-13 Electronics, electrical engineering, semiconductor physics and photonics

Focus areas: Electrical measurement technology and instrumentation; Electrophysics; Electronics; Electrical engineering; Power engineering; Photonics; Semiconductor physics; Radio engineering

NT-14 Signals and systems

Focus areas: Computer vision; Communication systems; Control engineering; Robotics; Signal processing

NT-15 Applied physics

Focus areas: Biophysics; Low-temperature physics; Magnetism and spintronics; Mesoscopic physics; Nanoscience and nanotechnology; Sensor technology; Superconductivity; Thin film technology; Surface and colloidal physics

NT-16 Mechanical engineering

Focus areas: Biomechanics; Energy engineering; Vehicle engineering; Solid mechanics; Mechanics of materials; Rheology; Reactor science; Aerospace engineering; Fluid mechanics and acoustics; Tribology

NT-17 Bioprocess technology, chemical engineering and environmental engineering

Focus areas: Bioenergy; Biocatalysis and Enzyme technology; Bio-nanotechnology; Bioprocess technology; Catalysis; Chemical engineering; Food chemistry; Food technology; Pharmaceutical biotechnology; Environmental technology; Natural resources engineering; Paper, pulp and fibre technology; Water engineering

NT-18 Materials science

Focus areas: Manufacturing, surface and joining technology; Ceramics; Composite materials and Composite engineering; Corrosion engineering; Materials design; Materials characterisation; Materials chemistry (not synthesis); Materials structure; Metallic materials and metallurgy; Polymers and polymer engineering; Thin film materials

NT-19 Biomedical engineering

Focus areas: Artificial organs; Biomaterials; Bio-optics; Biosensor technology; Physiological measurement technology and modelling; Medical equipment engineering; Medical image and signal processing; Medical biotechnology; Medical ergonomics; Medical informatics; Medical laboratory technology and measurement technology; Medical materials and prosthesis technology; Radiology and image processing; Radiation physics (medical aspects); Speech technology and technical audiology

Appendix 2: The number of Applications handled within each panel, 2015-2020

Year/type of grant	NT-1	NT-2	NT-3	NT-4	NT-5	NT-6	NT-7	NT-8	NT-9	NT-10	NT-11	NT-12	NT-13	NT-14	NT-15	NT-16	NT-17	NT-18	NT-19	Totalt
2020	**124**	**104**	**115**	**107**	**97**	**52**	**66**	**115**	**66**	**104**	**84**	**149**	**48**	**59**	**64**	**84**	**78**	**127**	**86**	**1729**
project grants	*79*	*72*	*89*	*69*	*74*	*28*	*50*	*73*	*53*	*71*	*55*	*96*	*34*	*46*	*46*	*65*	*45*	*78*	*59*	*1182*
starting grants	*45*	*32*	*26*	*36*	*22*	*18*	*14*	*42*	*13*	*31*	*29*	*53*	*6*	*12*	*14*	*17*	*13*	*36*	*27*	*486*
energy-oriented	*0*	*0*	*0*	*2*	*1*	*6*	*2*	*0*	*0*	*2*	*0*	*0*	*8*	*1*	*4*	*2*	*20*	*13*	*0*	*61*
2019	**131**	**118**	**108**	**76**	**103**	**62**	**50**	**96**	**68**	**108**	**86**	**164**	**55**	**67**	**84**	**75**	**70**	**121**	**73**	**1715**
project grants	*100*	*94*	*78*	*50*	*70*	*33*	*37*	*67*	*51*	*75*	*62*	*115*	*40*	*50*	*55*	*53*	*40*	*71*	*55*	*1196*
starting grants	*30*	*24*	*30*	*22*	*25*	*24*	*13*	*29*	*15*	*33*	*20*	*49*	*7*	*15*	*17*	*16*	*22*	*37*	*18*	*446*
energy-oriented	*1*	*0*	*0*	*4*	*8*	*5*	*0*	*0*	*2*	*0*	*4*	*0*	*8*	*2*	*12*	*6*	*8*	*13*	*0*	*73*
2018	**136**	**109**	**103**	**92**	**88**	**67**	**48**	**95**	**66**	**97**	**82**	**139**	**66**	**63**	**75**	**83**	**71**	**114**	**71**	**1665**
project grants	*106*	*78*	*75*	*62*	*59*	*42*	*32*	*65*	*48*	*72*	*63*	*91*	*48*	*48*	*50*	*64*	*33*	*73*	*52*	*1161*
starting grants	*30*	*31*	*28*	*22*	*25*	*20*	*16*	*30*	*17*	*24*	*17*	*48*	*13*	*15*	*21*	*18*	*21*	*34*	*19*	*449*
energy-oriented	*0*	*0*	*0*	*8*	*4*	*5*	*0*	*0*	*1*	*1*	*2*	*0*	*5*	*0*	*4*	*1*	*17*	*7*	*0*	*55*
2017	**146**	**115**	**107**	**98**	**97**	**56**	**65**	**92**	**67**	**91**	**101**	**146**	**77**	**71**	**80**	**84**	**59**	**105**	**80**	**1737**
project grants	*117*	*89*	*71*	*59*	*68*	*34*	*46*	*61*	*45*	*71*	*77*	*89*	*52*	*53*	*51*	*62*	*34*	*55*	*49*	*1183*
starting grants	*29*	*26*	*36*	*27*	*26*	*17*	*19*	*29*	*22*	*20*	*23*	*57*	*17*	*18*	*22*	*19*	*19*	*42*	*31*	*499*
energy-oriented	*0*	*0*	*0*	*12*	*3*	*5*	*0*	*2*	*0*	*0*	*1*	*0*	*8*	*0*	*7*	*3*	*6*	*8*	*0*	*55*
2016	**151**	**119**	**111**	**94**	**122**	**76**	**70**	**109**	**80**	**112**	**103**	**135**	**88**	**80**	**86**	**99**	**59**	**135**	**79**	**1908**
project grants	*100*	*84*	*68*	*62*	*83*	*42*	*51*	*73*	*52*	*73*	*65*	*93*	*47*	*59*	*60*	*68*	*30*	*67*	*54*	*1231*
starting grants	*48*	*34*	*42*	*23*	*32*	*26*	*18*	*34*	*23*	*36*	*35*	*40*	*20*	*19*	*14*	*20*	*11*	*36*	*25*	*536*
energy-oriented[1]	*3*	*1*	*1*	*9*	*7*	*8*	*1*	*2*	*5*	*3*	*3*	*2*	*21*	*2*	*12*	*11*	*18*	*32*	*0*	*141*
2015	**141**	**137**	**117**	**109**	**126**	**70**	**68**	**112**	**94**	**97**	**104**	**163**	**125**	**98**	**87**	**108**	**75**	**120**	**81**	**2032**
project grants	*94*	*88*	*76*	*68*	*83*	*37*	*45*	*68*	*59*	*59*	*69*	*108*	*58*	*72*	*51*	*64*	*37*	*66*	*46*	*1248*
starting grants	*46*	*48*	*39*	*31*	*31*	*17*	*22*	*42*	*29*	*36*	*33*	*55*	*31*	*25*	*22*	*27*	*22*	*38*	*35*	*629*
energy-oriented[1]	*1*	*1*	*2*	*10*	*12*	*16*	*1*	*2*	*6*	*2*	*2*	*0*	*36*	*1*	*14*	*17*	*16*	*16*	*0*	*155*
Average 2017-2020	***134***	***112***	***108***	***93***	***96***	***59***	***57***	***100***	***67***	***100***	***88***	***150***	***62***	***65***	***76***	***82***	***70***	***117***	***78***	***1712***

Appendix 3: The Preliminary (Version 1) Panel Proposal as Included in the Survey

NT-A-Prelim Atmospheric, aquatic and soil sciences

This panel covers research in ongoing chemical, physical, biological and geobiochemical processes within and between, soil, air and water. Environmental and climate related research that do not extend over geological time scales are also included.
Focus Areas: Climatology, incl. Climate modelling; Environmental chemistry; Hydrology; Limnology; Meteorology and atmospheric science; Oceanography; Soil science

NT-B-Prelim Geology, Geochemistry and Geophysics

This panel covers studies of planet Earth as a dynamic system, involving a wide range of Earth Science related disciplines,including any aspects of interactions on geologic time scales, within and between the five major components of the Earth System – atmosphere, biosphere, cryosphere, geosphere and hydrosphere.
Focus Areas: Geochemistry; Geodesy; Geology; Geophysics; Geotechnical engineering; Glaciology; Mineralogy; Palaeoclimatology, incl. Palaeoclimate modelling; Palaeoecology; Palaeoceanography, incl. Palaeoceanographic modelling; Palaeogenetics; Palaeontology and palaeobiology; Petrology; Physical geography; Sedimentology; Tectonics; Quaternary geology, incl. paleolimnology

NT-C-Prelim Evolutionary Biology and Genetics

This panel covers biological research with an evolutionary perspective, including evolutionary ecology. Research can also include relationships between species, genetic variation and heredity in organisms through studies of systematics and genetics.
Focus Areas: Biological systematics; Evolutionary biology; Genetics

NT-D-Prelim Ecology and Organism Biology

This panel covers biological research with focus on the organism, spanning physiological and/or behavioural studies at the level of the individual up to the ecology of populations and communities. Ecological studies using systems ranging from microorganisms to animals and plants are included.
Focus Areas: Ecology; Ethology; Physiology; Plant Biology; Toxicology; Zoology

NT-E-Prelim Cell biology and microbiology

This panel covers biological research with focus on the cellular level, with systems ranging from microorganisms to cells from higher animals and plants, and mainly, but not exclusively, in vivo methods.
Focus Areas: Cell biology; Developmental biology; Epigenetics; Functional genomics; Immunology; Microbiology; Neurobiology and neurochemistry

NT-F-Prelim Biochemistry, molecular biology and structural biology

This panel covers biomolecular research with focus on the molecular level, such as function, interactions, and structure of biomolecules using in vitro, in vivo and in silico methods.
Focus Areas: Biochemistry; Molecular biophysics; Molecular biology; Molecular biotechnology; Structural biology

NT-G-Prelim Analytical, physical and theoretical chemistry

This panel covers research dealing with fundamental studies of molecular properties and chemical processes, as well as analytical and theoretical methods developments.
Focus Areas: Analytical chemistry; Biophysical chemistry; Molecular simulations; Physical chemistry; Quantum chemistry; Surface and colloid chemistry; Theoretical chemistry

NT-H-Prelim Inorganic, materials and organic chemistry

This panel covers research in chemistry, including experimental and theoretical aspects of synthesis, properties and characterization in inorganic, materials and organic chemistry.
Focus Areas: Bioinorganic chemistry; Cluster chemistry; Coordination chemistry; Electrochemistry; Inorganic chemistry; Materials chemistry; Medicinal chemistry; Nuclear chemistry; Organometallic chemistry; Organic chemistry; Polymer chemistry; Solid-state chemistry

NT-I-Prelim Material science

This panel covers research dealing with the design, properties, performance, processing, structure and characterisation of materials.
Focus Areas: Ceramics; Composite materials and Composite engineering; Corrosion engineering; Manufacturing, surface and joining technology; Materials Design; Metallic materials and metallurgy; Polymers and Polymer Engineering; Thin film materials

NT-J-Prelim Bioprocess technology, chemical engineering and environmental engineering

This panel covers technological and engineering research within the chemical, bioprocess and environmental area.
Focus Areas: Biocatalysis and Enzyme technology; Bioenergy; Bio-nanotechnology; Bioprocess technology; Catalysis; Chemical engineering; Environmental technology; Food chemistry; Food technology; Natural Resources engineering; Paper, pulp and fibre technology; Pharmaceutical biotechnology; Water engineering

NT-K-Prelim Applied physics

This panel covers research aiming to utilize physics principles for applications in natural science and engineering. The systems and devices handled by the panel therefore cover a wide range of fields within physical sciences, photonics as well as applications towards life science. Many of the topics covered by the panel can be classified as belonging to the general fields of nanoscience and nanotechnology.
Focus Areas: Semiconductor Physics; Electronic devices; Surface Physics; Low-Temperature Physics; Magnetism and Spintronics; Superconductivity; Photonics; Optoelectronic Technology and instrumentation; Sensor Technology; Biophysics; Mesoscopic Physics

NT-L-Prelim Physics of micro- and macro-cosmos

This panel covers research dealing with fundamental physics of the smallest and largest scales. The micro-cosmos includes studies of atomic nuclei and elementary particles, whereas the macro-cosmos refers to all fields of extra-terrestrial sciences.
Focus Areas: Accelerator physics; Astronomy; Astroparticle physics; Astrophysics; Cosmology; Fusion; Mathematical physics; Nuclear physics; Particle physics; Radiation physics (non-medical aspects); Space physics

NT-M-Prelim Physics of light and matter

This panel covers research dealing with the fundamental properties of matter and light. It incorporates research ranging from investigation of single atoms to studies of the properties of the solid state. The theoretical methods include analytical, numerical as well as statistical approaches.
Focus Areas: Atomic physics; Molecular physics; Cluster physics; Condensed matter physics; Plasma physics;Chemical physics; Fundamental Optics; Quantum information and quantum optics; Quantum liquids and quantum materials

NT-N-Prelim Mechanical Engineering

This panel covers research on fundamental aspects of mechanical engineering. It incorporates theoretical developments as well as experimental observations and simulations of complex mechanical systems.
Focus Areas: Aerospace engineering; Biomechanics; Energy engineering; Fluid mechanics and acoustics; Mechanics of materials; Rheology; Solid mechanics; Tribology; Vehicle engineering

NT-O-Prelim Biomedical Engineering

This panel covers research in engineering science with a focus on methods to study, diagnose, or treat medical conditions, as well as on the development of engineering principles and methods for medical research.
Focus Areas: Artificial organs; Biomaterials; Bio-optics; Biosensor technology; Medical biotechnology; Medical equipment engineering; Medical ergonomics; Medical Image and Signal Processing; Medical informatics; Medical laboratory technology and measurement technology; Medical materials and prosthesis technology; Physiological Measurement Technology and Modelling; Radiation physics (medical aspects); Radiology and image processing; Speech Technology and Technical Audiology

NT-P-Prelim Electrical and Systems Engineering

This panel covers research on fundamental methods for the modelling, analysis, design, implementation and evaluation of intelligent systems. It incorporates many aspects of such systems from basic hardware components and electrical circuits to algorithms and software including principles for systems engineering, optimisation, communication and control.
Focus Areas: Analog and digital electronics; Communication and information theory; Computer vision; Control engineering; Electrical and power engineering; Machine learning; Networked systems; Radio engineering; Robotics; Signal processing

NT-Q-Prelim Computer Science

This panel covers research in Computer Science, in the broader sense, including interaction design and computer systems.
Focus Areas: Computer science; Computer systems; Human-computer interaction and Interaction Design; Information systems; Software engineering; Theoretical computer science

NT-R-Prelim Statistics, Data Science, and Computational Mathematics

This panel covers research in which the main scientific contribution is to develop foundations and methodology for statistics, data science and computational methods in science, through mathematical and algorithmic advances.
Focus Areas: Computational mathematics and numerical analysis; Mathematical aspects of data science and machine learning; Natural language processing; Operations Research; Optimization; Scientific computing; Statistics; Systems theory

NT-S-Prelim Mathematics

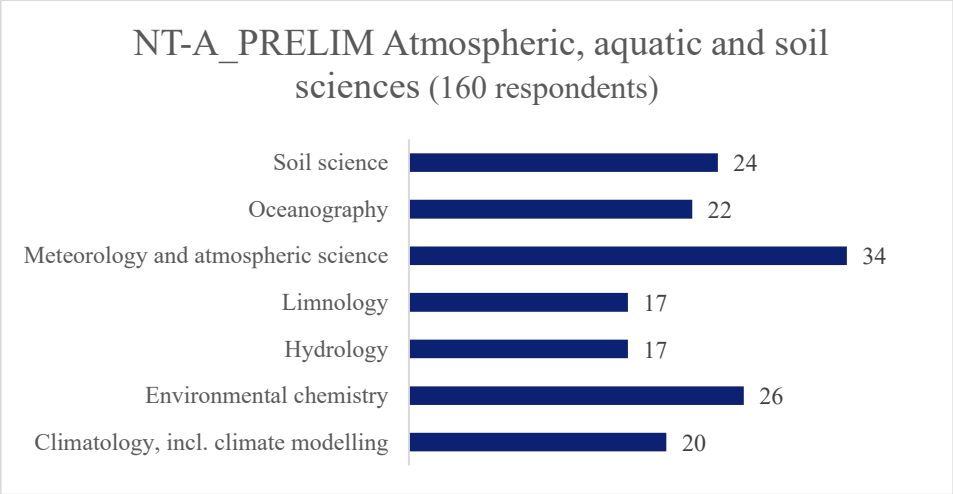
This panel covers research in Mathematics, principally within the subjects listed below.
Focus Areas: Analysis; Algebra; Applied mathematics; Discrete mathematics; Geometry; Mathematical logic; Number theory; Probability theory; Topology

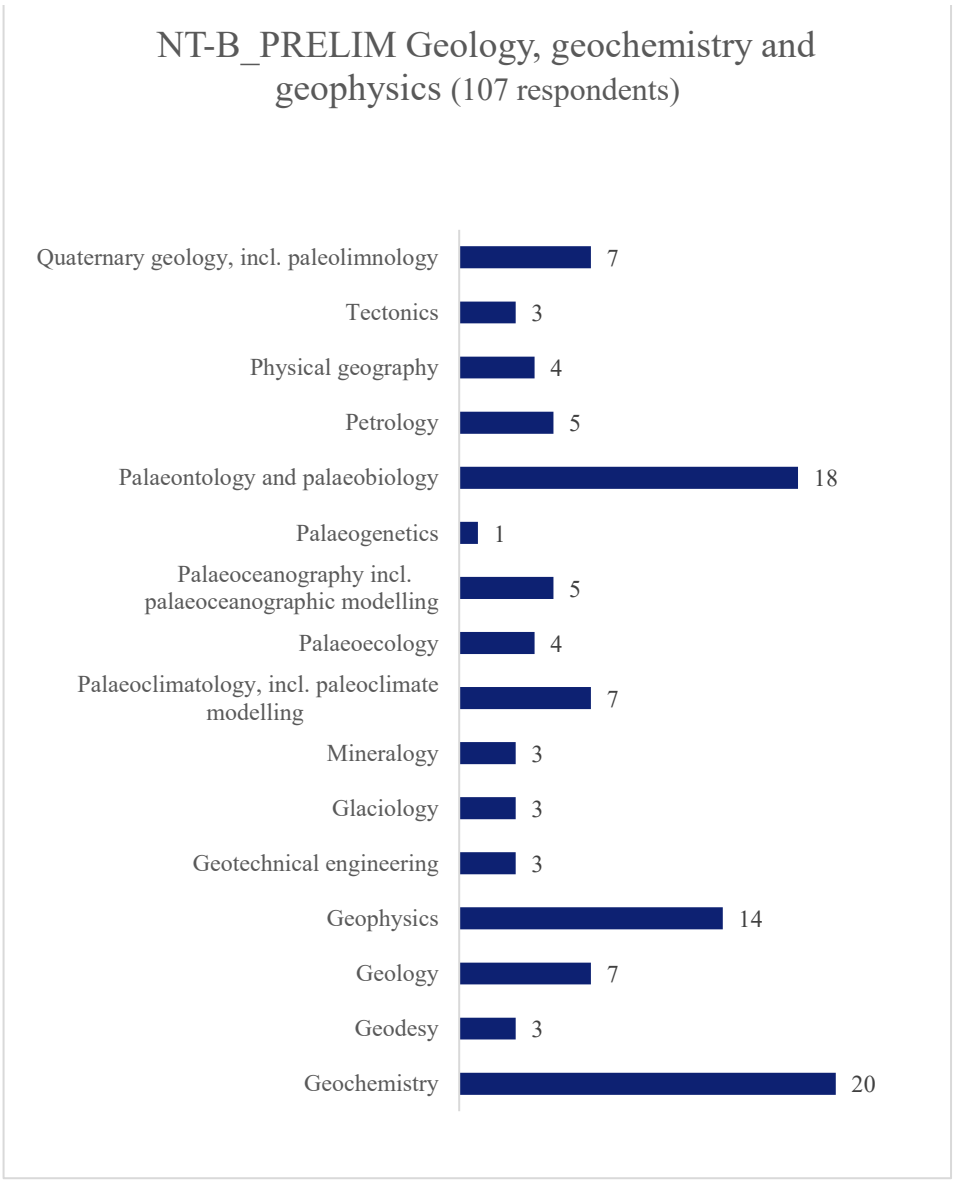
Appendix 4: Data from the Survey

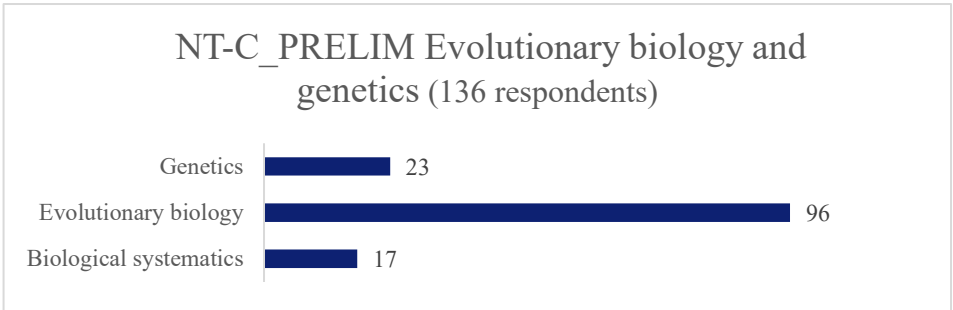
Answer to question 1	**Answer to question 3.** *Which of the current review panels was your actual first choice for your most recent application?*																			
	NT-1	**NT-2**	**NT-3**	**NT-4**	**NT-5**	**NT-6**	**NT-7**	**NT-8**	**NT-9**	**NT-10**	**NT-11**	**NT-12**	**NT-13**	**NT-14**	**NT-15**	**NT-16**	**NT-17**	**NT-18**	**NT-19**	**Totalt**
Not applicable	4	12	3	12	7	5	3	9	2	11	6	9			8	5		5	2	**103**
NT-A_PRELIM	1				1	1	3	145				3					6			**160**
NT-B_PRELIM				1			93	8				5								**107**
NT-C_PRELIM									1	7	18	109							1	**136**
NT-D_PRELIM							1	4		2	56	101								**164**
NT-E_PRELIM					1			1	3	73	25	3							1	**107**
NT-F_PRELIM				1		1			96	42	2								2	**144**
NT-G_PRELIM				4	101	3			1	2		1			1		2	2		**117**
NT-H_PRELIM					6	66							1			1	4	23		**101**
NT-I_PRELIM				2									4		4	4	5	95		**114**
NT-J_PRELIM					2	2			1	1	1						55	4		**66**
NT-K_PRELIM				18	2					1			38	1	58	1	1	7	1	**128**
NT-L_PRELIM			157	4											1					**162**
NT-M_PRELIM			5	93	3								3	1	10			10		**125**
NT-N_PRELIM			1	1	2								1		2	109	1	2	1	**120**
NT-O_PRELIM				2	1	1				6						1	1	6	101	**119**
NT-P_PRELIM		14	1										28	72		2				**117**
NT-Q_PRELIM		132											1	4						**137**
NT-R_PRELIM	68	20		1					2		1	1		11		2				**106**
NT-S_PRELIM	130	1																		**131**
Total	**203**	**179**	**167**	**139**	**126**	**79**	**100**	**167**	**106**	**145**	**109**	**232**	**76**	**89**	**84**	**125**	**75**	**154**	**109**	**2464**

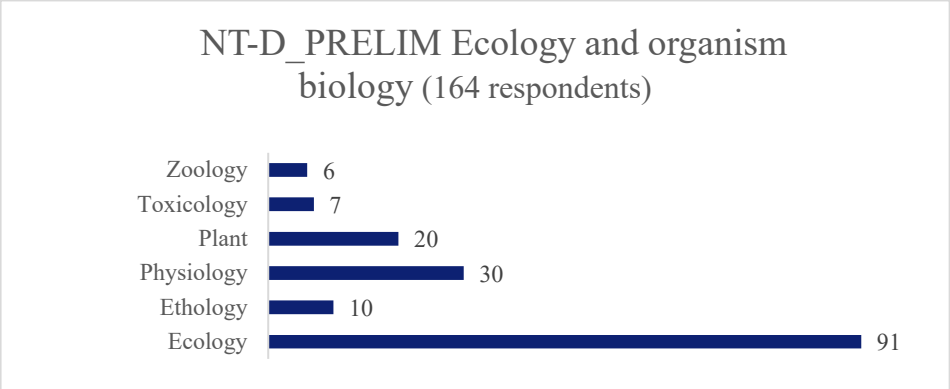
Histograms for the chosen focus areas

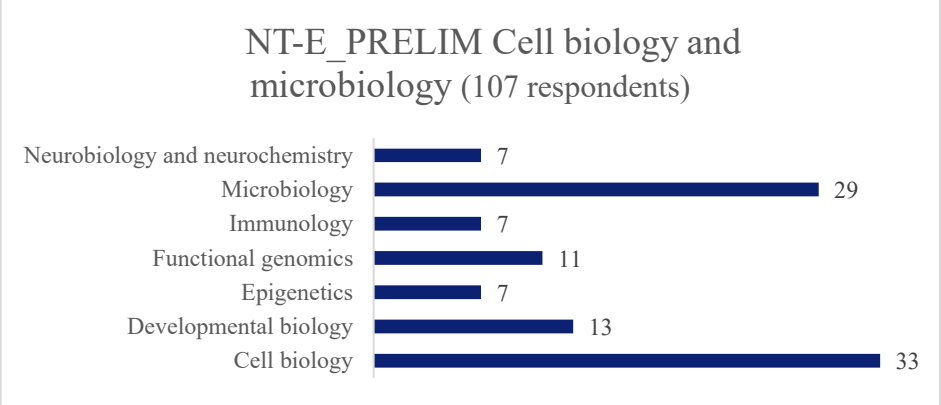
The figures below illustrate the answers to the survey question:
“Which one focus area was most significant in your choice of this review panel?”

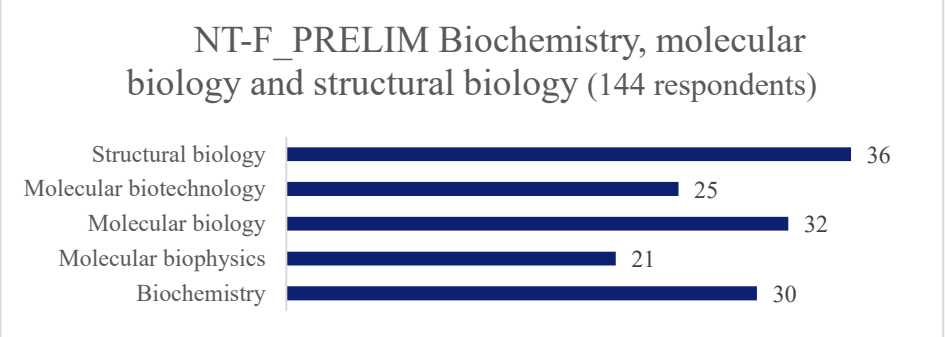


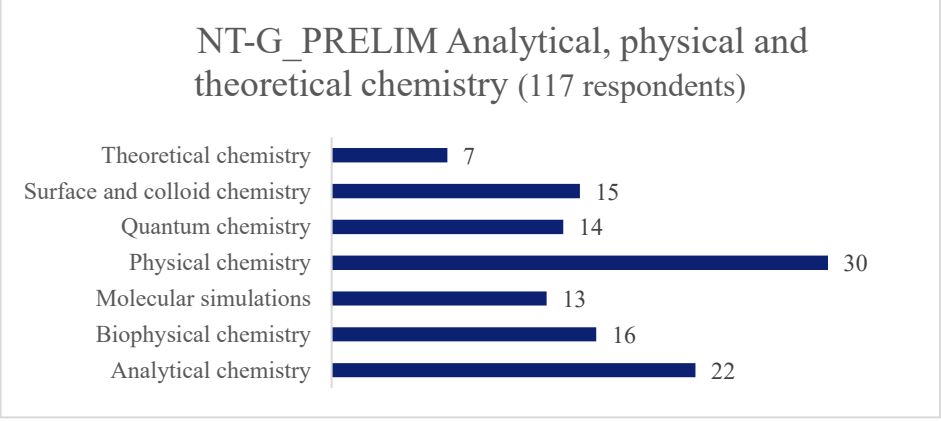

NT-B_PRELIM Geology, geochemistry and geophysics (107 respondents)
Quaternary geology, incl. paleolimnology 7
Tectonics 3
Physical geography 4
Petrology 5
Palaeontology and palaeobiology 18
Palaeogenetics 1
Palaeoceanography incl. palaeoceanographic modelling 5
Palaeoecology 4
Palaeoclimatology, incl. paleoclimate modelling 7
Mineralogy 3
Glaciology 3
Geotechnical engineering 3
Geophysics 14
Geology 7
Geodesy 3
Geochemistry 20

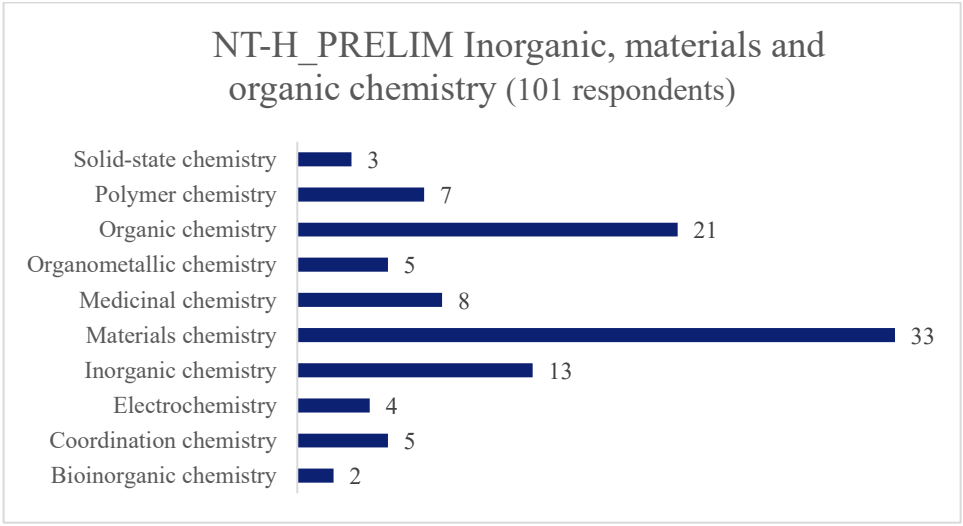

NT-C_PRELIM Evolutionary biology and genetics (136 respondents)
Genetics 23
Evolutionary biology 96
Biological systematics 17

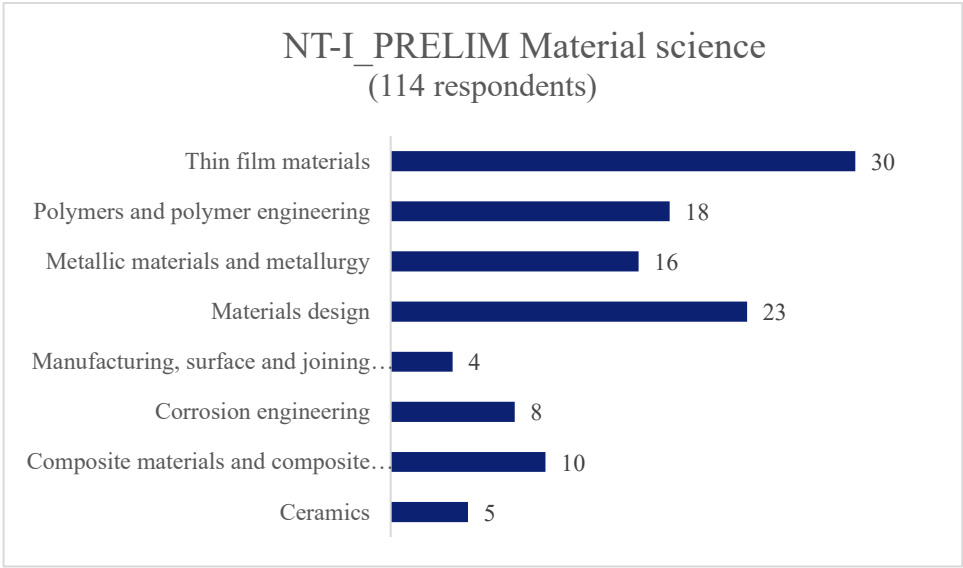

NT-D_PRELIM Ecology and organism biology (164 respondents)
Zoology 6
Toxicology 7
Plant 20
Physiology 30
Ethology 10
Ecology 91

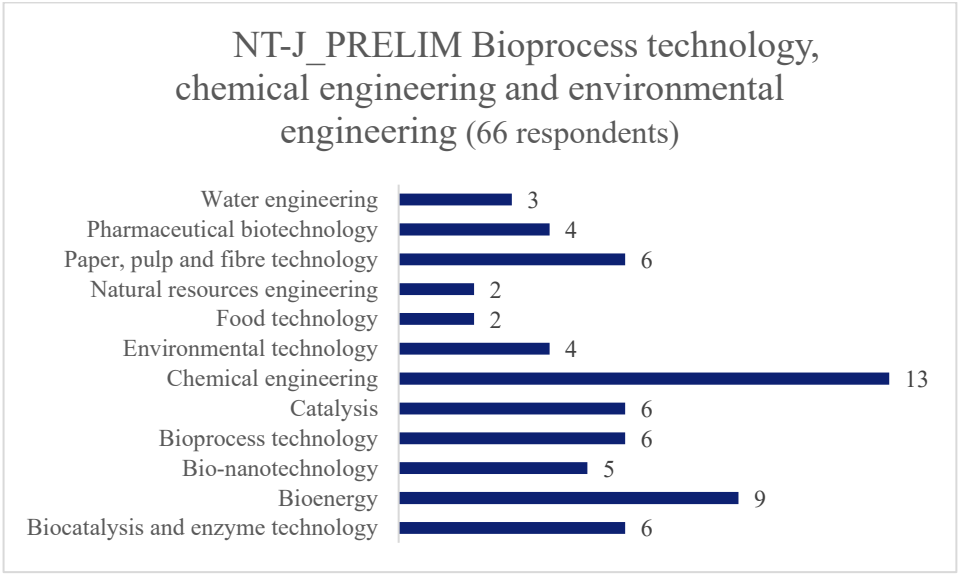

NT-E_PRELIM Cell biology and microbiology (107 respondents)
Neurobiology and neurochemistry 7
Microbiology 29
Immunology 7
Functional genomics 11
Epigenetics 7
Developmental biology 13
Cell biology 33

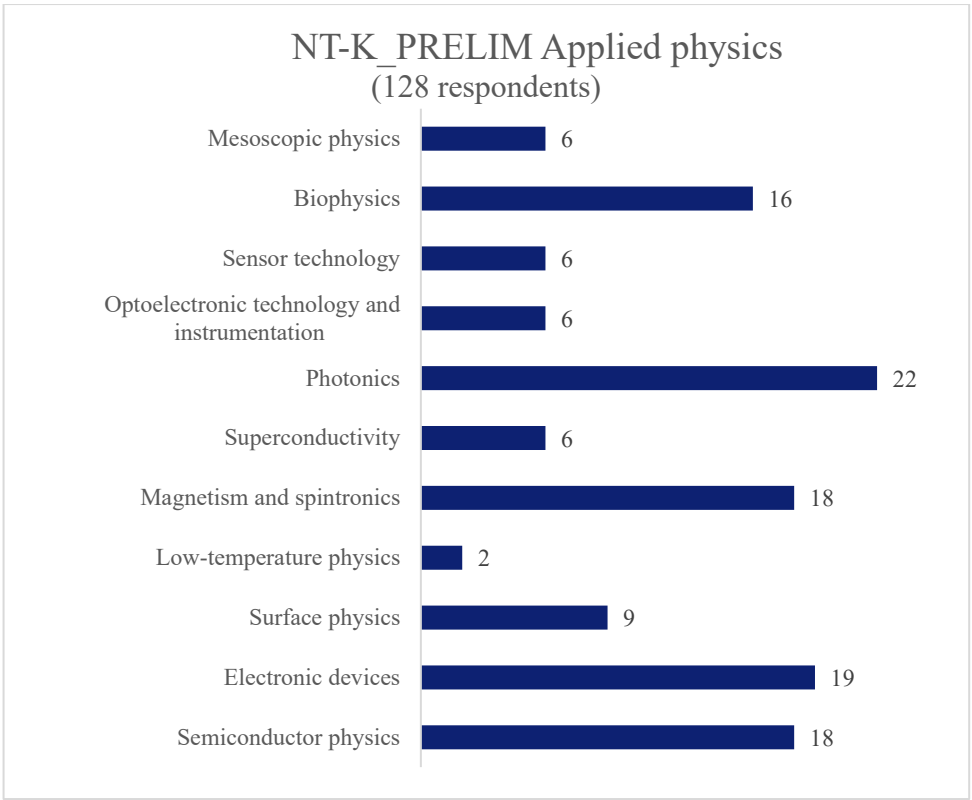

NT-F_PRELIM Biochemistry, molecular biology and structural biology (144 respondents)
Structural biology 36
Molecular biotechnology 25
Molecular biology 32
Molecular biophysics 21
Biochemistry 30

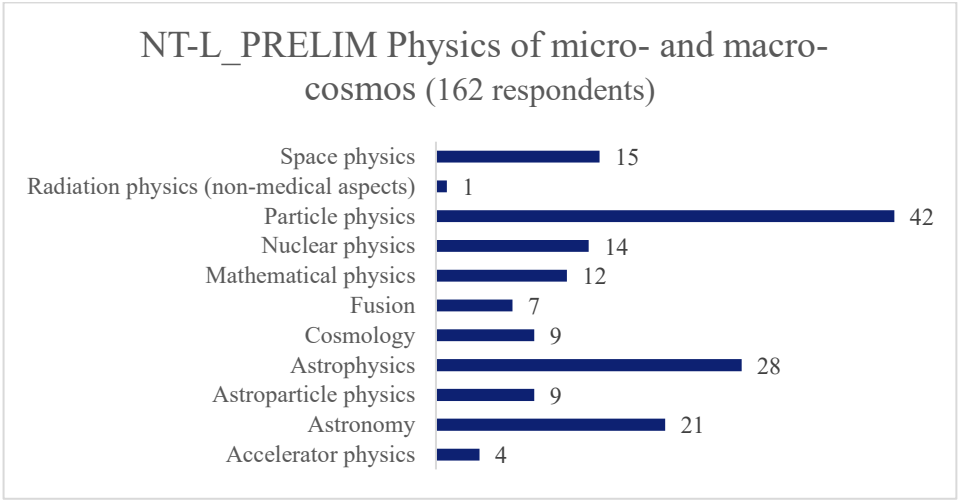

NT-G_PRELIM Analytical, physical and theoretical chemistry (117 respondents)
Theoretical chemistry 7
Surface and colloid chemistry 15
Quantum chemistry 14
Physical chemistry 30
Molecular simulations 13
Biophysical chemistry 16
Analytical chemistry 22

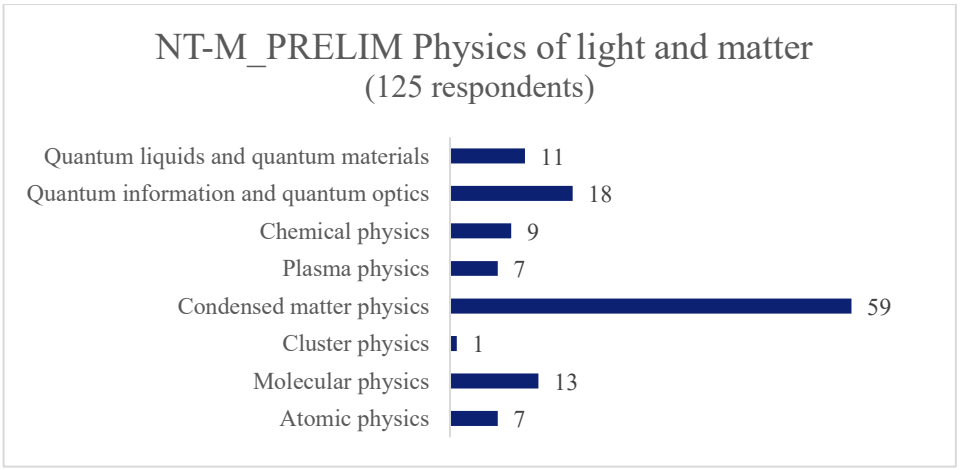

NT-H_PRELIM Inorganic, materials and organic chemistry (101 respondents)
Solid-state chemistry 3
Polymer chemistry 7
Organic chemistry 21
Organometallic chemistry 5
Medicinal chemistry 8
Materials chemistry 33
Inorganic chemistry 13
Electrochemistry 4
Coordination chemistry 5
Bioinorganic chemistry 2

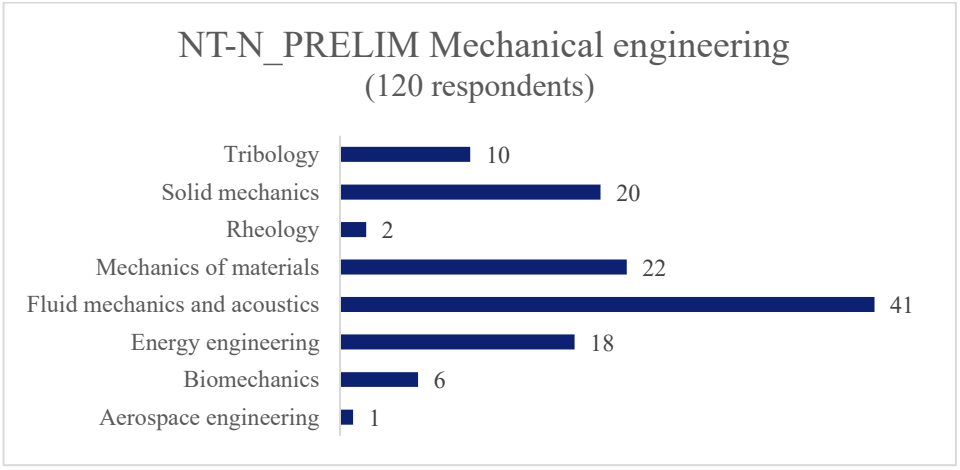

NT-I_PRELIM Material science (114 respondents)
Thin film materials 30
Polymers and polymer engineering 18
Metallic materials and metallurgy 16
Materials design 23
Manufacturing, surface and joining… 4
Corrosion engineering 8
Composite materials and composite… 10
Ceramics 5

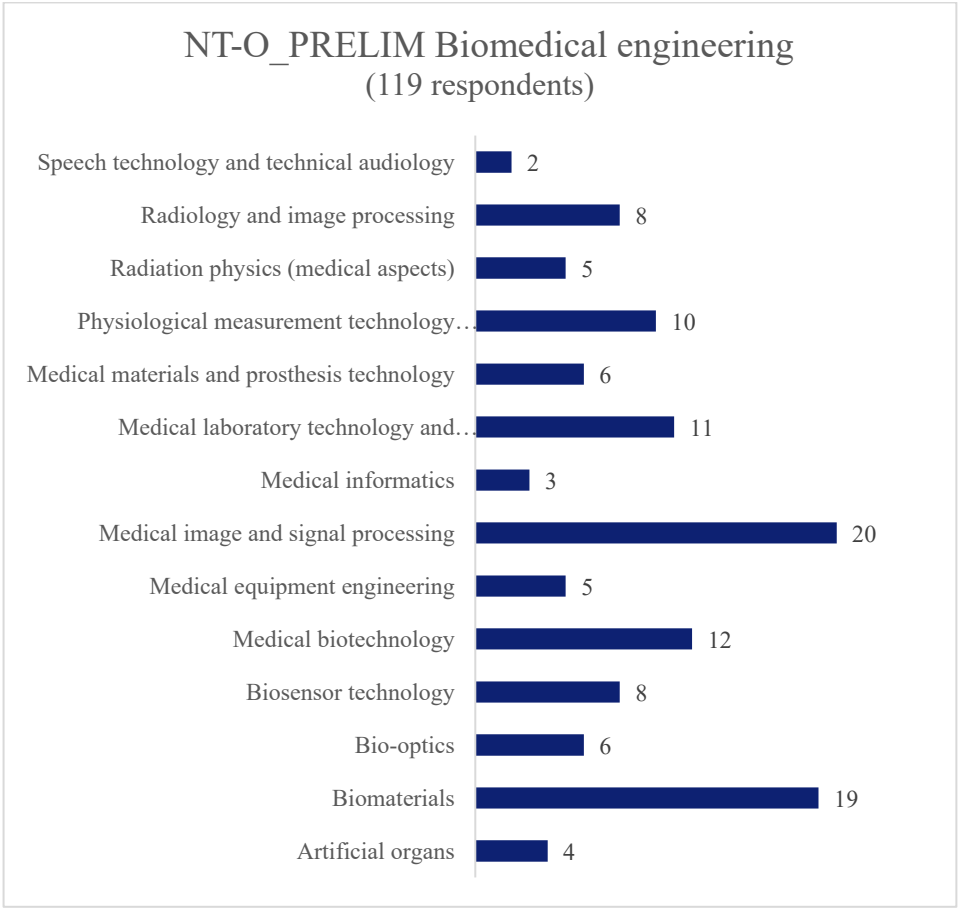

NT-J_PRELIM Bioprocess technology, chemical engineering and environmental engineering (66 respondents)
Water engineering 3
Pharmaceutical biotechnology 4
Paper, pulp and fibre technology 6
Natural resources engineering 2
Food technology 2
Environmental technology 4
Chemical engineering 13
Catalysis 6
Bioprocess technology 6
Bio-nanotechnology 5
Bioenergy 9
Biocatalysis and enzyme technology 6

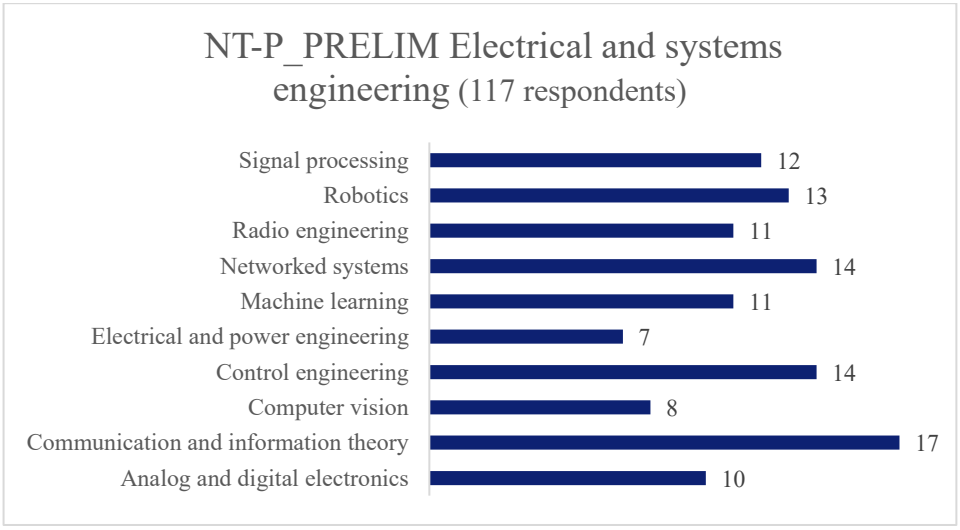

NT-K_PRELIM Applied physics (128 respondents)
Mesoscopic physics 6
Biophysics 16
Sensor technology 6
Optoelectronic technology and instrumentation 6
Photonics 22
Superconductivity 6
Magnetism and spintronics 18
Low-temperature physics 2
Surface physics 9
Electronic devices 19
Semiconductor physics 18

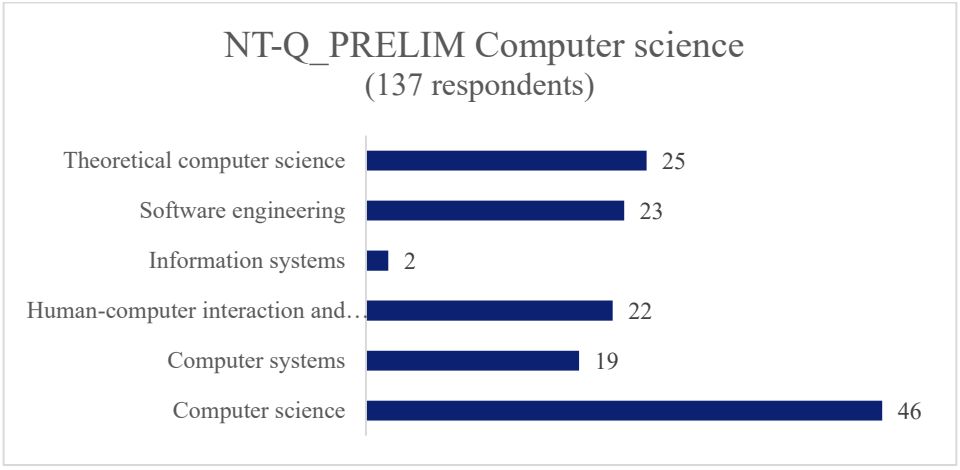

NT-L_PRELIM Physics of micro- and macro-cosmos (162 respondents)
Space physics 15
Radiation physics (non-medical aspects) 1
Particle physics 42
Nuclear physics 14
Mathematical physics 12
Fusion 7
Cosmology 9
Astrophysics 28
Astroparticle physics 9
Astronomy 21
Accelerator physics 4

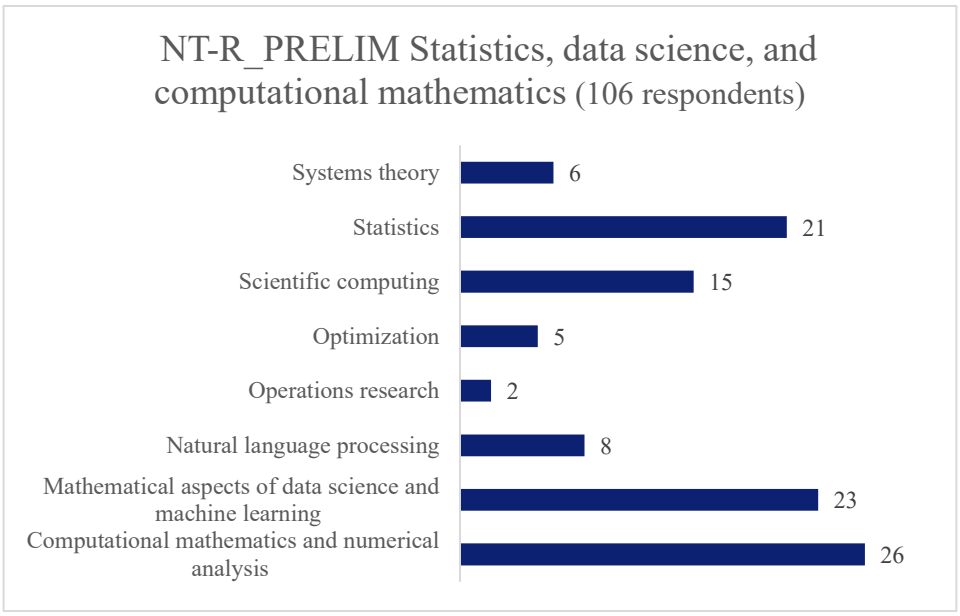

NT-M_PRELIM Physics of light and matter (125 respondents)
Quantum liquids and quantum materials 11
Quantum information and quantum optics 18
Chemical physics 9
Plasma physics 7
Condensed matter physics 59
Cluster physics 1
Molecular physics 13
Atomic physics 7

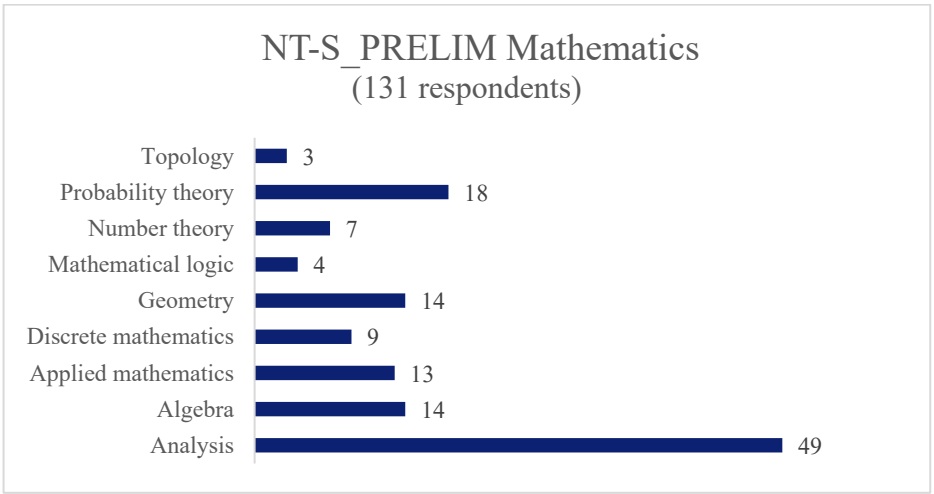

NT-N_PRELIM Mechanical engineering (120 respondents)
Tribology 10
Solid mechanics 20
Rheology 2
Mechanics of materials 22
Fluid mechanics and acoustics 41
Energy engineering 18
Biomechanics 6
Aerospace engineering 1


NT-O_PRELIM Biomedical engineering
(119 respondents)
Speech technology and technical audiology 2
Radiology and image processing 8
Radiation physics (medical aspects) 5
Physiological measurement technology… 10
Medical materials and prosthesis technology 6
Medical laboratory technology and… 11
Medical informatics 3
Medical image and signal processing 20
Medical equipment engineering 5
Medical biotechnology 12
Biosensor technology 8
Bio-optics 6
Biomaterials 19
Artificial organs 4


NT-P_PRELIM Electrical and systems engineering (117 respondents)
Signal processing 12
Robotics 13
Radio engineering 11
Networked systems 14
Machine learning 11
Electrical and power engineering 7
Control engineering 14
Computer vision 8
Communication and information theory 17
Analog and digital electronics 10

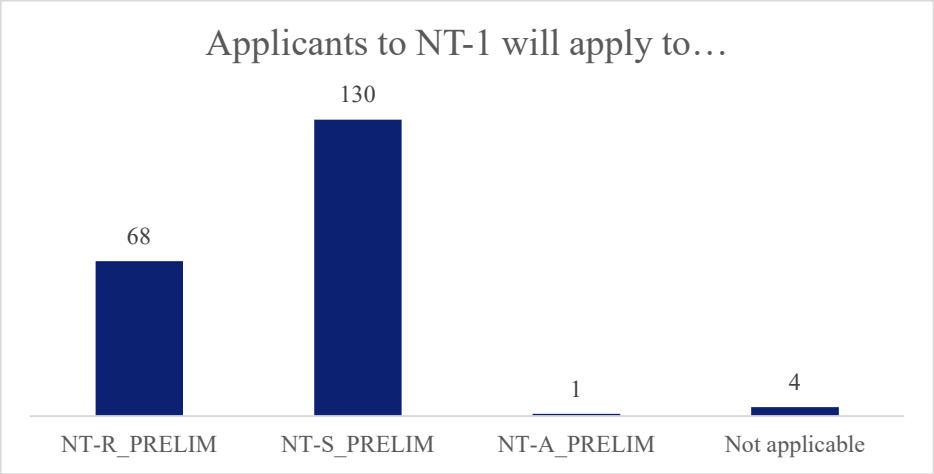

NT-Q_PRELIM Computer science
(137 respondents)
Theoretical computer science
25
Software engineering
23
Information systems
2
Human-computer interaction and…
22
Computer systems
19
Computer science
46

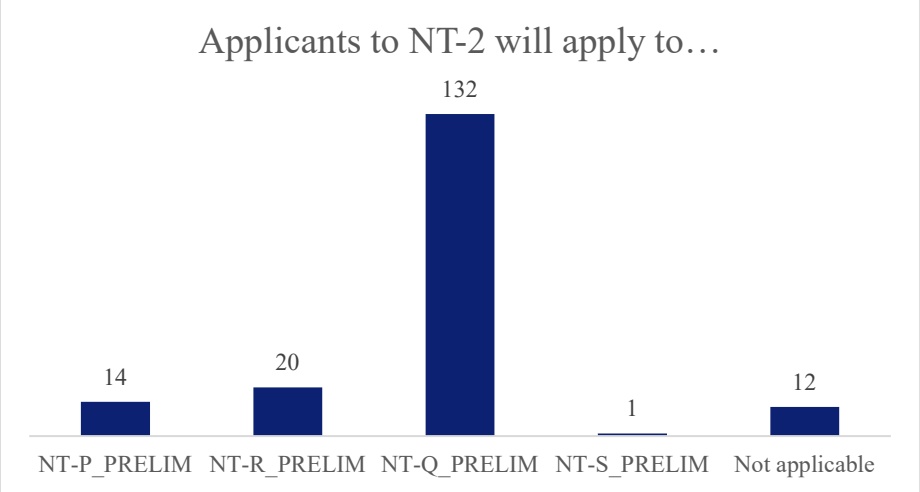

NT-R_PRELIM Statistics, data science, and computational mathematics (106 respondents)
Systems theory
6
Statistics
21
Scientific computing
15
Optimization
5
Operations research
2
Natural language processing
8
Mathematical aspects of data science and machine learning
23
Computational mathematics and numerical analysis
26

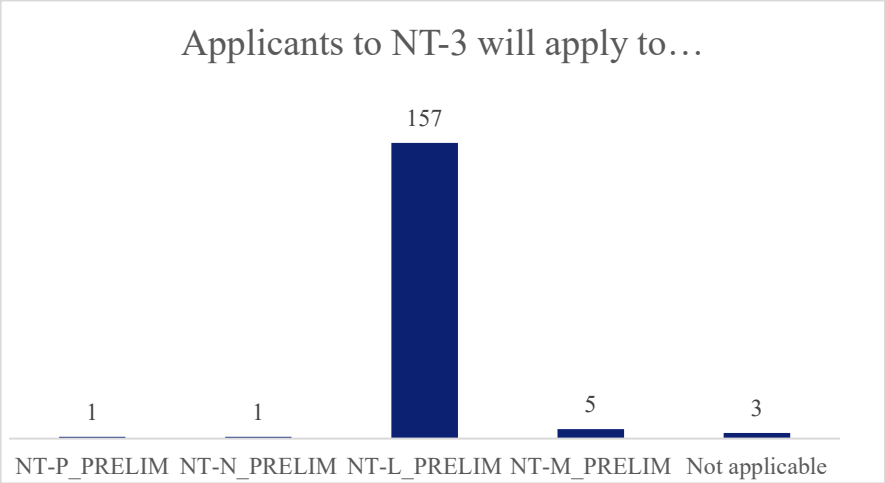

NT-S_PRELIM Mathematics
(131 respondents)
Topology
3
Probability theory
18
Number theory
7
Mathematical logic
4
Geometry
14
Discrete mathematics
9
Applied mathematics
13
Algebra
14
Analysis
49

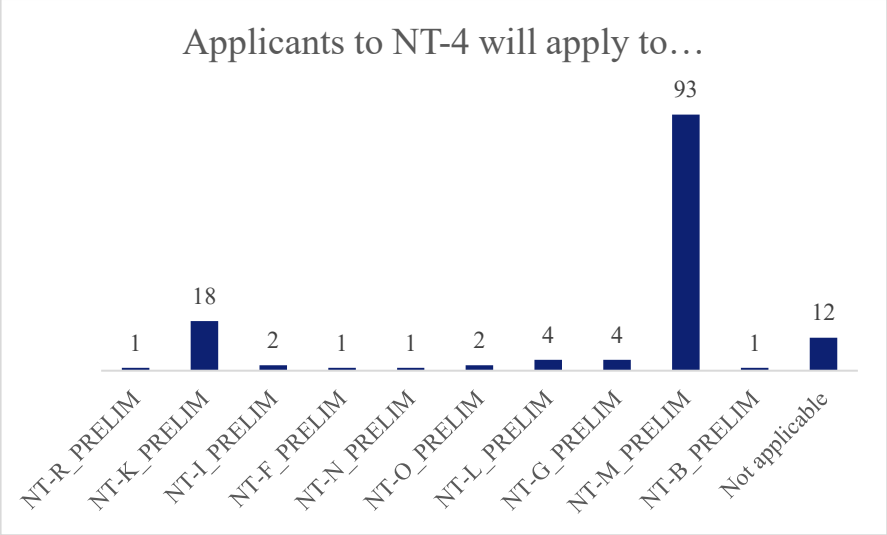
Distribution of applicants from the old to the new panels

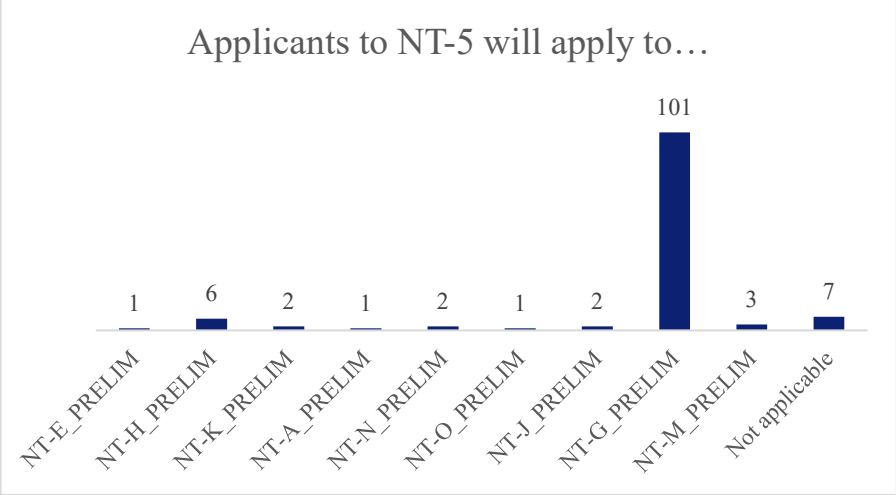
The figures below illustrate the answers to the survey question:
"Which of the following proposed new review panels would have been the best fit for your most recently submitted project or starting grant application to the Swedish Research Council?"

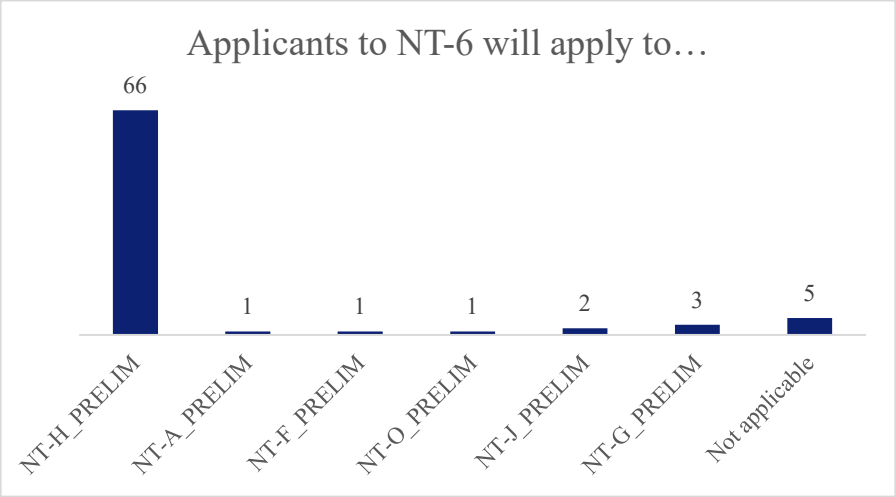


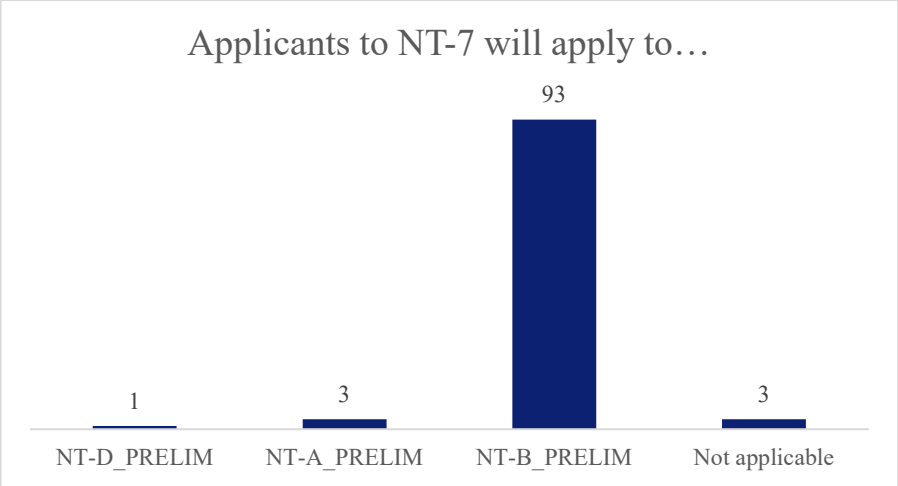


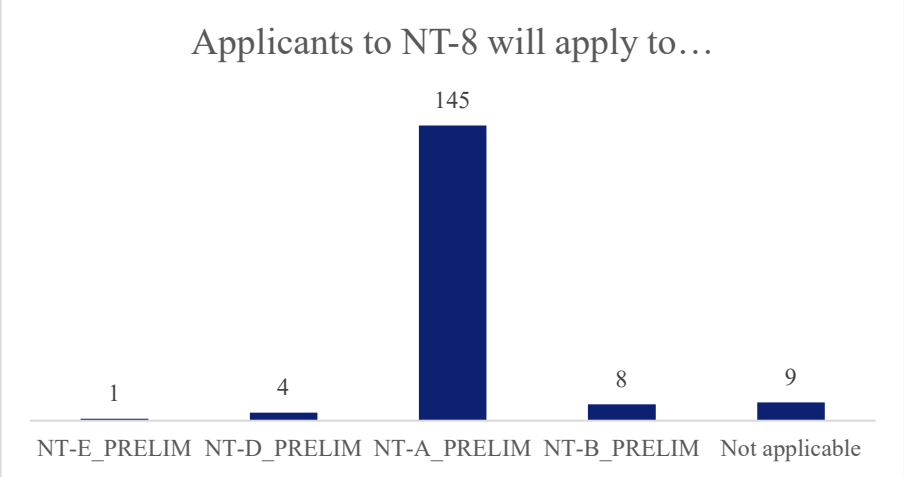

Applicants to NT-3 will apply to…
157
1
1
5
3
NT-P_PRELIM
NT-N_PRELIM
NT-L_PRELIM
NT-M_PRELIM
Not applicable

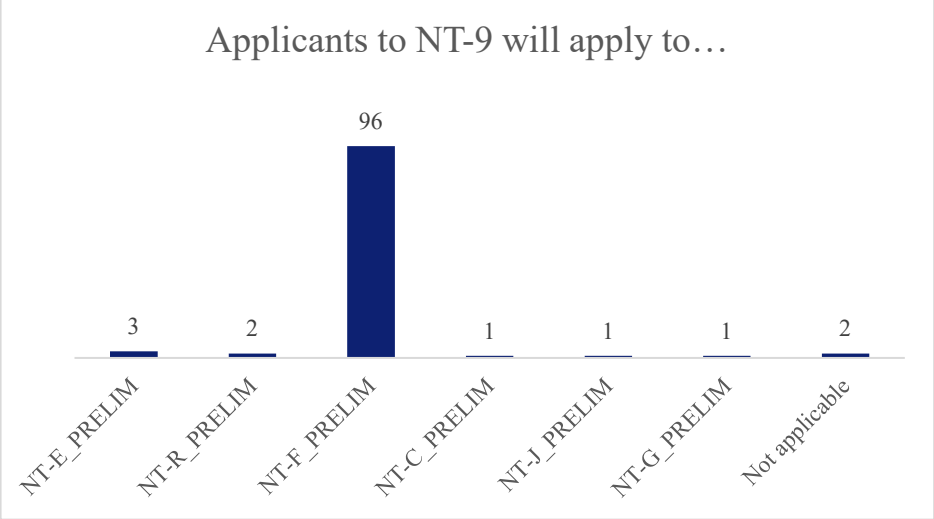

Applicants to NT-4 will apply to…
93
18
12
1
2
1
1
2
4
4
1
NT-R_PRELIM
NT-K_PRELIM
NT-I_PRELIM
NT-F_PRELIM
NT-N_PRELIM
NT-O_PRELIM
NT-L_PRELIM
NT-G_PRELIM
NT-M_PRELIM
NT-B_PRELIM
Not applicable

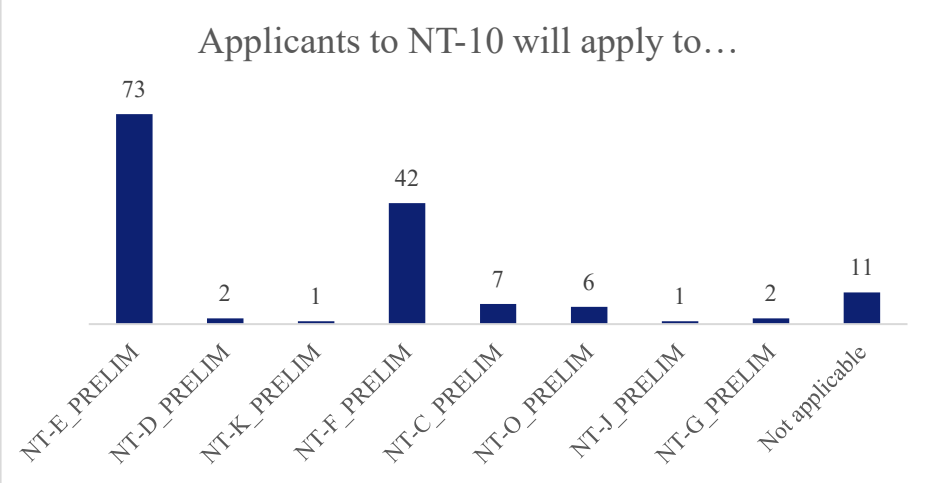

Applicants to NT-5 will apply to…
101
1
6
2
1
2
1
2
3
7
NT-E_PRELIM
NT-H_PRELIM
NT-K_PRELIM
NT-A_PRELIM
NT-N_PRELIM
NT-O_PRELIM
NT-J_PRELIM
NT-G_PRELIM
NT-M_PRELIM
Not applicable

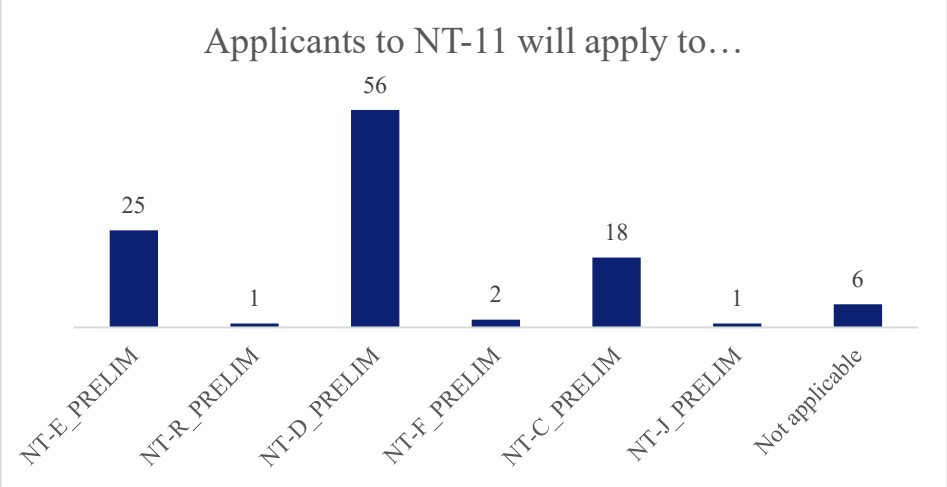

Applicants to NT-6 will apply to…
66
1
1
1
2
3
5
NT-H_PRELIM
NT-A_PRELIM
NT-F_PRELIM
NT-O_PRELIM
NT-J_PRELIM
NT-G_PRELIM
Not applicable

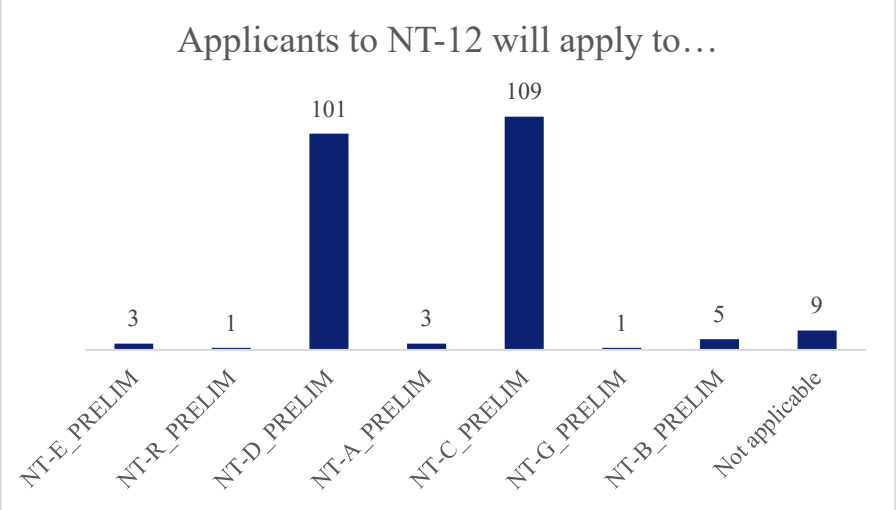

Applicants to NT-7 will apply to…
93
1
3
3
NT-D_PRELIM
NT-A_PRELIM
NT-B_PRELIM
Not applicable

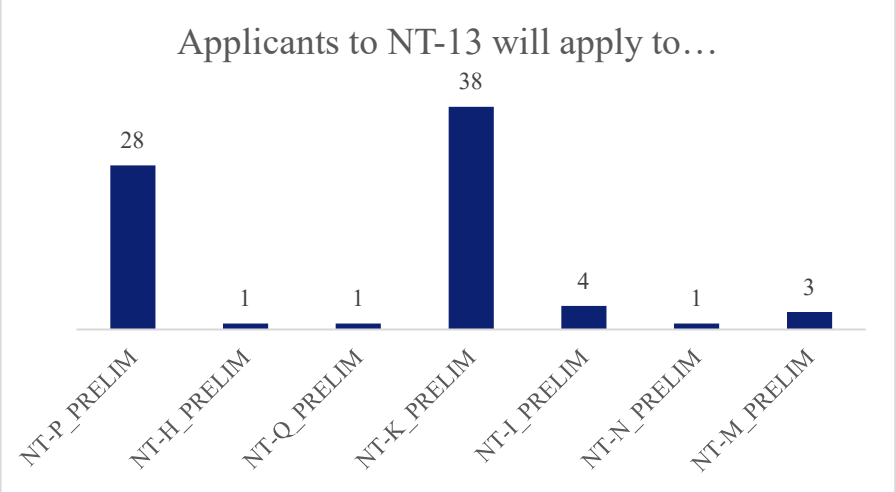

Applicants to NT-8 will apply to…
145
1
4
8
9
NT-E_PRELIM
NT-D_PRELIM
NT-A_PRELIM
NT-B_PRELIM
Not applicable

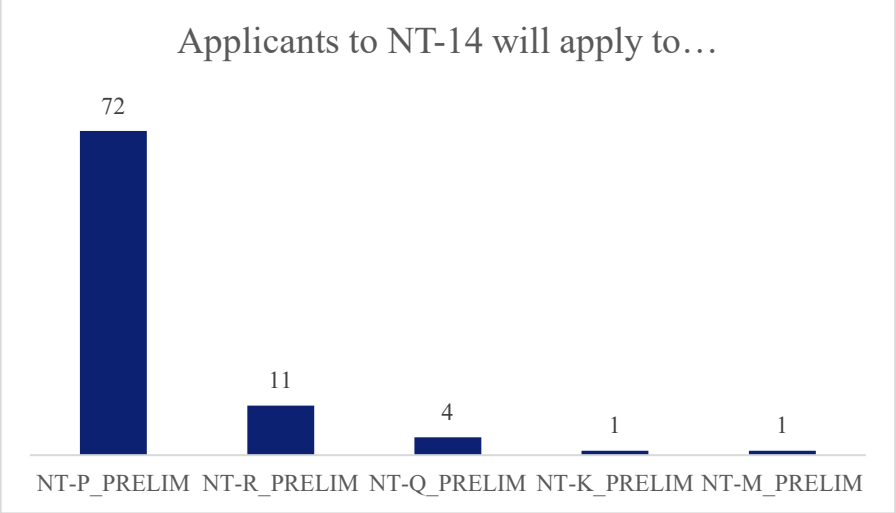

Applicants to NT-9 will apply to…
96
3
2
1
1
1
2
NT-E_PRELIM
NT-R_PRELIM
NT-F_PRELIM
NT-C_PRELIM
NT-J_PRELIM
NT-G_PRELIM
Not applicable

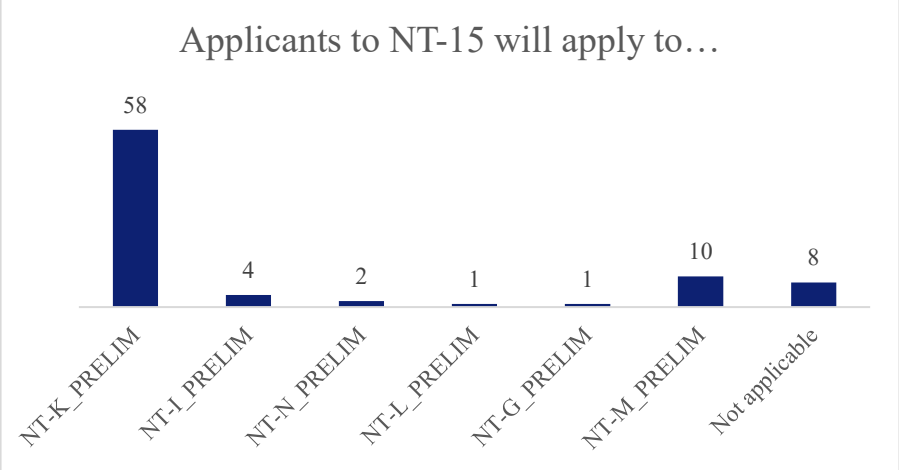

Applicants to NT-10 will apply to…
73
2
1
42
7
6
1
2
11
NT-E_PRELIM
NT-D_PRELIM
NT-K_PRELIM
NT-F_PRELIM
NT-C_PRELIM
NT-O_PRELIM
NT-J_PRELIM
NT-G_PRELIM
Not applicable

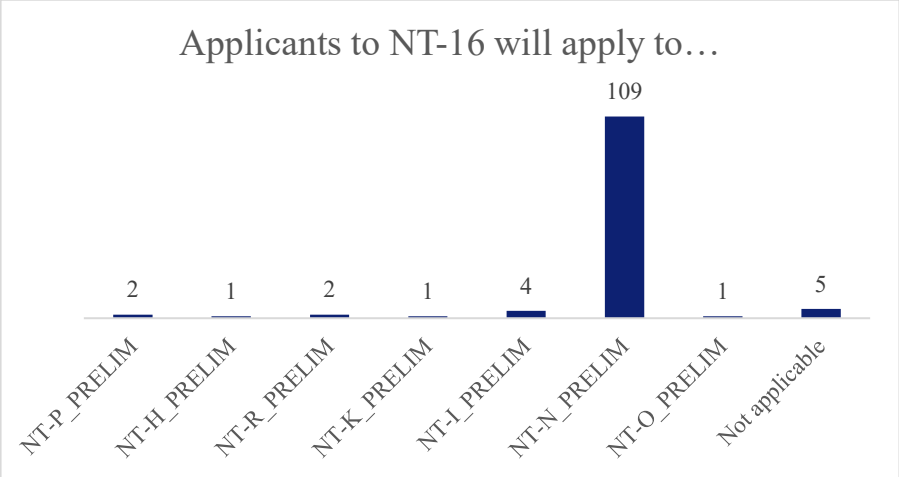

Applicants to NT-11 will apply to…
25
1
56
2
18
1
6
NT-E_PRELIM
NT-R_PRELIM
NT-D_PRELIM
NT-F_PRELIM
NT-C_PRELIM
NT-J_PRELIM
Not applicable

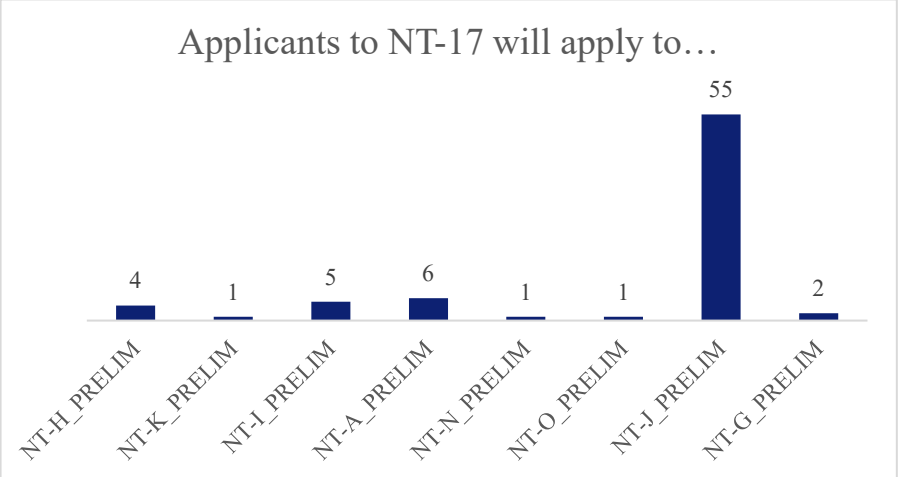

Applicants to NT-12 will apply to…
3
1
101
3
109
1
5
9
NT-E_PRELIM
NT-R_PRELIM
NT-D_PRELIM
NT-A_PRELIM
NT-C_PRELIM
NT-G_PRELIM
NT-B_PRELIM
Not applicable

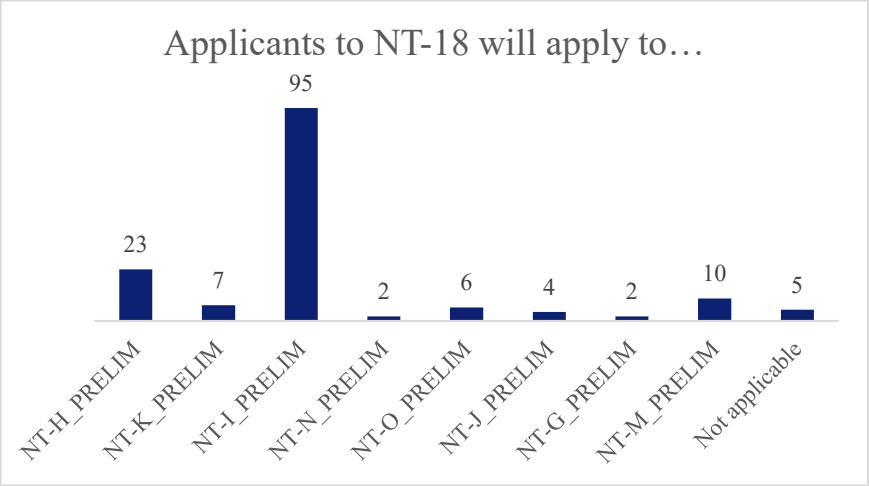

Applicants to NT-13 will apply to…
28
1
1
38
4
1
3
NT-P_PRELIM
NT-H_PRELIM
NT-Q_PRELIM
NT-K_PRELIM
NT-I_PRELIM
NT-N_PRELIM
NT-M_PRELIM

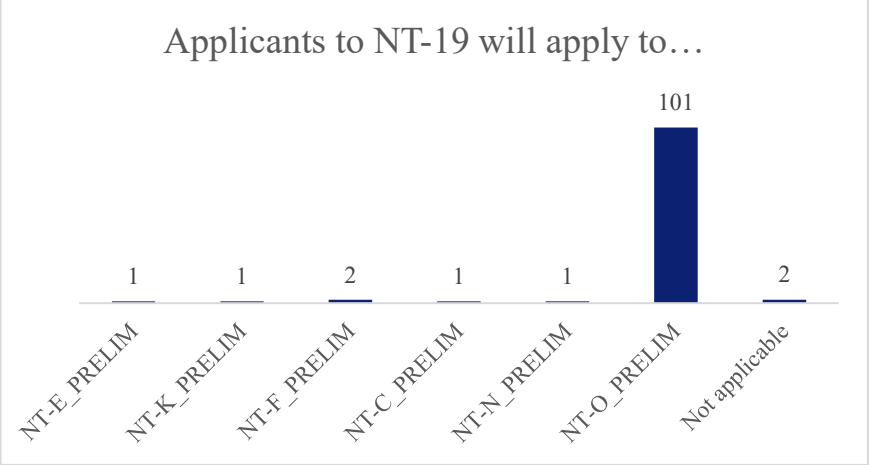

Applicants to NT-14 will apply to…
72
11
4
1
1
NT-P_PRELIM
NT-R_PRELIM
NT-Q_PRELIM
NT-K_PRELIM
NT-M_PRELIM


Applicants to NT-15 will apply to…
58
4
2
1
1
10
8
NT-K_PRELIM
NT-I_PRELIM
NT-N_PRELIM
NT-L_PRELIM
NT-G_PRELIM
NT-M_PRELIM
Not applicable


Applicants to NT-16 will apply to…
2
1
2
1
4
109
1
5
NT-P_PRELIM
NT-H_PRELIM
NT-R_PRELIM
NT-K_PRELIM
NT-I_PRELIM
NT-N_PRELIM
NT-O_PRELIM
Not applicable

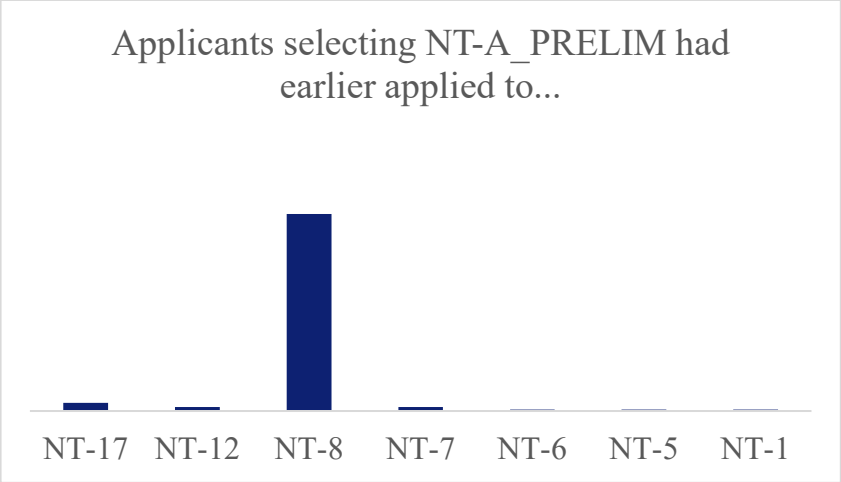

Applicants to NT-17 will apply to…
4
1
5
6
1
1
55
2
NT-H_PRELIM
NT-K_PRELIM
NT-I_PRELIM
NT-A_PRELIM
NT-N_PRELIM
NT-O_PRELIM
NT-J_PRELIM
NT-G_PRELIM

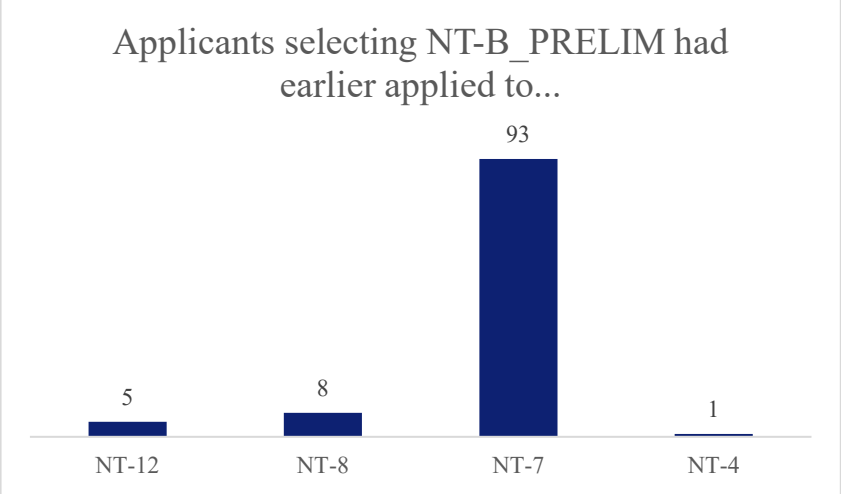

Applicants to NT-18 will apply to…
95
23
7
2
6
4
2
10
5
NT-H_PRELIM
NT-K_PRELIM
NT-I_PRELIM
NT-N_PRELIM
NT-O_PRELIM
NT-J_PRELIM
NT-G_PRELIM
NT-M_PRELIM
Not applicable

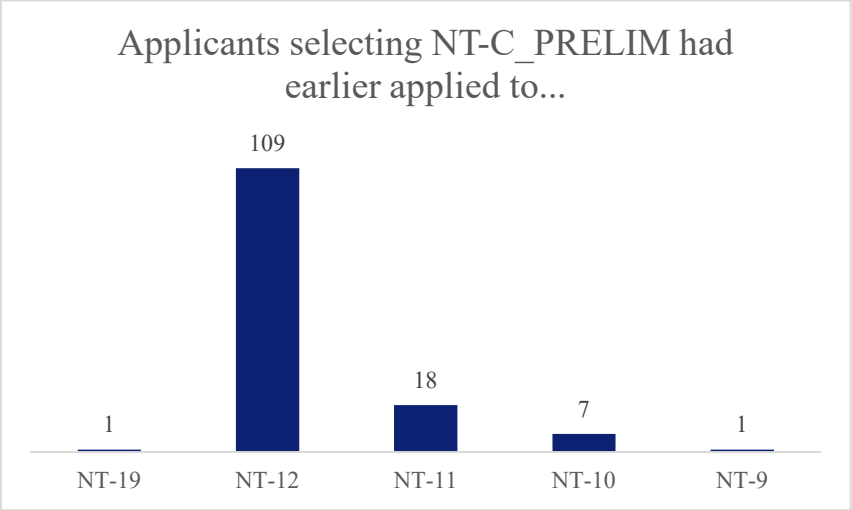

Applicants to NT-19 will apply to…
101
1
1
2
1
1
2
NT-E_PRELIM
NT-K_PRELIM
NT-F_PRELIM
NT-C_PRELIM
NT-N_PRELIM
NT-O_PRELIM
Not applicable

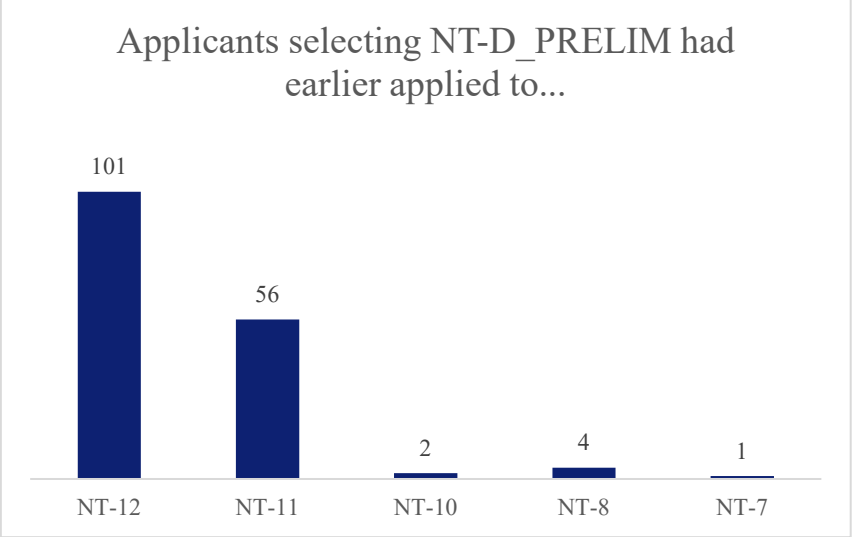
Applicants in new panels will come from

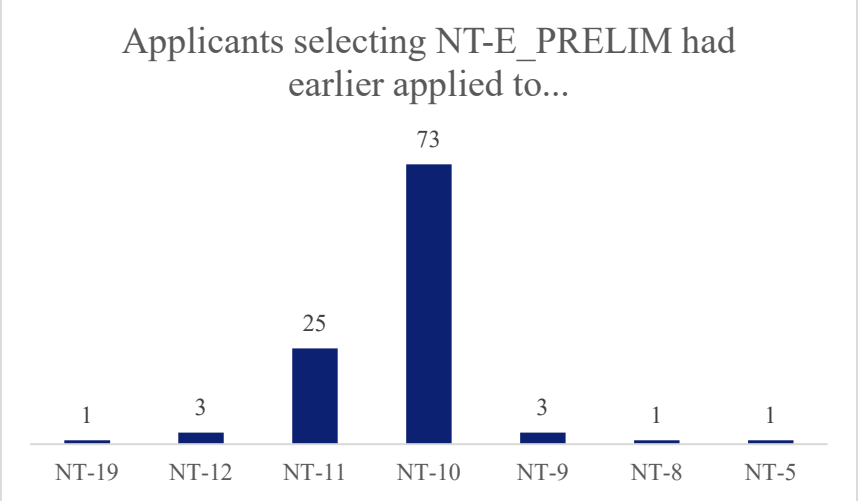
The figures below illustrate the answers to the survey question:
“Which of the current review panels was your actual first choice for your most recent application?”

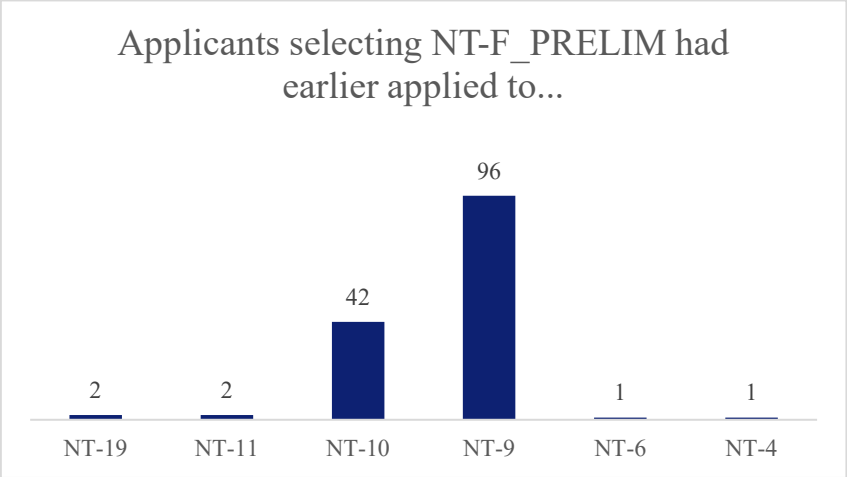


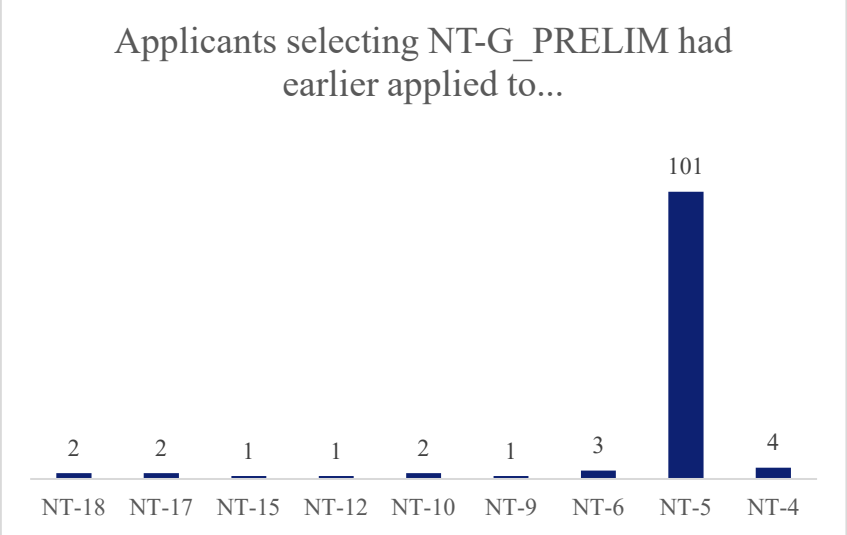


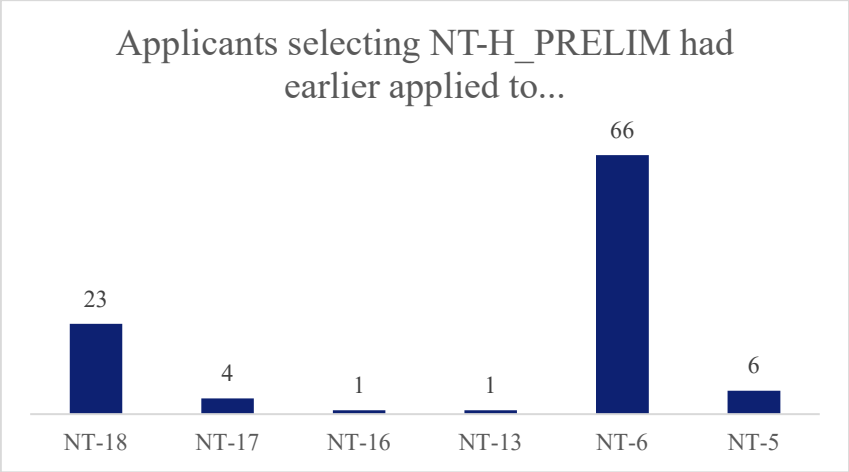

Applicants selecting NT-C_PRELIM had earlier applied to...
109
18
7
1
1
NT-19
NT-12
NT-11
NT-10
NT-9

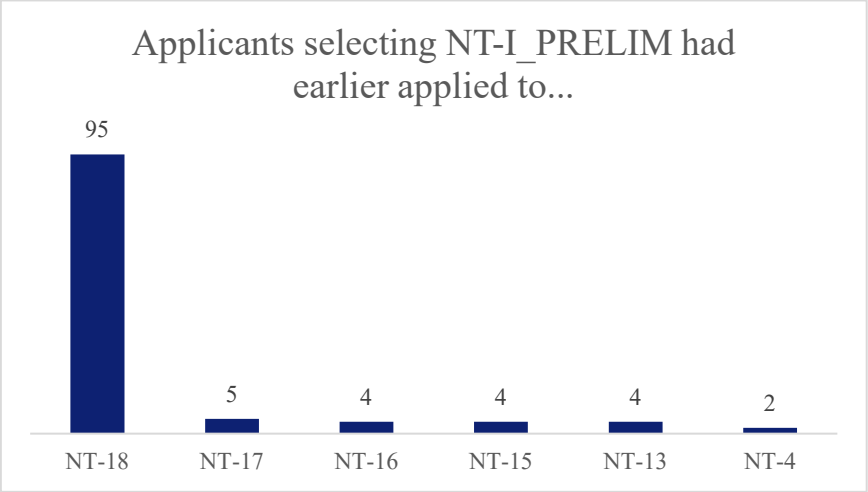

Applicants selecting NT-D_PRELIM had earlier applied to...
101
56
2
4
1
NT-12
NT-11
NT-10
NT-8
NT-7

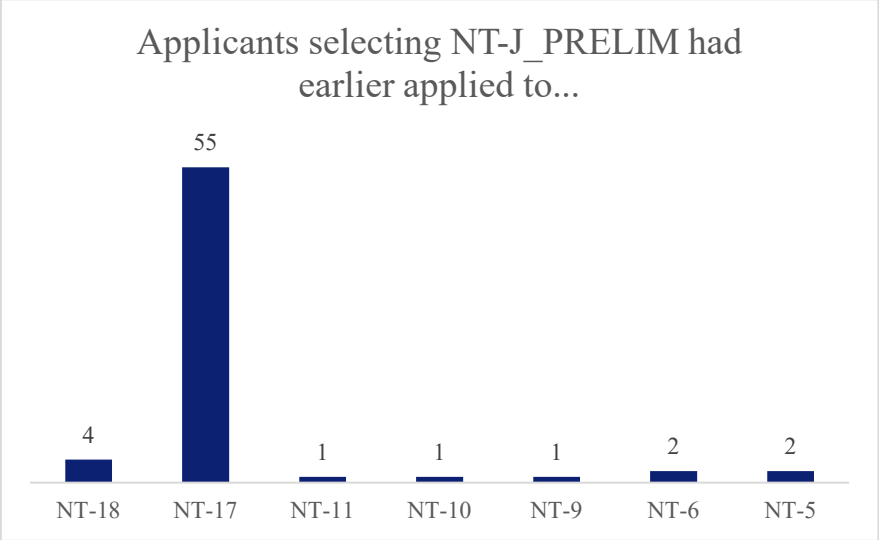

Applicants selecting NT-E_PRELIM had earlier applied to...
73
25
1
3
3
1
1
NT-19
NT-12
NT-11
NT-10
NT-9
NT-8
NT-5

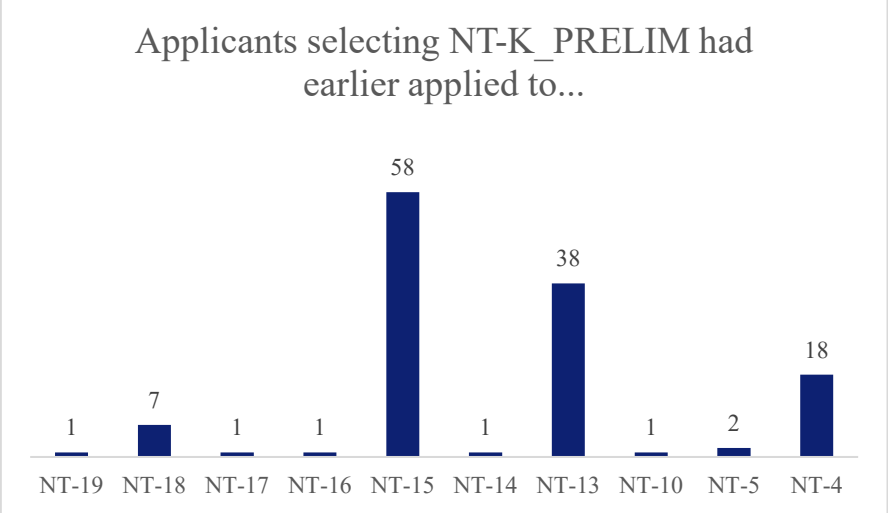

Applicants selecting NT-F_PRELIM had earlier applied to...
2
2
42
96
1
1
NT-19
NT-11
NT-10
NT-9
NT-6
NT-4

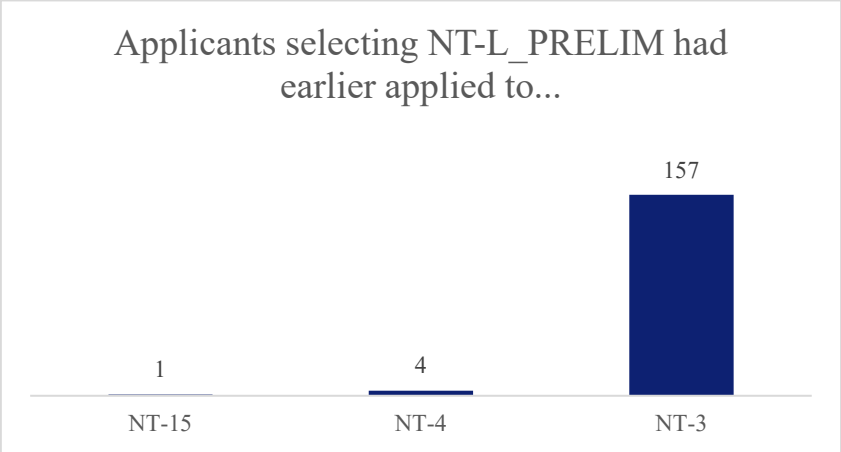

Applicants selecting NT-G_PRELIM had earlier applied to...
2
2
1
1
2
1
3
101
4
NT-18
NT-17
NT-15
NT-12
NT-10
NT-9
NT-6
NT-5
NT-4

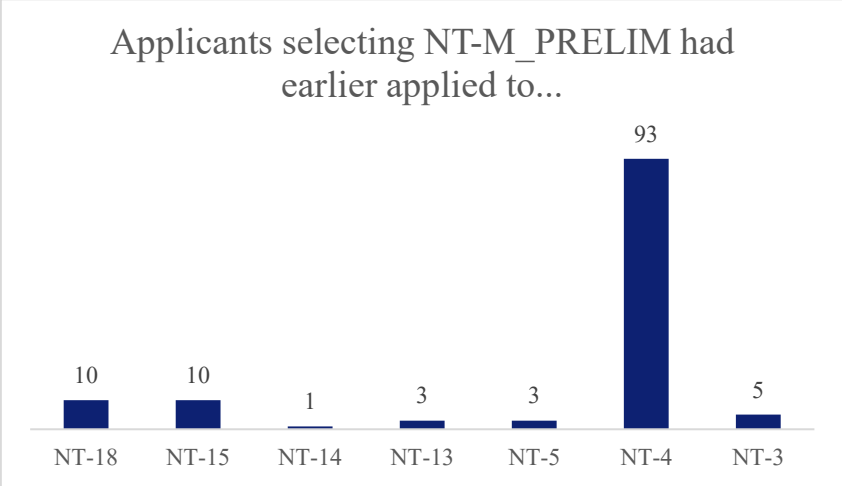

Applicants selecting NT-H_PRELIM had earlier applied to...
23
4
1
1
66
6
NT-18
NT-17
NT-16
NT-13
NT-6
NT-5

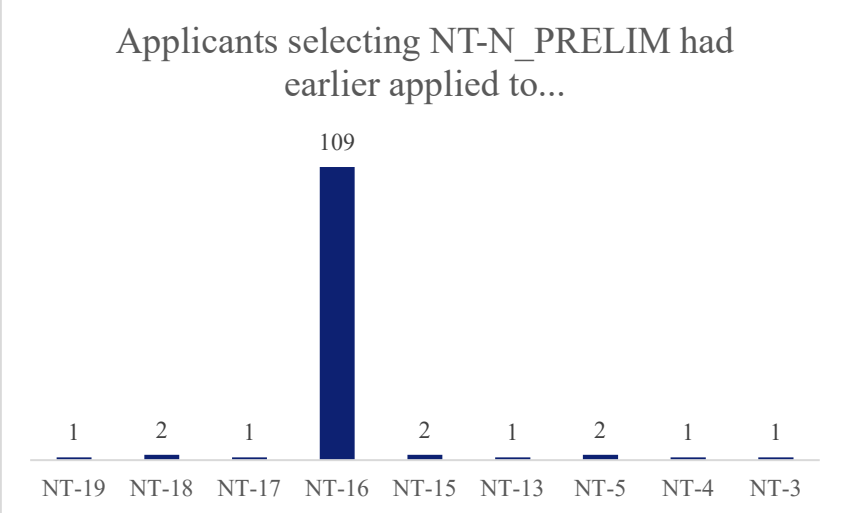

Applicants selecting NT-I_PRELIM had earlier applied to...
95
5
4
4
4
2
NT-18
NT-17
NT-16
NT-15
NT-13
NT-4

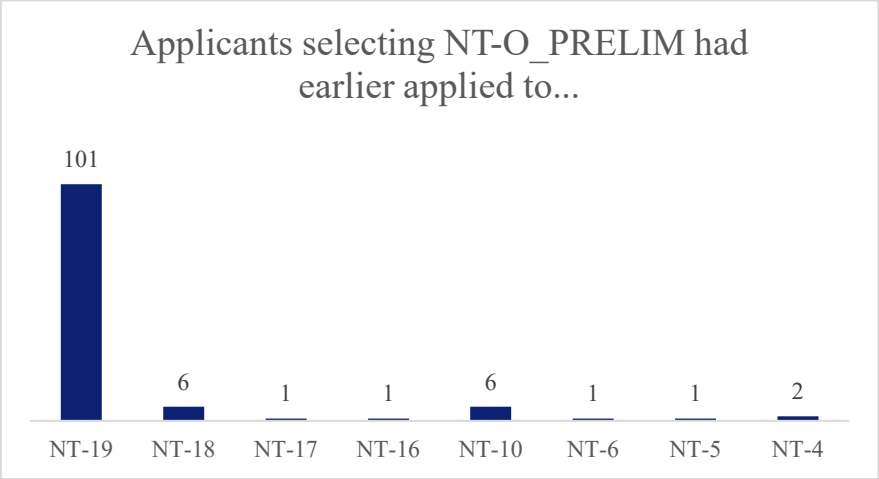

Applicants selecting NT-J_PRELIM had earlier applied to...
4
55
1
1
1
2
2
NT-18
NT-17
NT-11
NT-10
NT-9
NT-6
NT-5

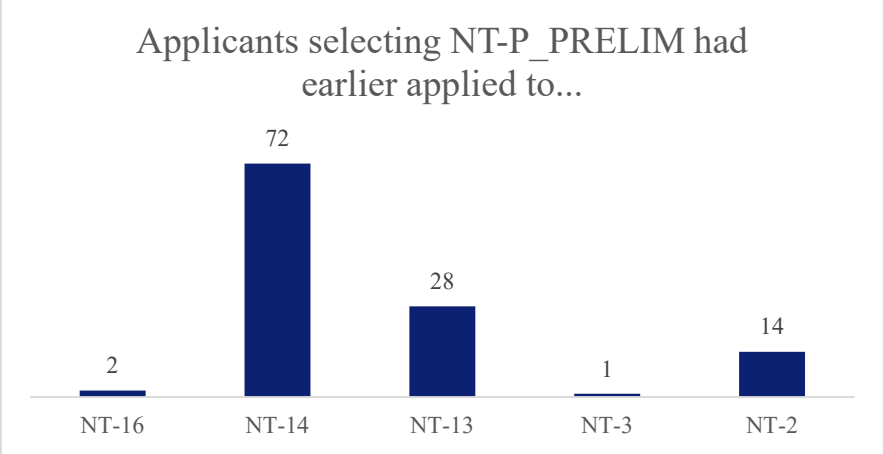

Applicants selecting NT-K_PRELIM had earlier applied to...
1
7
1
1
58
1
38
1
2
18
NT-19
NT-18
NT-17
NT-16
NT-15
NT-14
NT-13
NT-10
NT-5
NT-4

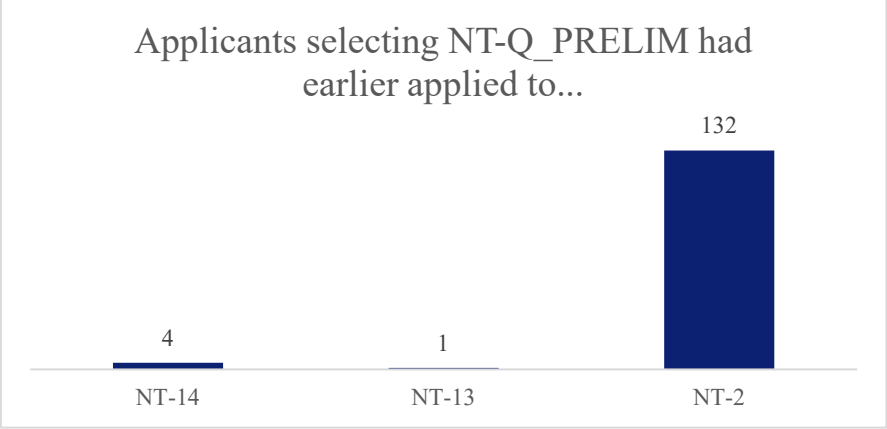

Applicants selecting NT-L_PRELIM had earlier applied to...
1
4
157
NT-15
NT-4
NT-3

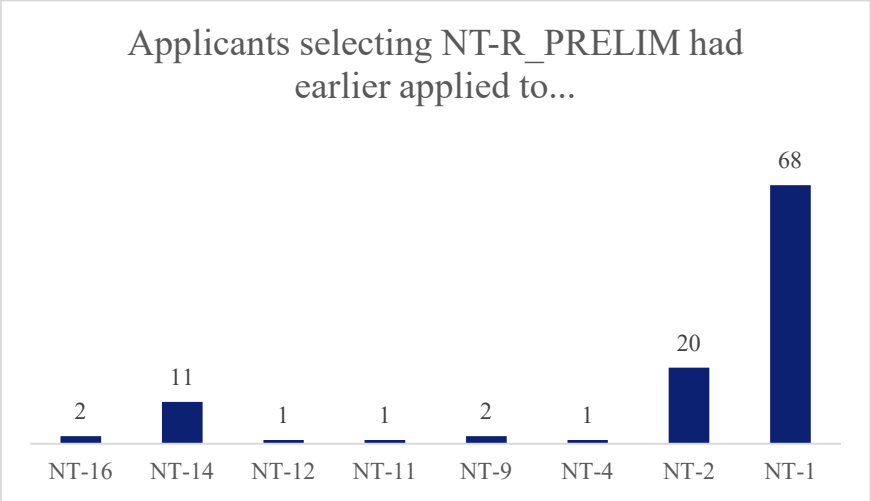

Applicants selecting NT-M_PRELIM had earlier applied to...
10
10
1
3
3
93
5
NT-18
NT-15
NT-14
NT-13
NT-5
NT-4
NT-3

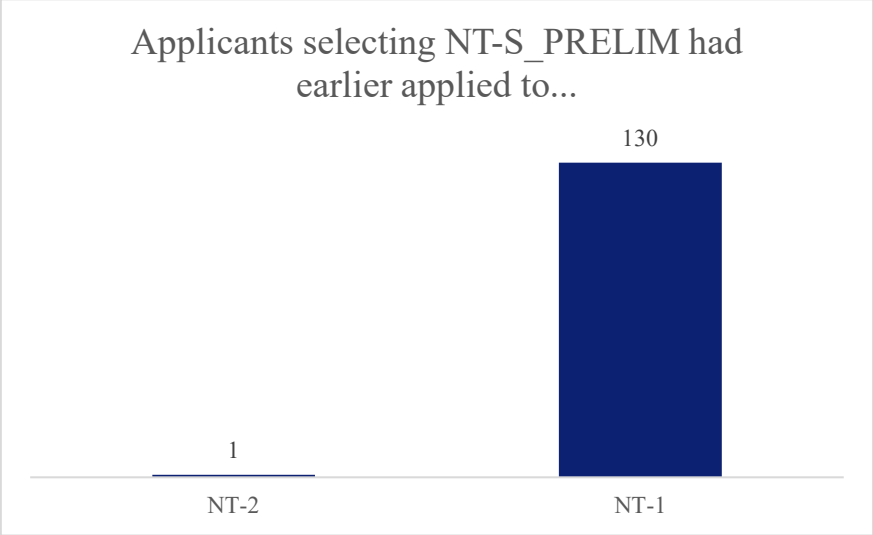

Applicants selecting NT-N_PRELIM had earlier applied to...
1
2
1
109
2
1
2
1
1
NT-19
NT-18
NT-17
NT-16
NT-15
NT-13
NT-5
NT-4
NT-3


Applicants selecting NT-O_PRELIM had earlier applied to...
101
6
1
1
6
1
1
2
NT-19
NT-18
NT-17
NT-16
NT-10
NT-6
NT-5
NT-4


Applicants selecting NT-P_PRELIM had earlier applied to...
2
72
28
1
14
NT-16
NT-14
NT-13
NT-3
NT-2


Applicants selecting NT-Q_PRELIM had earlier applied to...
4
1
132
NT-14
NT-13
NT-2


Applicants selecting NT-R_PRELIM had earlier applied to...
2
11
1
1
2
1
20
68
NT-16
NT-14
NT-12
NT-11
NT-9
NT-4
NT-2
NT-1


Applicants selecting NT-S_PRELIM had earlier applied to...
1
130
NT-2
NT-1

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