



**Croatian Science Foundation**

# **Guide for Applicants**

for Call

# **Tenure Track Pilot Programme (TTP-2018-07)**

*The terms relating to the masculine gender are neutral and refer to persons of both genders.*

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## Introduction

The purpose of this guide is to facilitate potential applicants in drafting and submission of proposals for this Call as well as to provide information about the evaluation procedure of PIs and their project proposals.

This guide is based on general regulations of the Croatian Science Foundation (further: CSF), especially the Rules, conditions and procedures on the allocation of funds and Framework Agreement between the Swiss Federal Council and the Government of the Republic of Croatia concerning the Implementation of the Swiss - Croatian Cooperation Programme to Reduce Economic and Social Disparities within the Enlarged European Union, signed on 30 June 2015, Project Agreement between the Swiss Agency for Development and Cooperation and the Ministry of Regional Development and EU funds, the Collaboration Agreement between the Croatian Science Foundation and École Polytechnique Fédérale de Lausanne and Programme Implementation Agreement among the Ministry of the Regional Development and EU funds, the Ministry of Science and Education and the Croatian Science Foundation.

## 1. Proposal submission

### 1.1. About the programme

The new initiative "Research Excellence Programme in Science and Higher Education - the Tenure Track Pilot Programme" (further: TTPP) is targeting excellent young researchers. It is designed to support young researchers, i.e. Principal Investigators (further: PI) at the early stage of their career where they can establish their own independent research groups.

Any Croatian public university, public scientific institute or Croatian Academy of Sciences and Arts can host the PI and his research group. The Host Institution, where the project will be implemented, must have significant experience in implementation of research activities at the international level. The Host Institution must furthermore secure the suitable support to the PI, laboratory and office space and guarantee his independence in implementing research activities, setting up and managing his research group.

The projects will be funded with 6.194.117 - 7.570.587 HRK (counter value of CHF 900.000 - 1.100.000 on the day of the signature of the Project Agreement between the Swiss Development Agency and Ministry of the Regional Development and EU funds), in line with the approved Work Plan and Financial Plan. However, depending on the nature of the proposed research activities, lower project budget might be agreed during the financial negotiations.

Grants will be awarded to the Host Institutions that will host the PIs. It is estimated that 4-5 projects will be financed.

### 1.1.1. Who can apply?

**The applicant for the Principal Investigator must fulfil the following conditions:**

- researchers willing to pursue an academic research career in Croatia;
- must be in a possession of doctoral degree. The period between the date of the PhD award and the call deadline must not be shorter than two nor longer than seven years ;
- have excellent research and academic track record;
- submit a promising research plan;
- not permanently employed at a Croatian research institutions (public universities, public scientific institutes, Croatian Academy of Sciences and Arts;
- apply to this call with only one project proposal.

Proposal must be submitted by a single PI, with the support of the Croatian Host Institution. The Support Letter signed by the Host Institution´s representative has to guarantee the Host Institution´s commitment to welcome and adequately host the PI.

The applicants with more than 7 years after the PhD award are also eligible to submit application if they deliver a confirmation of maternity or paternity leave, clinical practice if conducted after the PhD award or illness. These periods will be deducted from the time elapsed from the date of the PhD thesis defence. In none of these cases, the time elapsed after PhD award cannot exceed 10 years.

For maternity leave, time elapsed since PhD award shall be deducted for 16 months for each child born before or after obtaining the first PhD. For paternity leave, time elapsed since PhD award shall be deducted for the real duration of the paternity leave for each child born before or after obtaining the PhD.

For long term illness or clinical treatment, the real duration of the illness/treatment shall be deducted from the time elapsed after the PhD award.

For applicants with the PhD and specialisation (in medicine), the duration of the specialisation shall be also deducted from the time elapsed since the PhD award.

**Acceptable members of the research group:**

- Principal Investigator
- 1-2 PhD students and 1-2 postdoctoral researchers.
- It is expected from all research group members to actively participate in the project and their roles have to be clearly described in the Work Plan of the project. Their participation and involvement will be a subject of annual evaluation.

**Research fields open to this Call are:**

- Engineering (e.g. electrical & mechanical engineering, microelectronics, advanced manufacturing, materials, nanotechnology, robotics, biomedical engineering, environmental and ecological engineering),
  - Computer Sciences (e.g. data sciences, communication systems),
  - Basic Sciences (e.g. physics, neurosciences, life sciences, chemistry).
- Interdisciplinary proposals are highly welcomed.

### **1.1.2. Financing of Principal Investigators and their research projects**

Project of the Principal Investigator will be financed in the duration of 5 years.

It is expected that the PhD student(s) are employed in the first year of project implementation for the period of 4 years and that postdoctoral researchers are employed each for a maximum of 4 years. Equipment will have to be budgeted and purchased in the first year of the project implementation.

Total amount of funding requested has to reflect the real assessment of project needs and shall be completely justified (except for the overhead costs). The evaluation panel/reviewers shall assess whether the requested amount of financial support is real, justified and needed for the project implementation. Based on the evaluation results and recommendations, the Foundation's Board will make the final decision on project proposal funding.

### **1.1.3. Obligations of the Host Institution**

Croatian public universities, public scientific institutes and Croatian Academy of Sciences and Arts are eligible to host the PI and his research group. Applicant can submit a proposal only in the scientific area for which the Host Institution is accredited for. The Host Institution must have significant experience in the implementation of research activities at international level; this experience should be presented in the project proposal.

The Host Institution must submit a Support Letter signed by its legal representative. The letter has to include:

- has to include the description of Host Institution's capacities, specify research and administrative support for the particular project, along with dedication to enabling appropriate working conditions for the researchers, as well as confirmation of academic freedom and independence in managing the research group and full adherence to the principles of the European Charter for Researchers;

- provide support to the PI and his research group members during the project implementation (in particular as regards laboratory and office space);
- ensure that all the activities are performed under the independent scientific guidance of the PI;
- ensure the necessary scientific autonomy of the PI (in particular as regards the selection of research group members, control over the budget etc.);
- support the PI in managing the research group and provide appropriate administrative assistance (particularly as regards the general management, management of finances, organization of project meetings as well as the general logistics of the project);

PIs will have two mentors. Mentors will be chosen on basis of the following criteria: a) scientific activities - publications, projects, patents, international cooperation; b) mentorship experience. The Host Institution will need to commit one mentor for each PI; the mentor will be an employee of the Host Institution. Additionally, the EPFL will nominate the international mentor for each PI. He will visit the PI once a year during the project implementation. The visit will usually be planned during the 10th month of every project year so that the mentor can prepare input for the report of the progress of the PI. If he is not able to visit ahead of the evaluation, the visit can take place at another time, but the skype conference will be organised before the evaluation. The mentors have an obligation to submit annual and mid-term and final narrative report on the progress of the PI and co-sign the project's scientific reports. The mentors shall have at least 10 years of research experience after the PhD award. The role of the mentor is to help and offer guidance to the PI throughout the duration of the project, to discuss regularly his research strategy, results and application to other sources of funding in order to secure sustainability of the research group.

The funds will be transferred to the Host Institution, which will employ the Principal Investigator and the members of his research group.

The legal representative of the Host Institution with its signature on the Host Institution Support Form and Administrative Form shall guarantee that the Host Institution will offer adequate work conditions to the PI which will enable him to implement research activities and manage financial resources independently. Furthermore, the legal representative accepts that the equipment purchased by the project's budget is placed within the Host Institution. This can be a subject of check-ups by the CSF.

## **1.2. Proposal preparation and submission**

Applicant is a person responsible for communication with the CSF.

### **1.2.1. Pre-registration**

**Pre-registration is obligatory.**

**Important notice: before applying to the call for proposals it is obligatory to pre-register. The deadline for the pre-registration is 20 May 2018, 13:00 (CET). Pre-registration will be submitted into the EPP system on official form.**

**Pre-registration must include:**

- 1) Pre-registration form**
- 2) Host Institution Support Letter.**

Pre-registration is necessary in order to organize the evaluation in line with the scientific areas covered by the project proposals and to choose panel members that will conduct the evaluation process. Please note that it is important that the project proposal's abstract and keywords match the topic in order to appoint experts that are most qualified to conduct the evaluation.

If you pre-register, but are finally not able to submit a full project proposal, please send us an e-mail to let us know as early as possible. The project proposals that were not pre-registered and are still submitted will not be accepted for evaluation.

### **1.2.2. How to submit**

**The pre-registration into the Electronic system for the project applications is obligatory.**

The project proposals can only be submitted through the EPP system available at: <https://epp.hrzz.hr/>.

Application documentation has to be uploaded into the EPP system in English language and using forms provided by the CSF.

#### **1.2.2.1. EPP system registration**

Registration in the EPP system is not necessary for previously registered applicants (users who already participated in previous CSF calls). In this case, the applicant should use the existing ID number.

Double registration of the user in the EPP system is not possible as these users are automatically denied further usage of the EPP system. In case of lost/forgotten password or denied access to

the EPP system, the applicant needs to send an e-mail to: [ttp@hrzz.hr](mailto:ttp@hrzz.hr) from the e-mail address used for the EPP system registration.

Before submission of the project proposal, each applicant should have a valid EPP system registration, username and password in order to be able to create and edit his profile as well as to submit the project proposal. To register, each user has to fill in mandatory fields. After the registration, each user has to fill in data in the „My profile“ section (personal, employment and scientific activity data).

### 1.2.2.2. Proposal submission into the EPP system

**Deadline for the submission of project proposals is 3 July until 13:00 (CET).**

- Completing documentation and filling in necessary data in the EPP system does not mean that the application is finalised.
- The applicants can change and edit their project proposals at any time before the deadline, or until they make an official submission by choosing the „Submit“ option.
- The applicant shall receive an automatic confirmation of proposal submission to his e-mail address.
- After the application deadline, the EPP system will be closed and further changes will not be possible.

### 1.2.3. Proposal preparation

**Obligatory documents:**

**1. Administrative Form** – must contain original signature of the Principal Investigator and the head of the Host Institution as well as Institution’s official stamp.

**2. Project proposal containing:**

- **Application form:**
  - Part A – contains Principal Investigator’s CV, 5-year track-record including publications and other relevant achievements;
  - Part B – contains a detailed description of planned research in the context of achieved results and the latest developments in the area of research, objectives, methodology, Work Plan, financial resources and ethical issues;
  - Part C – contains a description of roles and tasks of research group and project team members.
- **Financial Plan.**
- **Work Plan:** it must be clear and include major scientific activities, goals and duration, milestones that indicate establishment of new research group (with the number of

PhD students and postdoctoral researchers, planned number of scientific publications published in peer reviewed journals, number of expected PhD thesis defended, equipment bought etc.) which shall be evaluated during the application procedure, as well as during the implementation of the project;

- **Host Institution Support Letter** (with elements specified in the document).

### **3. Supporting documentation**

- Copy of PhD diploma containing official date of the PhD award
- Other documentation, including ethical clearance (if relevant), documentation related to career breaks (if relevant) and other.

**Documentation listed under 1 and 2 is mandatory for all applicants. Incomplete applications and applications submitted after the deadline will not be taken into consideration.**

#### **1.2.3.1. Administrative Form<sup>1</sup>**

Administrative Form is a part of project proposal. Applicants have to fill in data that will be used for the evaluation process.

Administrative Form and Host Institution Support Letter have to be signed by the Principal Investigator, the Head of Host Institution and certified by the Institution's stamp.

By signing and certifying the Administrative Form, the Principal Investigator and the Head of Host Institution confirm that they have read the statements in the form and agree with their content.

Administrative Form is filled in the EPP system directly. The EPP system will produce a PDF document that needs to be printed out, signed and stamped and uploaded in the EPP system. Information in the Administrative Form contains general data about the applicant, the project proposal and the statements.

Data in the Administrative Form is public and regulations on data confidentiality do not apply to them.

**The following notes are informative and their purpose is to give instructions to fill in the Administrative Form.**

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<sup>1</sup> Example of Administrative Form generated from EPP system can be found in Annex 2.

### **Administrative Form**

<b>Proposal number</b>	[EPP system will generate this number automatically]
<b>Proposal Acronym</b>	Acronym that will be used for the identification of project proposal can contain up to 20 characters (use only standard alphabet and numbers without space and special characters). The same acronym should be entered in the header of all forms.

### **1. Applicant and Host Institution:**

<b>Name of applicant</b>	Name of the applicant.
<b>Surname of applicant</b>	Surname of the applicant.
<b>E-mail address of applicant</b>	E-mail address of the applicant.
<b>Title of applicant</b>	Title of the applicant.
<b>Date of the PhD award of applicant</b>	Enter the date of acquisition of PhD award in dd/mm/yyyy format. This date must correspond to the date on the PhD diploma. Inaccurate or incomplete information can disqualify your proposal. In accordance with the Call for Proposals, the PI had to acquire his first PhD award at least two and not more than seven years prior to the deadline of this call.
<b>Extension of eligibility (if applicable)</b>	If you had justified career breaks after the acquisition of your PhD award to the deadline of proposal submission, enter the total number of days / months / years of a justified career breaks for which you require the extension of a seven-year period. Information about the possibilities of extension are set out in section 1.1.1. of this guide.
<b>Reasons (max. 100 characters) (if applicable)</b>	Enter (maximum of 100 characters) the main reasons for the career breaks which are considered justified according to the section 1.1.1. of this guide and the Call for Proposals. Do not forget to submit justification documents for career breaks (upload them into the EPP system along with other documents).
<b>Are you a collaborator on more than one CSF-project?</b>	Choose YES/NO.
<b>Are you currently a PI or collaborator on internationally financed project?</b>	Choose YES/NO.
<b>Host Institution</b>	Official name of the Host Institution.
<b>Host Institution's street</b>	Street, number of the Host Institution.

<b>name and number</b>	
<b>Host Institution's postal code</b>	Postal code of the Host Institution 's town.
<b>Host Institution's town</b>	Name of the town of the Host Institution.
<b>Head of the Host Institution</b>	Name and surname of the Head of the Host Institution.
<b>Host Institution's Phone</b>	Enter the phone number of Host Institution, including the country and county code (e.g. + 385-42-299-111).
<b>Host Institution's Fax</b>	Enter the fax number of Host Institution, including the country and county code (example + 385-42-299-111).
<b>Website of the Host Institution</b>	Enter the Internet address of the Host Institution 's website.

## **2. General information about the project proposal**

<b>Call identifier</b>	Enter the Call identifier stated in the Call for Proposals, on the front page.
<b>Proposal's full title</b>	Maximum 180 characters; it must be clear and understandable.
<b>Proposal acronym</b>	Abbreviated name or acronym that will be used during the identification of the project proposal. It contains up to 20 characters (use only standard letters and numbers, without space and special characters). The same acronym should be entered in the header of all application forms.
<b>Duration in months</b>	Enter total duration of the project in months.
<b>Total requested grant from CSF in HRK</b>	Total funds requested from the CSF in HRK.
<b>Budget for Year 1 in HRK</b>	Funds in HRK requested for the first year of the project implementation. It must include the total amount of funds for the equipment purchase.
<b>Budget for Year 2 in HRK</b>	Funds in HRK for the second year of the project implementation.
<b>Budget for Year 3 in HRK</b>	Funds in HRK for the third year of the project implementation.
<b>Budget for Year 4 in HRK</b>	Funds requested in HRK for the fourth year of the project implementation.
<b>Budget for Year 5 in HRK</b>	Funds requested in HRK for the fifth year of the project implementation.
<b>Keywords (at least 5)</b>	Enter at least 5 words that best describe your project proposal. Keywords will be used in the evaluation of project proposals and in the public presentations of the project; hence it is advised that you choose keywords carefully.
<b>Scientific area (Please</b>	Select only one of the listed scientific areas that best matches the theme of

<b>choose only one)</b>	your project proposal.
<b>Please numerate the scientific area included in the Interdisciplinary project proposal (the main area should get number 1, the next number 2, etc.)</b>	Fill in only if you have previously chosen the interdisciplinary project. Use numbers from 1 to 4 to mark scientific areas of your project proposal - numerate the main area as number 1, the next area as number 2 etc.
<b>Scientific area by the ERC classification</b>	Please find the proposed classification in Annex 3 of this Guide for Applicants for the Tenure Track Pilot Programme 2018 Call (TTPP-2018-07) on the web address: <a href="http://www.hrzz.hr">www.hrzz.hr</a> .
<b>Scientific field</b>	Enter scientific field or fields of your project proposal.
<b>Proposal summary (min. 100, max. 2000 characters, including spaces)</b>	The summary must provide a clear description of the objectives of the project and the means to achieve them. Summary will be used in the evaluation and public presentations of the project; therefore it has to be short and precise, without any confidential information. Whenever possible, use plain text, avoiding formulas and other special characters. Summary must be written in English and contain minimum of 100 to maximum of 2000 characters.

### 1.2.3.2. Application Form

It is necessary to respect the size and limits of the Application Form. Completed Application Form has to be uploaded into the EPP system.

Page number limits will be strictly taken into account during the evaluation of project proposals. Evaluators will read and assess only information written within restriction.

Header of each page of the Application Form has to contain the surname of the Principal Investigator (top left corner) and proposal acronym (top right corner).

Please format the text of the form in the following manner:

<b>Page size</b>	<b>Font</b>	<b>Font Size</b>	<b>Line spacing</b>	<b>Margins</b>
A4	Open Sans	10	Single	2 cm left and right 1,5 top and bottom

### Application Form

**IMPORTANT:** Applicants need to edit their bibliographic data available at Google Scholar profile as this source will be used for the evaluation of applicants.

## **Cover page (not numerated)**

Name and surname of the Principal Investigator:

Name of the Host Institution:

Project proposal's full title:

Project duration (in months): 60 months

Proposal summary (max. 1 page);

It should correspond to the proposal summary from the Administrative Form.

## **Part A – Principal Investigator (max. 3 pages)**

**Section A: PI's 5-year track-record including** (max. 1 page):

1. *The five most important publications in major international peer-reviewed scientific journals (in respective research fields);*
2. *Peer reviewed conferences proceedings and/or monographs (if applicable) ;*
3. *Postdoctoral research activities abroad (if applicable);*
4. *Invited presentations at international conferences and/or summer schools;*
5. *Approved patents (if applicable);*
6. *Acknowledgements and awards;*
7. *Other significant academic achievements.*

**Section B: PI's Curriculum vitae** (max. 2 pages, using the following template):

**PERSONAL INFORMATION**

*Family name, First name:*

*URL of personal web site:*

**EDUCATION**

*201? PhD*

*Name of the institution:*

*20?? Master*

*Name of the institution:*

**CURRENT POSITION(S)**

*201? – 201? Current Position:*

*Name of the institution:*

**PREVIOUS POSITIONS**

*200? – 200? Position held:*

*Name of the institution:*

**FELLOWSHIPS AND AWARDS**

*20?? – 20?? Name of the institution:*

*20?? Name of the fellowship or award:*

**SUPERVISION OF GRADUATE/ DOCTORAL STUDENTS AND POSTDOCTORAL RESEARCHERS**

*20?? – 20?? Number of graduate / doctoral students and postdoctoral researchers:*

*Name of the institution:*

**TEACHING ACTIVITIES**

20?? – Scientific area:

Name of the institution:

**ORGANISATION OF SCIENTIFIC MEETINGS** (if applicable)

201? Name of the event/ Your role / Type of event / Number of participants / Country:

**INSTITUTIONAL RESPONSIBILITIES** (if applicable)

201? – Faculty member, Name of University / Institution / Country:

**MEMBERSHIPS** (e.g. scientific committees or associations; evaluation committees, editorial boards; etc.; specify the year and name of the institution) (if applicable)

**MAJOR SCIENTIFIC COLLABORATIONS** (if applicable)

Name of collaborators / Topic / Name of the institution / City / Country:

**ANY OTHER RELEVANT ACTIVITIES** (please specify)

**CAREER BREAKS** (if applicable)

Exact dates (from-to) / Please indicate the reason:

### **Part B - Project Proposal (max. 14 pages)**

Scientific, technical and other aspects of the project proposal should be explained in detail, providing information about the nature of project proposal, potential impact and research methodology.

**Section A: State-of-the-art** (describe shortly and precisely the state of the art in the field and its direct relation to the proposed research; describe how proposed research enables development of independent research group, especially in relation to the research conducted by your mentors or supervisors; what will be contribution of this research).

**Section B: Objectives of the proposed research** (describe scientific objectives and expected results).

**Section C: Methodology** (describe methodology related to the knowledge in field. Describe studies and/or experiments planned, number of collaborators included; explain and justify the methodology related to the latest findings in the area of research; foresee possible risks, estimate its probability and impact on the project implementation and define prevention and mitigation measures for each risk).

**Section D: Work Plan** (describe planned activities, milestones and/or deliverables of this project; describe the structure of the research group; describe the role and tasks of each research group member and how they will contribute to the project implementation; name the publications in which you plan to publish your research results (articles in scientific journals, conference proceedings, monographs etc.).

**Section E: Resources** (project costs) (please state necessary information regarding the project costs; clearly describe the costs listed in the Financial Plan of the project proposal; include a brief

technical description of the required equipment, its justification and planned usage in the project; especially explain if you are requesting the indirect costs; include a brief technical description of the required equipment, its justification and planned usage in the project; describe the support of Host Institution in the implementation of project).

#### **Section F. Ethical issues (if applicable)**

Research funded by CSF must comply with the relevant national and international ethics related rules and professional codes of conduct. If there are any ethical issues, an opinion of the relevant Ethics Committee, in accordance with the rules of the relevant field will have to be obtained.

Please find Ethical issues table on the CSF web page ([www.hrzz.hr](http://www.hrzz.hr)). If any of these questions is related to your research, you are obliged to provide a detailed explanation of the ethical issues involved in your research and how you will deal with them while implementing the project. Under "Additional documentation" please upload the opinion of competent Ethics Committee. If not provided during the application stage, this certificate will be requested during evaluation.

### **Part C - Research Group Members (no restrictions for the number of pages)**

Part C contains a description of the distribution of roles and tasks of research group members in the Administrative Form. For research group members the identity of PhD student or a postdoctoral researcher is unknown at the time of the application; please give a description of competences for PhD students and for postdoctoral researchers.

Postdoctoral researchers can be employed for a maximum of 48 months according to the Croatian Scientific Activity and Higher Education Act (Official Gazette 123/2013). PhD students can be employed for a maximum of 48 months.

PhD student's thesis shall correspond to the research subject.

#### **References**

Give a list of literature used for the preparation of the project proposal in Harvard referencing style. Limitation of 17 pages for the project proposal does not include References.

### **1.2.3.3. Host Institution Support Letter**

Host Institution Support Letter will be filled in by the head of the Host Institution. It contains the information that shows the approval and commitment of the Host Institution for the implementation of the proposed project.

The Form has to contain signature of the applicant and Head of the Host Institution and Institution's stamp.

### **Host Institution Support**

Describe the support of the institution to the PI and his research.

Describe the following: current Host Institution's capacities; laboratory and office space that will be at disposal of the PI and the research group, existing equipment at disposal of the research group including IT equipment, research, administrative and technical support, support with the dissemination of results and cooperation.

Host Institution can support the project by setting up the project's web page, administrative resources, IT equipment and main resources for work. Otherwise, the support of the organisation will be negatively evaluated.

### **1.2.3.4. Financial Plan**

Financial Plan contains a list of expenses necessary for the implementation of project activities. Eligible and non-eligible expenses can be found in Annex 1 of the Guide.

Financial Plan and Work Plan have to be consistent: all costs in the Financial Plan have to be coordinated, e.g. all costs have to be justified by the project activities and have to be connected with the Work Plan of the project, i.e.:

- if cost of publication is included in the Financial Plan, the publication has to be also included in the Work Plan.

Activities and costs have to be connected by adding marks of activities from the Work Plan to budget lines in the Financial Plan (in accordance with the example given in the Financial Plan and for Work Plan instructions). Expenses in the Financial Plan have to be planned according to the reporting periods, i.e. expenses in the first reporting period have to be planned in that part of the reporting period.

Expenses in the Financial Plan have to be stated in accordance with the Financial Plan and its instructions. Expenses are grouped by categories, and within each budget category, according to the example in the Financial Plan. Applicants are responsible for the accuracy in the Financial Plan.

The purchase of the equipment has to be budgeted in the first year of the project implementation in the Financial Plan.

Completed Financial Plan has to be submitted in excel (\*.xls/\*.xlsx) format.

### **1.2.3.6. Work Plan**

Work Plan is a set of aims and activities for achieving the results and it is used for better understanding of the scope of the project proposal. The Work Plan can assist in organising and monitoring of project. The Work Plan divides the whole process into smaller tasks. Aims and

activities in the Work Plan have to be consistent with the aims and activities in the Application Form, as well as project activities and have to be reflected in the Financial Plan.

<b>Objectives</b>	Objectives are describing specific results you are trying to achieve. It is necessary to differentiate objectives and activities: a group of activities can lead to one objective. Objective „Establishment of research group and/or lab“ is mandatory objective in the period from 1 to 12 month of the project implementation. “Application of the research group to other sources of funding” is suggested objective in fourth and fifth year of project implementation. Achieving objectives will be strictly evaluated during annual and mid-term evaluation and will be one of the criteria for the successful project management.
<b>Activities</b>	Specific activities which will assist in achieving goals. Activities need to be connected with the goals.
<b>Deliverables</b>	Deliverables are achieved during the project implementation and they are material or non-material outputs of the project. Deliverables can be: publications, prototype (technical, commercial), reports (design, standard, manual, procedures and strategies), data (statistics, database trends and indicators), software (algorithm, code embedded system), intellectual property rights (patent, copyright and trademark), educational material, meetings (workshops, seminars, conferences), publications (scientific journals, bulletin, video). Invoices are not acceptable as deliverables. If there is no proof for the deliverable in terms of publication or similar, it is possible to submit a report which is describing how the deliverable is achieved (methodology, location).
<b>Milestones</b>	Milestones are control points (important events) where decisions regarding the next project phase take place. They are focused on major progress points that must be reached to achieve success. Milestones indicate the project status, achieved objectives and need to change direction.
<b>Duration of activities (from-to, duration in months)</b>	Write the beginning and end of activity not using ordinal numbers instead of calendar names of months (e.g. 1 M of Project to 3 M of project): activities for the first year have to be presented as maximum 3 months per activity duration.

### 1.2.3.7. Supporting documentation

The following documents have to be uploaded in the EPP system in the PDF form:

- Copy of PhD diploma with the visible official date of PhD award.
- In cases where time elapsed from the date of the PhD award is more than 7 years, the applicant is obliged to deliver a copy of documents supporting the career breaks (confirmation about maternity leave, long-term illness or similar).
- Opinion of the relevant Ethics Committee with the project proposal's name and aim of the ethical clearance (if applicable). It is recommendable that the procedure for ethical clearance is initiated by the time the applicant receives the notice of confirmation that his proposal will undergo peer review at latest.

The copies of these documents shall be submitted in English (certified translation).

**Please upload only requested documents. All other documentation, materials and hyperlinks will not be taken into consideration.**

### **1.2.4. Is my project proposal ready for the evaluation?**

Incomplete project proposals (missing any of the documents prescribed by the call) will be excluded from the evaluation.

Project proposals have to be submitted before the deadline.

Check list:

- ✓ **Administrative Form**– applicant's signature, head of the Host Institution signature, stamp of the Host Institution;
- ✓ **Application Form** – filled in completely;
- ✓ **Host Institution Support Letter Form** – filled in, applicant's signature, head of the Host Institution signature, stamp of the Host Institution;
- ✓ **Financial Plan** – all costs are eligible, expressed in HRK (including VAT, if it cannot be recovered by the beneficiary under national regulations), total requested funding not exceeding maximum possible amount per project;
- ✓ **Work Plan** – contains all requested data;
- ✓ **Copy of PhD diploma with visible date of the PhD award;**
- ✓ **Documentation for career breaks** (if applicable);
- ✓ **Ethical Committee opinion** (if applicable).

### **1.3. Evaluation and selection of Principal Investigators**

Criteria for the project proposal evaluation are available at: <http://www.hrzz.hr>.

Proposals will be evaluated against the following criteria:

#### **1. Principal investigator:**

- qualifications, scientific productivity and research track record;
- capacity and ability to explore new and important scientific topics;
- experience and potential for establishing an independent research group and conducting research.

#### **2. Excellence, originality and impact of the research plan proposed:**

- merit and importance of the proposed project, in relation to current research in the corresponding scientific field;
- the innovative aspects, the working hypothesis, and methodology and competitiveness of the project proposal in relation to current research in the scientific field;

- possible impact that this project may have on the scientific field; potential for publishing results in scientific journals with high impact factor and/or scientific books; - potential for commercialization of research results or the possibility of patenting (if applicable);
- feasibility of the Work Plan.

### **3. Host Institution Support**

- equipment at the disposal of the PI Commitment;
- support of the Host institution and its ability to provide necessary administrative and technical support, laboratory and office space that will be at the disposal of the PI and the research group;
- Host Institution's overall support and commitment to the PI and the proposed research.

## 2. Annexes

### ***Annex 1 Eligible and non-eligible costs***

#### **1) RESEARCH COSTS**

Research costs include costs that are directly related to the project activities and occurred during the duration of the project. If necessary and justified by the nature of the project, research costs can include:

- Field research (subsistence costs: travel, accommodation, travel order);
- Intellectual and graphic services (design and print of surveys and questionnaires, the project's web site if needed for the implementation of any part of the research);
- Literature (books, publications and journals related to the research) for work funded by this project;
- Laboratory and vet services;
- Memberships (only in exceptional cases if the PI's membership is strictly related to the research);
- Computers for the team members, dissemination and promotion of project results costs (work materials, booklets, publications in journals, proofreading, translations, design, printing, binding and similar);
- Other costs strictly related to the implementation of main project activities needed for the achievement of project results.

#### **Research costs do not include:**

- Costs under overheads: water/gas/electricity, phone, internet, postage, photocopying, accounting and maintenance/cleaning costs;
- Bank fees and exchange rate losses;
- Scholarships;
- Fees;
- Honorariums;
- Administrative costs (e.g. accounting);
- Computer services (e.g. maintenance of IT system and similar, except for basic software for the project implementation).

#### **2) PERSONNEL/STAFF COSTS**

##### **Acceptable costs are as follows:**

- Total costs of PI, PhD students and postdoctoral researchers' salary (gross amount,

including commute costs to and from work, vacation and Christmas bonuses);

**Personnel costs do not include:**

- Salary supplements;
- Honorarium for PI, research group, members.

Expenses allocated for salaries cannot be reallocated for other purposes.

**3) EQUIPMENT AND MAINTENANCE**

**Acceptable costs are as follows:**

- New equipment needed for the implementation of the project\*;
- Upgrades for the existing equipment (new and additional parts of existing equipment)\*
- Equipment maintenance (servicing)\*
- Technician (service/work contract, invoice)\*\*

\*Only for the equipment that was planned in the project proposal. The visibility of CSF and Swiss - Croatian cooperation programme funding must be ensured for the equipment bought, upgraded, maintained or serviced. The PI shall cooperate with the CSF regarding the visibility and shall clearly highlight the support within the abovementioned programme.

\*\* Technician cannot be employed on the project, but their services can be outsourced.

**Equipment and maintenance costs do not include:**

- Depreciation costs.

Customs and import charges for equipment from abroad can be included in this category. The purchase of equipment in the last year of the project implementation is not acceptable.

**4) MOBILITY ALLOWANCE**

Includes costs related to trainings of research group members, conferences and congresses costs (only if related to the project).

**The following costs are eligible within this category:**

- Trainings - for the PI and research group members (only short visits - up to 2 weeks, courses / seminars / workshops - travel, accommodation, per diems, attendance fees).
- Participation in meetings, conferences, congresses (accommodation, travel, per diems, health insurance for abroad and registration fees for the PI and team members);
- Hosting foreign scientists (travel, accommodation and per diems);
- Organizing workshops and conferences (equipment and space rental - only if it is not possible to organise it within the Host institution, proofreading, translation, design, printing, binding, catering, supplies for participants and similar).

### **The following costs are not eligible within this category:**

- Dissertation printing costs (only for the purpose of thesis defence);
- Publishing scientific and professional books or publishing scientific journals and journals for the popularization of science, i. e. scientific and professional books, according to the following classification:
  - monography
  - secondary school textbooks
  - reference works (encyclopaedia, dictionaries, grammar and spelling works, manuals, historical reviews, classical work about history of science / culture, archive materials etc.)
  - scientific conference proceedings (is eligible only if it is a conference organised by the project)-work collections of one or more authors
  - activities for the promotion of science (e.g. popular science books and other works).

The abovementioned applies to original works in Croatian language or translations (from classical or non-existent language to Croatian, from Croatian to other language or from one language to Croatian) as well as revised editions of previously published text.

### **5) OVERHEAD COSTS**

If occurred, up to 5% of the total amount of funds requested is eligible for financing.

Overhead costs: 5% of the project budget is paid to the Host Institution for covering their costs connected with infrastructure and the general operations that are caused by the project. This means that these costs do not need to be justified by invoices or similar, but are paid as a lump-sum.

Overhead costs include: water/gas/electricity, phone, internet, postage, photocopying, accounting and maintenance/cleaning costs. No additional costs can be charged to the project later on and any overlapping should be avoided.

### **General information:**

- Accommodation costs – eligible for hotels and other available accommodation of up to \*\*\*. In exceptional cases (events of great importance with eminent guests and similar justified cases), costs of hotels or other accommodation of \*\*\*\* and \*\*\*\*\* category will be eligible. The invoice has to have detailed specifications (number of nights, price per night, duration of stay).
- Travel costs – for economy class and public transportation whenever possible.
- Catering - food, beverages (non-alcoholic drinks).

### **Furthermore, the following cost are not eligible:**

- expenditure incurred before and after the dates of eligibility defined with the Grant Agreement;
- interest of debt, purchase of land / real estate;
- fines, financial penalties and expenses of litigation;
- losses connected with currency exchange

- costs which exceed the usual market prices;
- VAT, if it could be recoverable by the beneficiary under national regulation.

Double financing is not allowed. Expenditure which is already financed from another source shall not be reported to and cannot be financed by the Tenure Track Pilot Programme.

**General remarks relating to costs:**

- The project funds have to be spent in a transparent way. The PI is obliged to choose the most economic offer and have equal treatment approach for all potential suppliers or contractors. Any type of facilitation and conflict of interest is not acceptable.
- It is necessary to comply with the rules on the conflict of interest, regardless of the amount of expenses.
- The most economical way of transportation and public transportation shall be used.
- For catering, only costs for food, hot and cold beverages are allowed, but not for alcoholic drinks.
- The cost of health insurance abroad is acceptable cost; but only the cost of health insurance for the employee covered by Host Institution in line with the national rules when the employee is travelling related to the project activities.
- Service and work contract directly connected to the implementation of the project (for technician, intellectual services but not for the research group).

## Annex 2 Administrative Form

### Administrative Form Tenure Track Pilot Programme (TTP-2018-07)

Proposal number

Proposal Acronym

#### 1. Applicant and Host Institution:

Name of the applicant

Surname of applicant

E-mail address of applicant

Title of applicant

Date of the PhD award of applicant

Extension of eligibility (if applicable)

Reasons (max. 100 characters) (*if applicable*)

Are you a collaborator on more than one CSF project?

Are you currently a PI or collaborator on internationally financed project?

Host Institution

Host Institution's street name and number

Host Institution's postal code

Host Institution's town

Head of the Host Institution

Host Institution's Phone

Host Institution's Fax

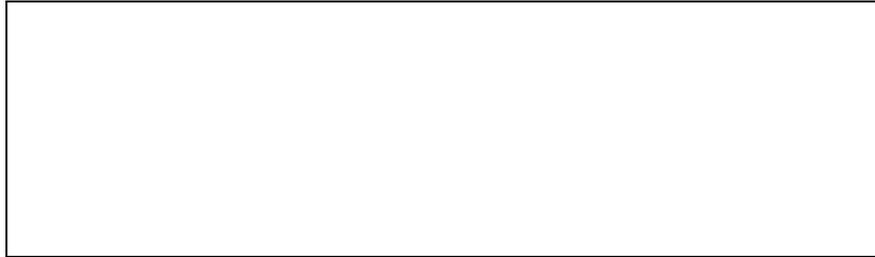
Website of the Host Institution

#### 2. General information about the project proposal

Call identifier	<input type="text"/>
Proposal's full title	<input type="text"/>
Proposal acronym	<input type="text"/>
Duration in months	<input type="text"/>
Total requested grant from CSF in HRK	<input type="text"/>
Budget for Year 1 (in HRK)	<input type="text"/>
Budget for Year 2 (in HRK)	<input type="text"/>
Budget for Year 3 (in HRK)	<input type="text"/>
Budget for Year 4 (in HRK)	<input type="text"/>
Budget for Year 5 (in HRK)	<input type="text"/>
Keywords ( <i>at least 5</i> )	<input type="text"/>
Scientific area ( <i>Please choose only one</i> )	1 <input type="checkbox"/> Natural sciences 2 <input type="checkbox"/> Technical sciences 3 <input type="checkbox"/> Biomedicine and Health 4 <input type="checkbox"/> Biotechnical sciences 5 <input type="checkbox"/> Interdisciplinary project
Please numerate the scientific area included in the Interdisciplinary project proposal ( <i>main scientific area should get number 1, next number 2, etc.</i> )	<input type="checkbox"/> Natural sciences <input type="text"/> <input type="checkbox"/> Technical sciences <input type="text"/> <input type="checkbox"/> Biomedicine and Health <input type="text"/> <input type="checkbox"/> Biotechnical sciences <input type="text"/>
Scientific area by the ERC classification <sup>2</sup>	<input type="text"/>
Scientific field	<input type="text"/>
Proposal summary ( <i>min. 100, max. 2000 characters, including</i>	<input type="text"/>

<sup>2</sup> Please find the proposed classification in Annex 1 of the Guide for Applicants for the Tenure Track Pilot Programme 2017 Call (TTPP-2018-07).

spaces)



We, the undersigned, hereby declare under material and criminal liability the truthfulness and completeness of the information specified in the Administrative Form, Application Form, Host Institution Support Letter, Financial Plan, Work Plan and other supporting documents.

We confirm that we are familiar with the normative acts and recommendations of the Croatian Science Foundation and with our signatures we undertake to comply thereto.

The Head of the Host Institution declares that everything stated in the Host Institution Support Letter will be fully respected and confirms that the Principal Investigator will be able to implement the project and to manage the project funds and research group independently.

Applicant

Head of the Host Institution

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(Signature and stamp)

## ***Annex 3<sup>3</sup> ERC Classification***

### **Physical Sciences and Engineering**

**PE1 Mathematics:** All areas of mathematics, pure and applied, plus mathematical foundations of computer science, mathematical physics and statistics

- PE1\_1 Logic and foundations
- PE1\_2 Algebra
- PE1\_3 Number theory
- PE1\_4 Algebraic and complex geometry
- PE1\_5 Geometry
- PE1\_6 Topology
- PE1\_7 Lie groups, Lie algebras
- PE1\_8 Analysis
- PE1\_9 Operator algebras and functional analysis
- PE1\_10 ODE and dynamical systems
- PE1\_11 Theoretical aspects of partial differential equations
- PE1\_12 Mathematical physics
- PE1\_13 Probability
- PE1\_14 Statistics
- PE1\_15 Discrete mathematics and combinatorics
- PE1\_16 Mathematical aspects of computer science
- PE1\_17 Numerical analysis
- PE1\_18 Scientific computing and data processing
- PE1\_19 Control theory and optimization
- PE1\_20 Application of mathematics in sciences
- PE1\_21 Application of mathematics in industry and society

**PE2 Fundamental Constituents of Matter:** Particle, nuclear, plasma, atomic, molecular, gas, and optical physics

- PE2\_1 Fundamental interactions and fields
- PE2\_2 Particle physics
- PE2\_3 Nuclear physics
- PE2\_4 Nuclear astrophysics
- PE2\_5 Gas and plasma physics
- PE2\_6 Electromagnetism

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<sup>3</sup> According to ERC classification

<https://erc.europa.eu/sites/default/files/document/file/erc%20peer%20review%20evaluation%20panels.pdf>

- PE2\_7 Atomic, molecular physics
- PE2\_8 Ultra-cold atoms and molecules
- PE2\_9 Optics, non-linear optics and nano-optics
- PE2\_10 Quantum optics and quantum information
- PE2\_11 Lasers, ultra-short lasers and laser physics
- PE2\_12 Acoustics
- PE2\_13 Relativity
- PE2\_14 Thermodynamics
- PE2\_15 Non-linear physics
- PE2\_16 General physics
- PE2\_17 Metrology and measurement
- PE2\_18 Statistical physics (gases)

**PE3 Condensed Matter Physics:** Structure, electronic properties, fluids, nanosciences, biophysics

- PE3\_1 Structure of solids and liquids
- PE3\_2 Mechanical and acoustical properties of condensed matter, Lattice dynamics
- PE3\_3 Transport properties of condensed matter
- PE3\_4 Electronic properties of materials, surfaces, interfaces, nanostructures...
- PE3\_5 Semiconductors and insulators: material growth, physical properties
- PE3\_6 Macroscopic quantum phenomena: superconductivity, superfluidity...
- PE3\_7 Spintronics
- PE3\_8 Magnetism and strongly correlated systems
- PE3\_9 Condensed matter – beam interactions (photons, electrons...)
- PE3\_10 Nanophysics: nanoelectronics, nanophotonics, nanomagnetism, nanoelectromechanics...
- PE3\_11 Mesoscopic physics
- PE3\_12 Molecular electronics
- PE3\_13 Structure and dynamics of disordered systems: soft matter (gels, colloids, liquid crystals...), glasses, defects...
- PE3\_14 Fluid dynamics (physics)
- PE3\_15 Statistical physics: phase transitions, noise and fluctuations, models of complex systems...
- PE3\_16 Physics of biological systems

**PE4 Physical and Analytical Chemical Sciences:** Analytical chemistry, chemical theory, physical chemistry/chemical physics

- PE4\_1 Physical chemistry
- PE4\_2 Spectroscopic and spectrometric techniques
- PE4\_3 Molecular architecture and Structure
- PE4\_4 Surface science and nanostructures
- PE4\_5 Analytical chemistry

- PE4\_6 Chemical physics
- PE4\_7 Chemical instrumentation
- PE4\_8 Electrochemistry, electrodialysis, microfluidics, sensors
- PE4\_9 Method development in chemistry
- PE4\_10 Heterogeneous catalysis
- PE4\_11 Physical chemistry of biological systems
- PE4\_12 Chemical reactions: mechanisms, dynamics, kinetics and catalytic reactions
- PE4\_13 Theoretical and computational chemistry
- PE4\_14 Radiation and Nuclear chemistry
- PE4\_15 Photochemistry
- PE4\_16 Corrosion
- PE4\_17 Characterization methods of materials
- PE4\_18 Environment chemistry

**PE5 Synthetic Chemistry and Materials:** Materials synthesis, structure-properties relations, functional and advanced materials, molecular architecture, organic chemistry

- PE5\_1 Structural properties of materials
- PE5\_2 Solid state materials
- PE5\_3 Surface modification
- PE5\_4 Thin films
- PE5\_5 Ionic liquids
- PE5\_6 New materials: oxides, alloys, composite, organic-inorganic hybrid, nanoparticles
- PE5\_7 Biomaterials synthesis
- PE5\_8 Intelligent materials – self assembled materials
- PE5\_9 Coordination chemistry
- PE5\_10 Colloid chemistry
- PE5\_11 Biological chemistry
- PE5\_12 Chemistry of condensed matter
- PE5\_13 Homogeneous catalysis
- PE5\_14 Macromolecular chemistry
- PE5\_15 Polymer chemistry
- PE5\_16 Supramolecular chemistry
- PE5\_17 Organic chemistry
- PE5\_18 Molecular chemistry
- PE5\_19 Combinatorial chemistry

**PE6 Computer Science and Informatics:** Informatics and information systems, computer science, scientific computing, intelligent systems

- PE6\_1 Computer architecture, pervasive computing, ubiquitous computing
- PE6\_2 Computer systems, parallel/distributed systems, sensor networks,

- embedded systems, cyber-physical systems
- PE6\_3 Software engineering, operating systems, computer languages
- PE6\_4 Theoretical computer science, formal methods, and quantum computing
- PE6\_5 Cryptology, security, privacy, quantum crypto
- PE6\_6 Algorithms, distributed, parallel and network algorithms, algorithmic game theory
- PE6\_7 Artificial intelligence, intelligent systems, multi agent systems
- PE6\_8 Computer graphics, computer vision, multi media, computer games
- PE6\_9 Human computer interaction and interface, visualization and natural language processing
- PE6\_10 Web and information systems, database systems, information retrieval and digital libraries, data fusion
- PE6\_11 Machine learning, statistical data processing and applications using signal processing (e.g. speech, image, video)
- PE6\_12 Scientific computing, simulation and modelling tools
- PE6\_13 Bioinformatics, biocomputing, and DNA and molecular computation

**PE7 Systems and Communication Engineering:** Electronic, communication, optical and systems engineering

- PE7\_1 Control engineering
- PE7\_2 Electrical and electronic engineering: semiconductors, components, systems
- PE7\_3 Simulation engineering and modelling
- PE7\_4 Systems engineering, sensorics, actorics, automation
- PE7\_5 Micro- and nanoelectronics, optoelectronics
- PE7\_6 Communication technology, high-frequency technology
- PE7\_7 Signal processing
- PE7\_8 Networks (communication networks, sensor networks, networks of robots...)
- PE7\_9 Man-machine-interfaces
- PE7\_10 Robotics

**PE8 Products and Processes Engineering:** Product design, process design and control, construction methods, civil engineering, energy systems, material engineering

- PE8\_1 Aerospace engineering
- PE8\_2 Chemical engineering, technical chemistry
- PE8\_3 Civil engineering, maritime/hydraulic engineering, geotechnics, waste treatment
- PE8\_4 Computational engineering
- PE8\_5 Fluid mechanics, hydraulic-, turbo-, and piston engines
- PE8\_6 Energy systems (production, distribution, application)
- PE8\_7 Micro (system) engineering
- PE8\_8 Mechanical and manufacturing engineering (shaping, mounting, joining,

separation)

PE8\_9 Materials engineering (biomaterials, metals, ceramics, polymers, composites...)

PE8\_10 Production technology, process engineering

PE8\_11 Industrial design (product design, ergonomics, man-machine interfaces...)

PE8\_12 Sustainable design (for recycling, for environment, eco-design)

PE8\_13 Lightweight construction, textile technology

PE8\_14 Industrial bioengineering

PE8\_15 Industrial biofuel production

PE8\_16 Architectural engineering

**PE9 Universe Sciences:** Astro-physics/chemistry/biology; solar system; stellar, galactic and extragalactic astronomy, planetary systems, cosmology, space science, instrumentation

PE9\_1 Solar and interplanetary physics

PE9\_2 Planetary systems sciences

PE9\_3 Interstellar medium

PE9\_4 Formation of stars and planets

PE9\_5 Astrobiology

PE9\_6 Stars and stellar systems

PE9\_7 The Galaxy

PE9\_8 Formation and evolution of galaxies

PE9\_9 Clusters of galaxies and large scale structures

PE9\_10 High energy and particles astronomy – X-rays, cosmic rays, gamma rays, neutrinos

PE9\_11 Relativistic astrophysics

PE9\_12 Dark matter, dark energy

PE9\_13 Gravitational astronomy

PE9\_14 Cosmology

PE9\_15 Space Sciences

PE9\_16 Very large data bases: archiving, handling and analysis

PE9\_17 Instrumentation - telescopes, detectors and techniques

**PE10 Earth System Science:** Physical geography, geology, geophysics, atmospheric sciences, oceanography, climatology, ecology, global environmental change, biogeochemical cycles, natural resources management

PE10\_1 Atmospheric chemistry, atmospheric composition, air pollution

PE10\_2 Meteorology, atmospheric physics and dynamics

PE10\_3 Climatology and climate change

PE10\_4 Terrestrial ecology, land cover change

PE10\_5 Geology, tectonics, volcanology

PE10\_6 Paleoclimatology, paleoecology

- PE10\_7 Physics of earth's interior, seismology, volcanology
- PE10\_8 Oceanography (physical, chemical, biological, geological)
- PE10\_9 Biogeochemistry, biogeochemical cycles, environmental chemistry
- PE10\_10 Mineralogy, petrology, igneous petrology, metamorphic petrology
- PE10\_11 Geochemistry, crystal chemistry, isotope geochemistry, thermodynamics
- PE10\_12 Sedimentology, soil science, palaeontology, earth evolution
- PE10\_13 Physical geography
- PE10\_14 Earth observations from space/remote sensing
- PE10\_15 Geomagnetism, paleomagnetism
- PE10\_16 Ozone, upper atmosphere, ionosphere
- PE10\_17 Hydrology, water and soil pollution
- PE10\_18 Cryosphere, dynamics of snow and ice cover, sea ice, permafrosts and ice sheets

## Life Sciences

**LS1 Molecular and Structural Biology and Biochemistry:** Molecular synthesis, modification and interaction, biochemistry, biophysics, structural biology, metabolism, signal transduction

- LS1\_1 Molecular interactions
- LS1\_2 General biochemistry and metabolism
- LS1\_3 DNA synthesis, modification, repair, recombination and degradation
- LS1\_4 RNA synthesis, processing, modification and degradation
- LS1\_5 Protein synthesis, modification and turnover
- LS1\_6 Lipid synthesis, modification and turnover
- LS1\_7 Carbohydrate synthesis, modification and turnover
- LS1\_8 Biophysics (e.g. transport mechanisms, bioenergetics, fluorescence)
- LS1\_9 Structural biology (crystallography and EM)
- LS1\_10 Structural biology (NMR)
- LS1\_11 Biochemistry and molecular mechanisms of signal transduction

**LS2 Genetics, Genomics, Bioinformatics and Systems Biology:** Molecular and population genetics, genomics, transcriptomics, proteomics, metabolomics, bioinformatics, computational biology, biostatistics, biological modelling and simulation, systems biology, genetic epidemiology

- LS2\_1 Genomics, comparative genomics, functional genomics
- LS2\_2 Transcriptomics
- LS2\_3 Proteomics
- LS2\_4 Metabolomics
- LS2\_5 Glycomics
- LS2\_6 Molecular genetics, reverse genetics and RNAi

- LS2\_7 Quantitative genetics
- LS2\_8 Epigenetics and gene regulation
- LS2\_9 Genetic epidemiology
- LS2\_10 Bioinformatics
- LS2\_11 Computational biology
- LS2\_12 Biostatistics
- LS2\_13 Systems biology
- LS2\_14 Biological systems analysis, modelling and simulation

**LS3 Cellular and Developmental Biology:** Cell biology, cell physiology, signal transduction, organogenesis, developmental genetics, pattern formation in plants and animals, stem cell biology

- LS3\_1 Morphology and functional imaging of cells
- LS3\_2 Cell biology and molecular transport mechanisms
- LS3\_3 Cell cycle and division
- LS3\_4 Apoptosis
- LS3\_5 Cell differentiation, physiology and dynamics
- LS3\_6 Organelle biology
- LS3\_7 Cell signalling and cellular interactions
- LS3\_8 Signal transduction
- LS3\_9 Development, developmental genetics, pattern formation and embryology in animals
- LS3\_10 Development, developmental genetics, pattern formation and embryology in plants
- LS3\_11 Cell genetics
- LS3\_12 Stem cell biology

**LS4 Physiology, Pathophysiology and Endocrinology:** Organ physiology, pathophysiology, endocrinology, metabolism, ageing, tumorigenesis, cardiovascular disease, metabolic syndrome

- LS4\_1 Organ physiology and pathophysiology
- LS4\_2 Comparative physiology and pathophysiology
- LS4\_3 Endocrinology
- LS4\_4 Ageing
- LS4\_5 Metabolism, biological basis of metabolism related disorders
- LS4\_6 Cancer and its biological basis
- LS4\_7 Cardiovascular diseases
- LS4\_8 Non-communicable diseases (except for neural/psychiatric, immunity-related, metabolism-related disorders, cancer and cardiovascular diseases)

**LS5 Neurosciences and Neural Disorders:** Neurobiology, neuroanatomy, neurophysiology, neurochemistry, neuropharmacology, neuroimaging, systems neuroscience, neurological and psychiatric disorders

- LS5\_1 Neuroanatomy and neurophysiology
- LS5\_2 Molecular and cellular neuroscience
- LS5\_3 Neurochemistry and neuropharmacology
- LS5\_4 Sensory systems (e.g. visual system, auditory system)
- LS5\_5 Mechanisms of pain
- LS5\_6 Developmental neurobiology
- LS5\_7 Cognition (e.g. learning, memory, emotions, speech)
- LS5\_8 Behavioural neuroscience (e.g. sleep, consciousness, handedness)
- LS5\_9 Systems neuroscience
- LS5\_10 Neuroimaging and computational neuroscience
- LS5\_11 Neurological disorders (e.g. Alzheimer's disease, Huntington's disease, Parkinson's disease)
- LS5\_12 Psychiatric disorders (e.g. schizophrenia, autism, Tourette's syndrome, obsessive compulsive disorder, depression, bipolar disorder, attention deficit hyperactivity disorder)

**LS6 Immunity and Infection:** The immune system and related disorders, infectious agents and diseases, prevention and treatment of infection

- LS6\_1 Innate immunity and inflammation
- LS6\_2 Adaptive immunity
- LS6\_3 Phagocytosis and cellular immunity
- LS6\_4 Immunosignalling
- LS6\_5 Immunological memory and tolerance
- LS6\_6 Immunogenetics
- LS6\_7 Microbiology
- LS6\_8 Virology
- LS6\_9 Bacteriology
- LS6\_10 Parasitology
- LS6\_11 Prevention and treatment of infection by pathogens (e.g. vaccination, antibiotics, fungicide)
- LS6\_12 Biological basis of immunity related disorders (e.g. autoimmunity)
- LS6\_13 Veterinary medicine and infectious diseases in animals

**LS7 Diagnostic Tools, Therapies and Public Health:** Aetiology, diagnosis and treatment of disease, public health, epidemiology, pharmacology, clinical medicine, regenerative medicine, medical ethics

- LS7\_1 Medical engineering and technology
- LS7\_2 Diagnostic tools (e.g. genetic, imaging)
- LS7\_3 Pharmacology, pharmacogenomics, drug discovery and design, drug therapy
- LS7\_4 Analgesia and Surgery
- LS7\_5 Toxicology

- LS7\_6 Gene therapy, cell therapy, regenerative medicine
- LS7\_7 Radiation therapy
- LS7\_8 Health services, health care research
- LS7\_9 Public health and epidemiology
- LS7\_10 Environment and health risks, occupational medicine
- LS7\_11 Medical ethics

**LS8 Evolutionary, Population and Environmental Biology:** Evolution, ecology, animal behaviour, population biology, biodiversity, biogeography, marine biology, eco-toxicology, microbial ecology

- LS8\_1 Ecology (theoretical and experimental; population, species and community level)
- LS8\_2 Population biology, population dynamics, population genetics
- LS8\_3 Systems evolution, biological adaptation, phylogenetics, systematics, comparative biology
- LS8\_4 Biodiversity, conservation biology, conservation genetics, invasion biology
- LS8\_5 Evolutionary biology: evolutionary ecology and genetics, co-evolution
- LS8\_6 Biogeography, macro-ecology
- LS8\_7 Animal behaviour
- LS8\_8 Environmental and marine biology
- LS8\_9 Environmental toxicology at the population and ecosystems level
- LS8\_10 Microbial ecology and evolution
- LS8\_11 Species interactions (e.g. food-webs, symbiosis, parasitism, mutualism)

**LS9 Applied life Sciences and Non-Medical Biotechnology:** Agricultural, animal, fishery, forestry and food sciences; biotechnology, genetic engineering, synthetic and chemical biology, industrial biosciences; environmental biotechnology and remediation

- LS9\_1 Applied genetic engineering, transgenic organisms, recombinant proteins, biosensors
- LS9\_2 Synthetic biology, chemical biology and new bio-engineering concepts
- LS9\_3 Agriculture related to animal husbandry, dairying, livestock raising
- LS9\_4 Aquaculture, fisheries
- LS9\_5 Agriculture related to crop production, soil biology and cultivation, applied plant biology
- LS9\_6 Food sciences
- LS9\_7 Forestry, biomass production (e.g. for biofuels)
- LS9\_8 Environmental biotechnology, bioremediation, biodegradation
- LS9\_9 Applied biotechnology (non-medical), bioreactors, applied microbiology
- LS9\_10 Biomimetics
- LS9\_11 Biohazards, biological containment, biosafety, biosecurity