

# Guide for applicants

## MISCEA

*Modelling and Interdisciplinary Science for the Ecological trAnstition: building the worlds of tomorrow*

**Ecole Nationale des Ponts et Chaussées (ENPC)**



This guide has been designed to help you throughout your application to the **MISCEA COFUND program** at **École Nationale des Ponts et Chaussées (ENPC)**.



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## I - What is MISCEA Programme?

MISCEA is a doctoral program, whose objectives are twofold. First, to contribute to the energy and ecological transitions through research and innovation in multiple fields and using interdisciplinary approaches. Second, to train future scientific leaders and decision-makers in an interdisciplinary manner to achieve excellence in the implementation of these transitions. To achieve these goals, the programme will build on the excellence of the research conducted in the **12 laboratories overseen by the Ecole Nationale des Ponts et Chaussées**.

The implementation of the programme will be based on the best practices in terms of **open and fair recruitment, with a strong focus on diversity and excellence** in the recruited cohorts. The membership of **Ecole Nationale des Ponts et Chaussées** within the **European University Alliance EELISA** will allow MISCEA PhD fellows to have access to a wide range of complementary activities at European level during their doctoral journey.

MISCEA is co-funded by the HorizonEurope programme, under Marie Skłodowska-Curie Actions Cofund doctoral programme (Grant Agreement number 101126720).

Please, feel free to visit [MISCEA website](#) to learn more about the Programme.

## II - Eligibility rules

To verify your eligibility to the MISCEA Programme, check the boxes if these statements apply to you:

- You are **not currently employed at ENPC**.
- You have not resided in or carried out your main activity (work, studies, etc.) in France **for more than 12 months in the 36 months immediately preceding the deadline of the MISCEA program call for applications (deadline indicated on the PhD offers on EURAXESS)**. Mandatory national service, short stays such as vacations, and time spent in the process of obtaining refugee status under the Geneva Convention are not taken into account.
- You **hold a Master's degree** (or are about to obtain one) or have an equivalent university degree comparable to a European Master's degree (5-years duration) at the deadline of the MISCEA program call for applications.
- You do not already hold a Ph.D. at the deadline of the co-funded program's call for applications (deadline indicated on the PhD offers on EURAXESS)**. Researchers who have successfully defended their thesis but have not yet formally obtained their Ph.D. will NOT be considered eligible.
- By checking this box, I certify that the information declared above is correct and I agree to transmit any document allowing my eligibility to be verified to the management team of the MISCEA program (self-declaration of the veracity of the information provided).

### III - Why should I apply?

#### a) Work environment

ENPC maintains very close ties on the international scene, in particular through its commitment to research mobility needs. In 2021-2022, ENPC had **65 partner institutions in 34 countries on 4 continents as well as 15 Erasmus+ exchange agreements across Europe**. Furthermore, it has **46 double-degree agreements in 25 countries**. ENPC welcomes **730 foreign students, including 64 in engineering training** as part of a double degree. ENPC is a member of ParisTech, the Paris Institute of Science and Technology, whose mission is to contribute to the European and international influence of higher education and, in particular, engineering education.

ENPC relies on the excellence of its **12 research laboratories** and develops master and doctoral programmes in several topics such as mechanics and civil engineering, material sciences, nuclear engineering, mathematics, computer science, environmental science, urbanism, transportation, economics and sociology. In these laboratories, which are very diversified in terms of covered topics, there are **484 researchers and professors**. The interdisciplinarity of its laboratories on the main theme of sustainable development allows researchers, postdocs and doctoral students to benefit from an environment conducive to the development of new research projects and innovative ideas to build the world of tomorrow.

#### THE SCHOOL'S LABORATORIES AND THEIR THEMATIC FIELDS:

<b>CERA - Atmospheric Environment Education and Research Center</b>	<i>Air quality, pollution dispersal and transportation, atmospheric modeling on an urban and regional scale, data assimilation.</i>
<b>CERMICS - Research Center in Mathematics and Scientific Computing</b>	<i>Applied mathematics, sciences computing, modeling, optimization.</i>
<b>CIRED - International Environment and Development Research Center</b>	<i>Development and environmental economics, energy/waste/transportation/water/food issues, global environmental challenges, precautionary principle, modeling.</i>
<b>HM&amp;CO – Hydrology Meteorology and Complexity</b>	<i>Multiscale observation and analysis, system-based modeling, management of water as risk and resource, quantity and quality, hydrology for a resilient city.</i>
<b>LATTS - Technologies, Territories, and Societies Laboratory</b>	<i>Social sciences, spatial planning, history, dialogue between social sciences and technology and engineering, in both private sector companies and the public sector. Two major domains tackled: productive organizations and territorial organizations.</i>
<b>LEESU - Water, Environment, and Urban Systems Laboratory</b>	Water, soil and sustainable cities - Uses and innovations - Hydrosystems and society
<b>LHSV - Saint-Venant Hydraulics Laboratory</b>	<i>Fluid mechanics applied to hydraulics and the environment (rivers, coasts, and harbors).</i>

<b>LIGM - Gaspard Monge Computer Science Laboratory</b>	<i>Algorithms and architectures for image analysis and synthesis; algebraic combinatorics and symbolic computation; software, networks and real time; models and algorithms; signal and communication.</i>
<b>LMD - Dynamic Meteorology Laboratory</b>	<i>Atmospheric dynamics, study of climate and its interannual fluctuations, continental and global scales.</i>
<b>LVMT - City, Mobility, Transportation Laboratory</b>	<i>Analysis and modeling of interactions between transportation and spatial planning.</i>
<b>NAVIER Laboratory</b>	<i>Basic research on the mechanics and physics of materials and structures, and their applications to geotechnics, civil engineering, geophysics, and the oil industry.</i>
<b>PjSE - Paris-Jourdan Economics Laboratory</b>	<i>General economics research laboratory, with broad coverage of the discipline. A worldwide reputation for excellence, more specifically in theoretical economics, public economics, and labor market economics.</i>

It also deals with a broad spectrum of applications, from fundamental science to industrial applications. All the disciplines taught and the research actions carried out at the ENPC serve a central objective since decades: the ecological and energy transitions. The common denominator of this research lies in the **DNA of ENPC: modelling.**

Another specificity of ENPC lies in the **close links that it has built with companies** over the years. These links enrich the applied research performed in our labs through access to socio-economic issues which require disruptive innovation and research to be tackled. Reversely, the socio-economic world benefits from our fundamental research which finds outlets in real life. Resulting from a long-term partnership (more than 15 years), these links are materialized through 10 industry funded research chairs.

It is in this favourable research environment that the MISCEA PhD topics are proposed. These topics focus on urgent research questions related to ecological and energy transitions.

Last but not least, ENPC is a founding member of the European University Alliance [EELISA](#) since 2020. Via the EELISA network of **180,000 students, 16,000 faculties, and 11,000 staff**, MISCEA PhD fellows can have access to **technical and soft skills courses, research workshops and entrepreneurial knowledge through the network.**

To learn more about ENPC and its laboratories, feel free to visit our website: [www.enpc.fr](http://www.enpc.fr)

## b) Work conditions

The French doctoral system ensures adherence to application rules, prescribing a **standard period of 3 years for a full-time PhD**, aligning with both **MSCA** standards and the European regulations of Open, Transparent and Merit-based Recruitment of Researchers.

MISCEA PhD fellows will have access to:



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- a fully-equipped office
- a computer with internet access
- a telephone, etc.

All travel expenses for conferences, meetings, and workshops during the PhD period will be covered by ENPC and their hosting laboratory.

ENPC has put in place a certain number of tools to welcome foreign students, such as a welcome booklet for example. The most important is a platform that allows them to prepare their arrival in France, and which concerns all administrative aspects (visa, official documents, etc.), but also daily life (bank, social security, housing, etc.). It is doubled by a call centre in case of difficulties. ENPC offers a “*doctoral students welcome day*”, organizes laboratories open days and scientific activities oriented towards society, and students and staff members have access to sports and cultural associations on the campus.

Concerned about the well-being of its doctoral students, ENPC has set up on-site psychological and medical assistance. Finally, attentive to the gender balance and committed to the fight against sexist and sexual violence, ENPC has set up a complete alert system (referent person, 24-hour telephone platform, anonymous mailbox, etc.), and is pursuing a proactive policy to prevent them.

In order to facilitate installation and everyday life in France of international PhD students, ENPC has established two dedicated partnerships: “*Feel Français*” and EURAXESS service centre in Paris.

- The “*Feel Français*” digital platform provides administrative assistance for foreign students before and after their arrival in France, including visa application, home and civil liability insurance, opening a bank account, phone contract, public transport pass, etc. During the days dedicated to welcoming international students, on-site workshops are also held to guide students through these procedures.
- In close collaboration with the administrative coordinator of ENPC Doctoral Studies, the EURAXESS service centre in Paris provides administrative support for international doctoral students and researchers before their arrival and during their scientific stay in France. In addition, the platform [acc&ss Paris-Est](#) offers various resources for learning French: a list of schools with the “*Qualité France Langue Étrangère*” label in the Paris area; a selection of resources for learning French online or on-site; and a selection of possibilities for learning French on the campus. Moreover, the platform also gives foreign researchers/PhD fellows the opportunity to discover Paris and its region with its “acc&ss” cultural programme.

### c) Salary and employment contract

You will have an employment contract from **Ecole Nationale des Ponts et Chaussées**.

MISCEA PhD fellows will receive 3 years of funding, which means a 36-months working contract. As employees of ENPC and under French law, they benefit from insurance for: health, maternity/paternity leave, disability and death, unemployment, occupational accidents, contribution to home-work public transport costs and remote work arrangement if necessary

The salary will be composed of:

- Living Allowance + Mobility allowance (salary): around €2,100 net/month (**net before income taxes**)
- Travel Allowance (over 3 years for a doctoral contract, in laboratory management): €7,200 - (*secondments, conference participation, etc.*)
- Research costs (over 3 years for a doctoral contract, in laboratory management): €23,400 – (*purchase of consumables, equipment, etc.*)
- Training costs (over 3 years for a doctoral contract, in laboratory management): €7,200 - (*complementary training etc.*)

## IV - How to apply ?

### a) Stage 1 – Online application

#### **Important:**

**Before starting the online application process, it is mandatory to contact the PhD supervisor. Only applications that have received the approval of the supervisor from *Ecole Nationale des Ponts et Chaussées* will be examined.**

If the short questionnaire above validates the applicant's eligibility (page 3 of this guide), they will be required to submit the following documents for the online application:

- [Letter of acceptance](#) from the PhD offer supervisor(s)
- [5-pages thesis proposal](#) under the proposed research areas (see further in this document) + **1 page cover letter** with: *the relevance of your educational/professional background to carry out your thesis topic.*
- [Ethics Assessment Form](#) based on the Horizon Europe program completed by yourself.
- English-translated transcripts from the **master's degree or equivalent**.
- **English curriculum vitae**, including information about your level on English language knowledge.
- **One letter of reference**, at least.
- Any **specific requirements of the doctoral school** corresponding to the targeted MISCEA grant (specified in the offer if it is the case).

**English language level will be considered during the selection process.**

An information note will inform candidates that their information will be processed in strict compliance with the GDPR legislation.

The various templates can be found on [MISCEA website](#).

All documents must be compiled into a single PDF document entitled "*ESRXX\_YourName*", ESRXX corresponding to the number of the MISCEA PhD thesis indicated on the offer.

## b) Stage 2 – Selection for funding

All this process will be done under strict observation of the principles of **the European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers and Open Transparent Merit-Based Recruitment**.

Successful applicants for an interview will be informed **2 weeks** before the said interview.

The interviews will be held in English and online. All applicants will have **15 minutes** to present their thesis project and **15 minutes** for questions/answers. The evaluation committee will evaluate each applicant and their project.

## V - Selection process

Criteria	Sub-criteria	Rating
<b>Scientific proposal</b>	<ul style="list-style-type: none"> <li>– Scientific development plan proposed by the applicant</li> <li>– Consideration of the gender dimension and ethical issues in the project, if pertinent.</li> <li>– Inclusion of participative science in the project, if pertinent.</li> </ul>	8/20
<b>Education</b>	<ul style="list-style-type: none"> <li>– Academic excellence (contest participation, prizes, Erasmus semester or similar, participation in Science for Society events, etc.)</li> <li>– Dual degree/diploma</li> <li>– Publication in peer reviewed journals</li> </ul>	7/20
<b>Personal involvement</b>	<ul style="list-style-type: none"> <li>– Languages (notably English)</li> <li>– Ability to integrate into a multicultural environment</li> </ul>	2/20
<b>Laboratory</b>	<ul style="list-style-type: none"> <li>– Complementarity with ongoing projects in the laboratory</li> </ul>	2/20
<b>Professional project</b>	<ul style="list-style-type: none"> <li>– How the thesis fits with their professional project</li> </ul>	1/20

The evaluation committee will provide a score out of 20 following the candidate's presentation. Depending on the results of the evaluation committee and feedback from supervisors, 6 to 9 thesis offers will be selected for funding by call.

Applicants will be informed within **two weeks of the results of the jury and the laureates will be invited to register at the relevant doctoral school**.

Unsuccessful applicants will be provided feedback with their mark and the strengths and weaknesses of their application.



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**A reserve list for each call will be drawn up.** In case of resignation, the doctoral contract will be offered to another PhD candidate according to her/his ranking in the reserve list provided that a thesis offer is still available.



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## VI - Supports and contacts

**If you have any doubt while applying, do not hesitate to contact the MISCEA Helpdesk for further information: [miscea-program@enpc.fr](mailto:miscea-program@enpc.fr)**

**For more information, please visit**

**[www.miscea-program.fr](http://www.miscea-program.fr)**

**Thank you and good luck for your MISCEA journey!**



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