



**H.F.R.I.**  
Hellenic Foundation for  
Research & Innovation

HELLENIC REPUBLIC  
MINISTRY OF DEVELOPMENT AND INVESTMENTS  
GENERAL SECRETARIAT FOR RESEARCH AND INNOVATION  
**HELLENIC FOUNDATION FOR RESEARCH AND INNOVATION**

**185 Syggrou Ave. & 2 Sardeon St., 17121, N. Smyrni**

**Information:** [researchdepartment@elidek.gr](mailto:researchdepartment@elidek.gr)

**Contact No.:** +30 210 6412410, +30 210 6412420

**“4th Call for H.F.R.I. Scholarships to PhD Candidates”**

**Submission start date:** 01.03.2022, 12:00 (GMT+2)

**Submission end date:** 31.03.2022, 17:00 (GMT+2)

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**The Chair of the Scientific Council and acting Director of the Hellenic Foundation for Research and Innovation, having regard to:**

1. Law 4429/2016 (A' 199) on the "Hellenic Foundation for Research and Innovation and other provisions", as in force, and especially articles 2 par. 1, 5 par. 2 to 9, 8 par. 9 and 10 and 9 par. 7 thereof;
2. Law 4485/2017 on the "Organization and operation of higher education, regulations on research and other provisions" (A' 114), as in force;
3. Law 3187/2003 on "Higher Military Educational Institutions (ASEI)" (A' 233), as in force;
4. Decision No. 2195245/15.11.2018 issued by the Alternate Minister of Education, Research and Religious Affairs on the "Internal Rules of Procedure of the Hellenic Foundation for Research and Innovation (H.F.R.I.)" (B' 5252), as in force;
5. Decision No. 29898/26.02.2019 issued by the Alternate Minister of Education, Research and Religious Affairs on the "Annual planning of actions and resource allocation of the Hellenic Foundation for Research and Innovation (H.F.R.I.) for 2019" (B' 809), as in force following its amendment by the Decision No. 32397/23.03.2020 of the Deputy Minister of Development and Investments (B' 1495);
6. Decision No. 35627/24.03.2021 issued by the Deputy Minister of Development and Investments on the establishment of H.F.R.I.'s Scientific Council (Issue for Specially Positioned Employees and Administrative Bodies of Public or Broader Public Sector Entities No. 246);
7. Decision under Ref. No. 35869/15.04.2021 adopted by H.F.R.I.'s SC at its 102nd Meeting on the election of Professor Xenia Chrysochoou as Chair of H.F.R.I.'s SC (IUN: E4ZI46M77Γ-273);
8. Decision under Ref. No. 35870/15.04.2021 adopted by H.F.R.I.'s SC at its 102nd Meeting on the assignment of duties of H.F.R.I.'s Director to the SC's Chair, Professor Xenia Chrysochoou (2nd correction of the Decision on 23.04.2021, IUN: EKΨ246M77Γ-6Y2);
9. The fact that the Action's budget is funded by H.F.R.I.'s budget and more specifically is covered by resources coming from the Agreement as of 15.07.2016 between the Hellenic Republic and the European Investment Bank;
10. Decision under Ref. No. 7886/21.12.2018 adopted by H.F.R.I.'s SC at its 39th Meeting on the approval of a multi-year obligation assumption, as in force after its 6th amendment by the Decision under Ref. No. 39777/26.10.2021 issued by the 113th Meeting of H.F.R.I.'s Scientific Council;
11. Decision under Ref. No. 42180/16.12.2021 adopted by H.F.R.I.'s SC at its 117th Meeting on the approval of the terms of the "4th Call for H.F.R.I. Scholarships to PhD Candidates" and authorization to the SC's Chair and acting Director of H.F.R.I. for writing and publishing the Call (IUN: 9ΓPB46M77Γ-ΘΣΙ).

## **CALLS**

The interested PhD Candidates to submit applications under the **4<sup>th</sup> Call for H.F.R.I. Scholarships to PhD Candidates**, according to the terms and conditions specified below.

### **1. ACTION OBJECTIVE AND GENERAL INFORMATION**

The Call aims to support PhD Candidates in order to conduct high-level research in Greece. This action of the Hellenic Foundation for Research and Innovation (H.F.R.I.) aims at funding PhD Candidates for the preparation of their doctoral thesis in Higher Educational Institutions (AEI) and Higher Military Educational Institutions (ASEI) in Greece. The duration of funding (in the form of a scholarship) is from 20 to 36 months.

### **2. SCIENTIFIC AREAS (SA)**

Each application will be submitted to one (1) scientific field/subfield in one (1) of the following broad Scientific Areas:

- SA.1. Physical Sciences**
- SA.2. Engineering Sciences and Technology**
- SA.3. Life Sciences (Medicine and Health Sciences)**
- SA.4. Agricultural Sciences – Food Science and Technology**
- SA.5. Mathematics and Information Sciences**
- SA.6. Social Sciences**
- SA.7. Humanities and Arts**
- SA.8. Environment and Energy**
- SA.9. Management and Economics of Innovation**

The individual scientific fields and subfields of the Scientific Areas are set out in the Annex.

### **3. BUDGET/DURATION**

The total expenditure for the Call amounts to **€5,000,000**.

**The monthly amount of the PhD Candidate's scholarship amounts to nine hundred euros (€900,00)**. Please note that the above scholarship amount is tax-free.

The requested duration of the scholarship may be **from 20 to 36 months depending on the date of appointment of the Three-Member Advisory Committee**. Please note that **the total duration of the scholarship may not exceed 36 months**.

#### 4. PARTICIPATION CONDITIONS

The terms and conditions for participating in this Call are as follows:

- The Three-Member Advisory Committee of the PhD Candidate should be appointed for a time period from 30.11.2020 up to the submission end date.
- No more than four (4) years must have elapsed since 31.12 of the year of obtaining the Master's Degree (MD)\*.

In the case of holders of an Integrated Master (EATSME) or PhD Candidates who have exceptionally been admitted, no more than four (4) years must have elapsed since obtaining a degree.

For male candidates who have served their military service (fully or partially) after obtaining the master's degree or the degree (in the case of EATSME or PhD Candidates exceptionally admitted), the above time period shall be increased accordingly. Similarly, for female candidates who have been pregnant (fully or partially) after obtaining the master's degree or the degree, the maximum time period shall be increased by nine (9) months per child and up to two (2) children.

- The PhD Candidates should not already hold a PhD in any scientific field.
- PhD Candidates should not be funded for the proposed research (for all or part of it) by any other source (public, private, European, international) during the scholarship. Except in the case of funding the PhD Candidate so as to cover travel and/or subsistence costs to carry out research within Greece or abroad by mobility programs of up to six (6) months.
- PhD Candidates should not receive any other scholarship from any source during the scholarship.
- PhD Candidates should not receive an unemployment benefit in Greece or abroad during the scholarship.
- Male candidates should have fulfilled their military obligations or have been legally discharged from them or have been deferred or in any event legally exempt from the armed forces. The conditions laid down in this paragraph must be fulfilled at the time of adoption of the Scholarship Award Decision and cover the entire duration of the scholarship.
- The PhD Candidate should hold a Greek Tax Identification Number (TIN).

**It is noted that during the scholarship, the PhD Candidate should not hold an employment contract: i) in the public sector as permanent staff or under an open-term private law employment contract or ii) in the private sector under an open-term full-time employment contract.**

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\* *The PhD Candidates who have obtained the Master's Degree from 01.01.2018 onwards shall be eligible.*

**Furthermore, the total taxable income of the PhD Candidate from any kind of employment (paid work or business activity) together with the amount of the scholarship should not exceed cumulatively the amount of €15,000.00. In the event where a degree of disability of 67% and above has been recognized to the PhD Candidate, said income along with the scholarship amount for each tax year should not exceed €19,000.00.** The above limitations do not include any fees paid retrospectively and relating to work/project performed before the start of the scholarship award.

#### **4.1. Host Institution**

The following are defined as Host Institutions (HIs) for the preparation of doctoral theses:

- Higher Educational Institutions (AEI) of Greece as provisioned under article 1 of Law 4485/2017 (OGG 114/A'/2017).
- Higher Military Educational Institutions (ASEI) of Law 3187/2003 (OGG 233/A'/2003).

**When submitting the application, the PhD Candidate must declare the details of the HI.**

All potential HIs shall be available for selection on the online submission platform, in the form of a drop-down menu allowing only one selection.

If the thesis is drawn up in cooperation/is co-supervised with an institution referred to in Article 13a of Law 4310/2014 or a foreign institution, the PhD Candidate shall be able to declare it in a relevant field on the application platform.

### **5. APPLICATIONS SUBMISSION**

Each PhD Candidate can submit only one application under this Call. Submission is performed by the PhD Candidate exclusively **online** via H.F.R.I.'s web portal (<https://hfri.grnet.gr/>).

To submit Applications, the following are required:

- General details of the PhD Candidate and information on the doctoral thesis (Section A),
- Scientific profile of the PhD Candidate and subject of the doctoral thesis (Section B).

All fields as well as the necessary documents shall be filled in and drafted in Greek, except for the title and the abstract to be filled in also in English.

If the Special Composition General Assembly (G.S.E.S.) of the Department approves the writing of the thesis in English, the above documents may be drafted in English. In this case, the PhD Candidate should submit the relevant approval decision of the G.S.E.S. or a solemn declaration on the language of the thesis in the relevant field on the submission platform.

All documents are posted in PDF format.

The Application shall be equivalent to a solemn declaration of Law 1599/1986 for the accuracy of information declared and the content of the documents submitted with it.

## 5.1. Section A: General information

Section A shall be filled in on the relevant fields of the online submission platform and shall include the details of the PhD Candidate and general information on the doctoral thesis, including the title and the abstract.

The abstract should clearly present the objectives of the doctoral thesis and the way these should be accomplished. It is noted that in case the PhD Candidate is funded, this abstract may possibly be published and therefore must be brief and precise, not including confidential information.

In detail, Section A is filled in with the following information:

- **General information of the thesis**
  - Scientific Area
  - Title/Subject of the doctoral thesis (as specified in the relevant decision of the General Assembly — in Greek and English)
  - Date of appointment of the Three-Member Advisory Committee
  - Abstract of the doctoral thesis (up to 2,000 characters, in Greek and in English)
  - Keywords (up to 10)
  - Requested duration of scholarship (in months)
- **PhD Candidate details** (Full name, contact details, VAT No., etc.)
- **Host Institution**
- **Collaborating/Co-supervising Organizations** (School, Department or Research Centre-Institute or Organization/Institution, Country, etc.)
- **Members of the Three-Member Advisory Committee** (Full name, Capacity, Contact details).

All relevant documents, if applicable (copies of diplomas, certificate of appointment of the Three-Member Advisory Committee by the General Assembly, approval of writing the thesis in English, suspension of the preparation of a thesis, certificate on military status, certificate of marital status, etc.), should be posted on the online submission platform in the respective fields.

## 5.2. Section B: Scientific profile of the PhD Candidate and subject of the doctoral thesis

Section B consists of two (2) sub-sections, Section B1 and Section B2. Templates for these two sub-sections will be available on H.F.R.I.'s website [www.elidek.gr/call/](http://www.elidek.gr/call/).

On the first page (cover) of the individual sections of the Application the following should be mentioned: (i) the full name of the PhD Candidate, (ii) the title of the doctoral thesis, (iii) the Scientific Area, (iv) the requested duration of scholarship (in months), (v) the Host Institution of the thesis and (vi) the Collaborating Organization (in case of co-supervision).

Each page should contain a header presenting the full name of the PhD Candidate, the respective Scientific Area, as well as a footer with reference to the total number of pages.

Table 1 lists the suggested technical specifications to be followed in all submitted documents.

**Table 1.** *Technical specifications for texts*

Page Size	Font	Font Size	Line Spacing	Page Margins
A4	Times New Roman, Arial, Calibri or similar	11 pt (at least)	Single (at least)	Top-Bottom: 1.5 cm Left-Right: 2 cm

The limits (pages) of the length of the text are strictly applied. Any text outside these limits will not be taken into consideration during evaluation.

**Part B1. Scientific profile of the PhD Candidate (maximum number of pages: 4)**

Section B1 contains the CV of the PhD Candidate, which includes inter alia any publications of the PhD Candidate in international scientific journals with judges and/or publications/announcements in conference proceedings, as well as a brief reference to the PhD Candidate's motivation to prepare this thesis.

Section B1 shall be submitted in Greek (unless there is approval by the Special Composition General Assembly (G.S.E.S.) of the Department of the PhD Candidate for writing his/her thesis in English), as a PDF file, and may be up to four (4) pages. Any text outside these limits will not be taken into consideration during evaluation.

**Part B2. Detailed presentation of the subject of the doctoral thesis (maximum number of pages: 5)**

The detailed presentation of the doctoral thesis should for example include the following: (a) the subject matter, the objectives and the scientific originality of the thesis, (b) an introduction to the research field of the subject and a description of the state of the art, (c) a description of the research questions addressed by the proposed subject and the long-term perspective, (d) the methodology/implementation plan/risks and ways to address them (where applicable), (e) a time schedule for implementation (including an indicative Gantt Chart), (f) indicative bibliography.

Section B2 shall be submitted in Greek (unless there is approval by the Special Composition General Assembly (G.S.E.S.) of the Department of the PhD Candidate for writing his/her thesis in English), as a PDF file, and may be up to five (5) pages. Any text outside these limits will not be taken into consideration during evaluation. Bibliographic references fall within the limitation of five (5) pages.

**The submission of Applications is made by the PhD Candidate**

**only online on H.F.R.I.'s web portal**

(<https://hfri.grnet.gr/>)

**Submission start date:** 01.03.2022, 12:00 (GMT+2)

**Submission end date:** 31.03.2022, 17:00 (GMT+2)

*The PhD Candidate is exclusively responsible for the accuracy of data submitted on the online submission platform.*

## **6. CHECK AND EVALUATION**

The evaluation of Applications is conducted by Evaluation Committees (EC) and independent experts, if deemed necessary, according to the provisions of Article 5 par. 6 of Law 4429/2016, as amended and in force.

### **6.1. Admissibility and eligibility check**

Applications are checked as to the submission and admissibility of all required data and documents, the observance of the participation terms as well as other terms of this Call, as described in detail in [Section 4](#). Irrespective of the fact that all Applications are checked as to their admissibility and eligibility prior to the evaluation of their content, if, at any stage of the check and evaluation process, it is verified that an Application fails to meet any of the relevant criteria, it shall be excluded from the evaluation process.

### **6.2. Evaluation**

For the evaluation of the Applications, Evaluation Committees comprised of acclaimed scientists shall be established upon decision of H.F.R.I.'s Scientific Council. If deemed necessary, at the discretion of each EC, a non-binding evaluation of one or more Applications may be requested by one or more independent experts. The final decision for the evaluation of each Application shall be made by the EC.

These experts, independent or members of the Evaluation Committee(s), shall come from the Register of Certified Evaluators referred to in Article 5 par. 11 of Law 4429/2016 and, until its creation, from the Register of Certified Evaluators referred to in Article 27 of Law 4310/2014 and have the qualifications related to the subject matter of the Application to be evaluated. The members of the Evaluation Committee and the experts shall be appointed by H.F.R.I.'s SC. If expert scientists required for a specific evaluation are not available or the existing ones do not meet the needs of the evaluation in question, expert scientists, not included in the Register of Certified Evaluators, who are foreign tax residents may be designated as members, pursuant to a decision by the Scientific Council, thus applying the provisions of par. 6 and 7 of Article 5 of Law 4429/2016.

### **6.3. Confidentiality**

The whole process is governed by rule of confidentiality. The EC members and independent experts sign a declaration of confidentiality and non-conflict of interest. All EC members and independent

experts owe full confidentiality before, during and after the evaluation, as to the entire evaluation process.

## 6.4. Evaluation Process

The evaluation of Applications will be carried out in one phase by ECs and experts, if deemed necessary (as defined in Law 4429/2016, as in force), on the basis of the criteria set out in Table 2 below:

**Table 2.** Evaluation Criteria

<b>Evaluation Criteria</b>	<b>Grade</b>
<b>1. Scientific Profile of the PhD Candidate</b>	<b>0 – 60</b>
The following shall be taken into account: <ul style="list-style-type: none"> <li>• Degrees or diplomas</li> <li>• Foreign languages</li> <li>• Publications</li> <li>• Participation/Announcements in conferences</li> <li>• Distinctions and/or previous scholarships</li> <li>• Research activity in the relevant scientific field</li> <li>• Motivation letter</li> </ul>	0 – 60
<b>2. Doctoral Thesis Proposal</b>	<b>0 – 40</b>
The following shall be taken into account: <ul style="list-style-type: none"> <li>• Scientific quality and originality</li> <li>• Methodology and Implementation</li> </ul>	0 – 30
<ul style="list-style-type: none"> <li>• Implementation time schedule</li> </ul>	0 – 10

The Applications will be graded according to the extent by which they satisfy the individual criteria, as described above.

Grading is performed on a scale of 0 – 100.

**0-19.** The Application cannot be evaluated due to inadequate or incomplete information.

**20-39 – Weak:** The Application meets the criteria in part or there are serious inherent difficulties.

**40-59 – Moderate:** Although the Application does meet the criteria in general, there are significant weaknesses.

**60-79 – Good:** The Application does meet the criteria at a good level, but there are certain shortfalls.

**80-89 – Very Good:** The Application does meet the criteria at a very good level, but there is a small number of shortfalls.

**90-100 – Excellent:** The Application meets all relevant aspects of the criteria successfully. Any shortfalls are minor and are described as of secondary importance.

**The minimum acceptable total score for an Application to be eligible for funding is 80 units.**

Applications are listed by descending order according to the total score. In the event of equal scores, the Application of the candidate which has obtained the highest score in the individual criterion “Scientific profile of the PhD Candidate” shall be given priority.

## 7. EVALUATION RESULTS

After the evaluation is completed, the results are communicated to the PhD Candidates along with a personalized report, which includes the Application’s score and the evaluation report of the Evaluation Committee.

PhD Candidates are entitled to lodge a **substantiated objection on decision legality grounds** within a deadline of ten (10) days from the notification of the evaluation results.

Objections are judged by three-member committees, which shall decide within an exclusive deadline of ten (10) days (Article 5, par. 8 of Law 4429/2016, as in force). The objection committee’s decision is announced to the H.F.R.I. Director and communicated to the person who lodged the objection.

Following the evaluation of Applications, the H.F.R.I. Director issues the funding decision (list of Applications to be funded), in line with the available budget. This decision is an enforceable administrative act and is subject to petition for annulment before the Administrative Court of Appeal.

Following the publication of the Applications to be funded, the potential beneficiary PhD Candidates receive a letter via email, whereby they are invited to submit the necessary supporting documents to H.F.R.I., so that the Scholarship Award Decision may be issued.

**The PhD Candidate accepts that messages sent via email, and especially those sent to the email address they declared during the online submission of the Application, are considered notifications and signal the commencement of all legal processes and deadlines.**

## 8. PUBLICITY

The Call and the Management Guide of this Call shall be posted on H.F.R.I.’s website ([www.elidek.gr](http://www.elidek.gr)) and the website of the General Secretariat for Research and Innovation ([www.gsrt.gr](http://www.gsrt.gr)).

## 9. COMMUNICATION - INFORMATION

Detailed information and briefing on this Call will be provided by H.F.R.I.'s Department of Research Projects via email: [researchdepartment@elidek.gr](mailto:researchdepartment@elidek.gr) and by calling +30 210-6412410, +30 210-6412420.

**The Chair of the Scientific Council  
and acting Director of H.F.R.I.**

**Professor Xenia Chrysochoou**

## **ANNEX: Scientific Areas, Scientific Fields and Subfields**

### **SA1. Physical Sciences**

#### **1.1. Physical Sciences**

- 1.1.1. Acoustics
- 1.1.2. Atomic Physics
- 1.1.3. Molecular and chemical physics
- 1.1.4. Condensed matter physics
- 1.1.5. Nanosciences and nanotechnology
- 1.1.6. Fluids and plasma physics
- 1.1.7. Nuclear physics
- 1.1.8. Optics
- 1.1.9. Quantum optics
- 1.1.10. Laser Physics
- 1.1.11. Particles and field Physics

#### **1.2. Chemical Sciences**

- 1.2.1 Analytical chemistry
- 1.2.2 Applied and industrial chemistry
- 1.2.3 Colloid chemistry
- 1.2.4 Inorganic and nuclear chemistry
- 1.2.5 Organic chemistry
- 1.2.6 Physical chemistry
- 1.2.7 Electrochemistry
- 1.2.8 Nanotechnology
- 1.2.9 Molecular architecture
- 1.2.10 Chemical theory

#### **1.3. Material sciences**

- 1.3.1. Material synthesis
- 1.3.2. Structure-Property relation
- 1.3.3. Functional and Advanced materials
- 1.3.4. 2D Materials
- 1.3.5. Materials properties (e.g. thermal, electrical, mechanical)
- 1.3.6. Polymer science
- 1.3.7. Composite materials

#### **1.4. Earth and related environmental sciences**

- 1.4.1 Climatology
- 1.4.2 Geochemistry and geophysics
- 1.4.3 Geology
- 1.4.4 Hydrology
- 1.4.5 Atmospheric sciences
- 1.4.6 Mineralogy
- 1.4.7 Marine sciences
- 1.4.8 Paleontology
- 1.4.9 Physical geography
- 1.4.10 Water resources

#### **1.5. Universe Sciences**

- 1.5.1 Astronomy
- 1.5.2 Astro-physics/chemistry/biology
- 1.5.3 Solar system
- 1.5.4 Stellar
- 1.5.5 Galactic and extragalactic astronomy
- 1.5.6 Planetary systems
- 1.5.7 Cosmology
- 1.5.8 Space science
- 1.5.9 Instrumentation

**1.6. Other physical/natural sciences**

**SA2. Engineering Sciences & Technology)**

**2.1 Civil, Surveying & Architectural engineering**

- 2.1.1 Civil engineering
- 2.1.2 Architecture engineering
- 2.1.3 Construction engineering
- 2.1.4 Municipal and structural engineering
- 2.1.5 Transport engineering
- 2.1.6 Structural Engineering
- 2.1.7 Other

**2.2 Electrical, electronic & communication engineering**

- 2.2.1 Electrical and electronic engineering
- 2.2.2 Optical and systems engineering
- 2.2.3 Communication engineering and systems
- 2.2.4 Telecommunications
- 2.2.5 Computer hardware and architecture
- 2.2.6 Robotics and automatic control
- 2.2.7 Automation and control systems
- 2.2.8 Other

**2.3 Mechanical engineering**

- 2.3.1 Applied mechanics
- 2.3.2 Thermodynamics and thermal engineering
- 2.3.3 Fluid mechanics and turbomachinery
- 2.3.4 Aerospace engineering (aeronautics & astronautical engineering)
- 2.3.5 Manufacturing engineering and machine design
- 2.3.6 Automotive engineering
- 2.3.7 Naval engineering
- 2.3.8 Nuclear related engineering
- 2.3.9 Other

**2.4 Environmental engineering & biotechnology**

- 2.4.1 Environmental engineering
- 2.4.2 Ocean and coastal engineering
- 2.4.3 Other environmental engineering
- 2.4.4 Environmental biotechnology
- 2.4.5 Bioremediation
- 2.4.6 Bioprocessing technologies, biocatalysis
- 2.4.7 Bioproducts, biomaterials, biofuels etc.

2.4.8 Bio-derived novel materials

2.4.9 Other

**2.5 Computer and telecommunications engineering**

2.5.1 Information and intelligent systems engineering

2.5.2 Computer engineering

2.5.3 Computational methods in engineering

2.5.4 Other

**2.6 Chemical and materials engineering**

2.6.1 Chemical process engineering

2.6.2 Other chemical engineering

2.6.3 Petroleum engineering (fuels, oils)

2.6.4 Energy and fuels

2.6.5 Materials engineering

2.6.6 Mining and mineral processing

2.6.7 Nanotechnology

2.6.8 Catalysis

2.6.9 Energy production/processes (fuel cells, batteries, etc.)

2.6.10 Other

**2.7 Medical engineering**

2.7.1 Medical engineering

2.7.2 Medical laboratory technology

2.7.3 Biomedical engineering

2.7.4 Other

**2.8 Other engineering sciences and technology (e.g. security)**

**SA3. Life Sciences**

**3.1 Molecular and Structural Biology, Biochemistry and Molecular biophysics**

3.1.1 Molecular synthesis, modification, mechanisms and interaction

3.1.2 Biochemistry

3.1.3 Molecular Biophysics

3.1.4 Structural Biology

3.1.5 Metabolism

3.1.6 Signalling pathways

**3.2 Genetics, 'Omics', Bioinformatics and System Biology**

3.2.1 Molecular and population genetics

3.2.2 Quantitative genetics

3.2.3 Genomics

3.2.4 Metagenomics

3.2.5 Transcriptomics

3.2.6 Proteomics

3.2.7 Metabolomics

3.2.8 Glycomics

3.2.9 Bioinformatics

3.2.10 Computational Biology

3.2.11 Biostatistics

3.2.12 System Biology

3.2.13 Genetic Epidemiology

3.2.14 Epigenetics

**3.3 Cellular and Developmental Biology**

3.3.1 Cell Biology

3.3.2 Cell Physiology

3.3.3 Signal transduction

3.3.4 Organogenesis

3.3.5 Developmental genetics

3.3.6 Pattern formation in plants and animals

3.3.7 Stem cell Biology

**3.4 Physiology, Pathophysiology and Endocrinology**

3.4.1 Organ physiology

3.4.2 Pathophysiology

3.4.3 Endocrinology

3.4.4 Metabolism

3.4.5 Ageing

3.4.6 Tumorigenesis

3.4.7 Cardiovascular disease

3.4.8 Metabolic syndrome

**3.5 Neurosciences and Neural Disorders**

3.5.1 Neural cell function and signalling

3.5.2 Neural bases of cognitive and behavioral processes

3.5.3 Neuroanatomy and neurophysiology

3.5.4 Neurochemistry and neuropharmacology

3.5.5 Neuroimaging

3.5.6 Systems neuroscience

3.5.7 Neurological and psychiatric disorders

**3.6 Oncology and Cancer Research**

3.6.1 Cancer biology

3.6.2 Cancer diagnosis research

3.6.3 Cancer treatment research

**3.7 Immunity and Infection**

3.7.1 The immune system and related disorders

3.7.2 Biology of Infectious agents and infection

3.7.3 Biological bases of prevention and treatment of infectious diseases

**3.8 Applied Medical Technologies, Diagnostics, Therapies and Public Health**

3.8.1 Diagnostic tools

3.8.2 Diagnosis and treatment of disease

3.8.3 Epidemiology and public health

3.8.4 Pharmacology

3.8.5 Clinical medicine

3.8.6 Regenerative medicine

3.8.7 Medical ethics

**3.9 Ecology, Evolution, Population and Environmental Biology**

3.9.1 Evolutionary biology

3.9.2 Population, community and ecosystem ecology

3.9.3 Animal behavior

- 3.9.4 Biodiversity
- 3.9.5 Biogeography
- 3.9.6 Marine Biology
- 3.9.7 Eco-toxicology
- 3.9.8 Microbial ecology

### **3.10 Applied Life Sciences, Biotechnology, and Molecular and Biosystems Engineering**

- 3.10.1 Applied plant and animal sciences
- 3.10.2 Fishery
- 3.10.3 Forestry
- 3.10.4 Applied biotechnology
- 3.10.5 Environmental and marine biotechnology
- 3.10.6 Genetic engineering
- 3.10.7 Synthetic and chemical biology
- 3.10.8 Industrial biosciences
- 3.10.9 Applied Bioengineering

### **3.11 Other Life Sciences**

## **SA4. Agricultural Sciences – Food Science & Technology**

### **4.1 Agriculture, forestry, and fisheries**

- 4.1.1 Agriculture
- 4.1.2 Forestry
- 4.1.3 Fishery
- 4.1.4 Soil science
- 4.1.5 Horticulture
- 4.1.6 Viticulture
- 4.1.7 Agronomy
- 4.1.8 Plant breeding

### **4.2 Animal and Veterinary science**

- 4.2.1 Animal breeding
- 4.2.2 Animal nutrition
- 4.2.3 Animal physiology
- 4.2.4 Other animal and veterinary sciences

### **4.3 Agricultural biotechnology**

- 4.3.1 Agricultural biotechnology
- 4.3.2 Food biotechnology
- 4.3.3 Molecular and genomic plant breeding, market assisted selection
- 4.3.4 Biomass feedstock production technologies
- 4.3.5 Agricultural biotechnology and food biotechnology related ethics

### **4.4 Food sciences and Technology**

- 4.4.1 Dairy science and technology
- 4.4.2 Food chemistry
- 4.4.3 Food engineering
- 4.4.4 Food microbiology
- 4.4.5 Food packaging
- 4.4.6 Food processing
- 4.4.7 Food technology

- 4.4.8 Molecular gastronomy
- 4.4.9 New product development
- 4.4.10 Quality control

#### **4.5 Other agricultural sciences and Food sciences and Technology**

### **SA5. Mathematics & Information Sciences**

#### **5.1 Mathematics**

- 5.1.1 Logic and foundations
- 5.1.2 Algebra and number theory
- 5.1.3 Algebraic and complex geometry
- 5.1.4 Geometry and topology
- 5.1.5 Lie groups, Lie algebras
- 5.1.6 Analysis
- 5.1.7 Operator algebras and functional analysis
- 5.1.8 ODE, PDE and dynamical systems
- 5.1.9 Mathematical physics
- 5.1.10 Probability and statistics
- 5.1.11 Discrete mathematics and combinatorics
- 5.1.12 Numerical analysis
- 5.1.13 Mathematical aspects of computer science
- 5.1.14 Scientific computing, computational science and symbolic computation
- 5.1.15 Control theory, optimization and mathematical finance
- 5.1.16 Application of mathematics in sciences, industry and society

#### **5.2 Computer and information sciences**

- 5.2.1 Computer architecture, pervasive computing, ubiquitous computing
- 5.2.2 Computer systems, parallel/distributed systems, sensor networks, embedded systems, cyber-physical systems
- 5.2.3 Software engineering, operating systems, computer languages
- 5.2.4 Theoretical computer science, formal methods, and quantum computing
- 5.2.5 Cryptology, security, privacy, quantum crypto
- 5.2.6 Algorithms, distributed, parallel and network algorithms, algorithmic game theory, computational geometry
- 5.2.7 Computer graphics, computer vision, multimedia, computer games
- 5.2.8 Human computer interaction and interface, visualization, robotics
- 5.2.9 Web and information systems, database systems, information retrieval and digital libraries, data fusion
- 5.2.10 Machine learning and data processing
- 5.2.11 Natural language processing and signal processing (e.g. speech, image, video)
- 5.2.12 Scientific computing, computational methods, simulation and modelling tools
- 5.2.13 Bioinformatics, computational biology, systems biology, biocomputing and DNA and molecular computation

#### **5.3 Other mathematics**

#### **5.4 Other Computer and information sciences**

### **SA6. Social Sciences**

#### **6.1 Anthropology, Ethnology**

- 6.1.1 Anthropology of gender
- 6.1.2 Anthropology of religion
- 6.1.3 Cultural anthropology
- 6.1.4 Economic anthropology
- 6.1.5 Medical anthropology
- 6.1.6 Political anthropology
- 6.1.7 Visual anthropology

**6.2 Economics and Business**

- 6.2.1 Economics
- 6.2.2 Finance
- 6.2.3 Management/Marketing
- 6.2.4 (Applications of) quantitative methods to economics and business
- 6.2.5 (Economy of) Sustainable growth/economic alternatives (circular economy, social and solidarity economy)

**6.3 Educational Sciences**

- 6.3.1. Life long learning
- 6.3.2. New technologies in education
- 6.3.3. Non formal education/museum education
- 6.3.4. Politics of education
- 6.3.5. Sociology of education
- 6.3.6. Sociology of education
- 6.3.7. Special education
- 6.3.8. Teaching and learning art and humanities
- 6.3.9. Teaching and learning natural sciences

**6.4 Law, Organization Theory, Public Administration**

- 6.4.1. Civil law
- 6.4.2. Commercial law
- 6.4.3. Comparative law
- 6.4.4. Constitutional law
- 6.4.5. Criminal law/Criminology
- 6.4.6. International law
- 6.4.7. Philosophy/History of law
- 6.4.8. Public administration law

**6.5 Media and Communications**

- 6.5.1. Computational media studies
- 6.5.2. Cultural media studies
- 6.5.3. Journalism
- 6.5.4. Semiotics
- 6.5.5. Visual communication
- 6.5.6. Visual semiotics

**6.6 Political Science**

- 6.6.1. Comparative politics

- 6.6.2. Contentious politics
- 6.6.3. Greek politics
- 6.6.4. International relations
- 6.6.5. Political sociology
- 6.6.6. Political theory

**6.7 Psychology and Cognitive Sciences**

- 6.7.1. Clinical/Counseling psychology
- 6.7.2. Cognitive psychology/Neurosciences
- 6.7.3. Critical psychology
- 6.7.4. Cross-cultural psychology
- 6.7.5. Developmental psychology
- 6.7.6. Educational/School psychology
- 6.7.7. Health psychology
- 6.7.8. Organizational/Occupational psychology
- 6.7.9. Political psychology
- 6.7.10. Social psychology

**6.8 Social and Economic Geography**

- 6.8.1. Applied economic geography
- 6.8.2. Critical geography
- 6.8.3. Cultural geography
- 6.8.4. Theoretical economic geography
- 6.8.5. Urban geography
- 6.8.6. Urban sociology

**6.9 Sociology**

- 6.9.1. Applied sociology
- 6.9.2. Community informatics/social network
- 6.9.3. Critical sociology
- 6.9.4. Cultural/leisure sociology
- 6.9.5. Demography
- 6.9.6. Educational sociology
- 6.9.7. Ethnographic sociology
- 6.9.8. Sociology of work
- 6.9.9. Sociology of youth
- 6.9.10. Visual/Cyber sociology

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**SA7. Humanities & Arts**

**7.1 History and archaeology**

- 7.1.1. Classical archaeology
- 7.1.2. Byzantine archaeology
- 7.1.3. Archaeometry

- 7.1.4 Prehistory and protohistory
- 7.1.5 Ancient history
- 7.1.6 Medieval history
- 7.1.7 Early modern history, modern and contemporary history
- 7.1.8 Colonial and post-colonial history, global and transnational history, entangled histories, history of international relations
- 7.1.9 Social history, economic history
- 7.1.10 Oral history, public history
- 7.1.11 Institutional history, political history
- 7.1.12 Military history, war history
- 7.1.13 Gender history, history of ideas, intellectual history and history of sciences and techniques, cultural history, history of collective identities and memories
- 7.1.14 Historiography, theory and methods of history
- 7.1.15 Other

## **7.2 Languages and literature**

- 7.2.1 General Language Studies
- 7.2.2 Specific languages
- 7.2.3 General literature studies
- 7.2.4 Literary theory
- 7.2.5 Specific literatures
- 7.2.6 Linguistics

## **7.3 Philosophy, ethics and religion**

- 7.3.1 Philosophy, history and philosophy of science and technology
- 7.3.2 Philosophy of mind, epistemology and logic
- 7.3.3 Ethics (except ethics related to specific subfields)
- 7.3.4 Theology
- 7.3.5 Religious studies

## **7.4 Arts (arts, history of arts, performing arts, music)**

- 7.4.1 Arts, Art history
- 7.4.2 Architectural design
- 7.4.3 Performing arts studies (Musicology, Theater science, Dramaturgy)
- 7.4.4 Cultural studies
- 7.4.5 Studies on Film, Radio and Television

## **7.5 Other humanities**

# **SA8. Environment & Energy**

## **8.1 Climate change**

- 8.1.1. Observations and remote sensing
- 8.1.2. Modelling and projections
- 8.1.3. Impact studies
- 8.1.4. Adaptation and mitigation strategies

## **8.2 Ecology**

- 8.2.1. Molecular ecology
- 8.2.2. Organismal ecology

8.2.3. Population ecology

8.2.4. Community ecology

8.2.5. Human ecology

### **8.3 Meteorology**

8.3.1. Weather forecasting

8.3.2. Experimental meteorology

8.3.3. Hydrometeorology

8.3.4. Agricultural meteorology

8.3.5. Environmental meteorology

### **8.4 Oceanography**

8.4.1. Chemical oceanography

8.4.2. Marine biology – Ichthyology

8.4.3. Coastal morphodynamics and marine geology

8.4.4. Physical oceanography

### **8.5 Energy resources**

8.5.1. Fossil and nuclear energy

8.5.2. Energy grids

8.5.3. End use efficiency

8.5.4. Policies and economics

### **8.6 Renewable energy resources and systems**

8.6.1. Bioenergy

8.6.2. Geothermal energy

8.6.3. Hydraulic energy

8.6.4. Solar energy

8.6.5. Wind energy

8.6.6. Hydrogen and fuel cells

8.6.7. Wave and tidal energy

8.6.8. Hybrid systems

8.6.9. Energy storage

8.6.10. Emerging technologies

### **8.7 Energy and the built environment**

8.7.1. Sustainable building design

8.7.2. Sustainable urban living

8.7.3. Energy technologies for buildings

8.7.4. Smart innovative materials

8.7.5. Smart buildings in smart cities

### **8.8 Sustainable mobility and logistics**

8.8.1. Sustainable urban mobility

8.8.2. Freight transport and logistics

**8.9 Circular economy**

- 8.9.1. Bioeconomy
- 8.9.2. Sustainable industry and manufacturing systems
- 8.9.3. Waste and resource management
- 8.9.4. Water in the circular economy

**SA9. Management & Economics of Innovations**

- 9.1 Innovation Systems, Innovation Policy, Innovation Governance and Metrics**
- 9.2 Innovation and Entrepreneurship**
- 9.3 Innovation Strategy, Organization and Management at the Business, Industry and sectoral Level**
- 9.4 ICT enabled Innovation, Digitisation and Industrial Renewal**
- 9.5 Globalization of Innovation, global value chains, and catch-up processes**
- 9.6 Innovation and Finance**