

## PhD in EARTHQUAKE ENGINEERING (ROSE)

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<b>Scientific fields</b>	ICAR/09, ICAR/07, GEO/10
<b>Brief description</b>	The PhD in Earthquake Engineering (ROSE) is a three-year full-time joint programme with the University of Pavia. The ROSE PhD aims to train graduates and professionals with strong scientific and professional capabilities, aware of the cultural, technical and management contents related to earthquake engineering and seismic risk, including topics related to seismology, geophysics, geology, geotechnics, behaviour of materials and structures, structural analysis, design of new structures and assessment of existing structures, with particular attention to the study of data acquisition methods, methods of investigation of materials, technologies and structures, the development of interpretative frameworks for assessment of hazard, vulnerability, exposure and, consequently, seismic risk, and techniques for safeguarding elements and structures, i.e. essential project components for risk reduction. The programme is characterised by interdisciplinary character, international experience, constant reference to the most advanced and applied research.
<b>Language</b>	English
<b>Duration</b>	3 years
<b>Number of positions available</b>	<p>8 positions, of which:</p> <ul style="list-style-type: none"> <li>- n. 2 positions funded by IUSS</li> <li>- n. 1 position with scholarship funded by National Recovery and Resilience Plan (PNRR) - DM 629/2024 – Investment 3.4 “Digital and environmental transitions”, on the following topic: <i>Integrated seismic risk assessment of structures considering environmental impact</i> The research under this grant will focus on methodologies for risk assessment of existing structures, with possible large-scale analysis considerations. The research will also concern the study of holistic strategies for the evaluation of any necessary seismic retrofitting options, considering various decision-making variables, such as, for example, structural safety, installation and maintenance costs, duration of the works, seismic risk and environmental impact. Institution involved: Eucentre Foundation</li> <li>- n. 1 position with scholarship co-funded by National Recovery and Resilience Plan (PNRR) - DM 630/2024 – Investment 3.3. Innovative Doctorates, on the following topic: <i>Development of innovative methods for probabilistic seismic hazard analysis</i> The grant will focus on the development of innovative methods for the probabilistic calculation of seismic hazard, such as vector calculus and new methods for the propagation of epistemic uncertainty. These methods will allow to obtain estimates of seismic damage to structures, thus contributing to the design of interventions for higher sustainability. Other topics that could be developed concern new approaches for building seismic occurrence models. Company involved: GEM Foundation</li> </ul>

	<ul style="list-style-type: none"> <li>- n. 2 positions covered by University of Pavia with scholarship co-funded under National Recovery and Resilience Plan (PNRR) - DM 630/2024 – Investment 3.3. Innovative Doctorates, on the following topic: Risk assessment and damage scenarios of structures and infrastructure The research will concern for example, but not exclusively, the evaluation of performance and safety of existing buildings and infrastructure assets, using risk variables, as well as other probabilistic parameters, for greater sustainability with respect to natural hazards and climate change. Company involved: GEM Foundation</li> <li>- n. 2 positions with scholarship funded by the Eucentre Foundation, on a topic to be agreed upon with the Eucentre Foundation, at the beginning of the programme.</li> </ul>
<b>Submission deadline for the online application</b>	<b>01/07/2024 at 13:00 (CEST)</b>
<b>Mandatory documentation* to be attached to the online application</b>  <i>*failure to upload the documentation referred to in (a) and (b) will result in exclusion from the competition procedure</i>	<ul style="list-style-type: none"> <li>a) A PDF copy of a valid identity document;</li> <li>b) Self-certification of the MSc Degree Certificate (in case of Italian or UE educational qualification) <u>OR</u> copy of the MSc Degree Certificate (NON-EU educational qualification);</li> <li>c) Academic and professional CV;</li> <li>d) <i>Diploma Supplements</i> (or similar documents) of “Diploma di Laurea Triennale”/BSc Degree and “Diploma di Laurea Magistrale”/MSc Degree.</li> </ul>
<b>Qualification assessment</b>	<ul style="list-style-type: none"> <li>a) Academic and professional CV;</li> <li>b) <i>Diploma Supplements</i> (or similar documents) of “Diploma di Laurea Triennale”/BSc Degree and “Diploma di Laurea Magistrale”/MSc Degree;</li> <li>c) Scientific publications (and list of relevant publications);</li> <li>d) Up to three reference letters (to be sent by the referees following the online application procedure);</li> <li>e) Any other academic or professional qualifications that the candidate deems relevant to the programme.</li> </ul>
<b>Interview and evaluation</b>	<p>The selection will be performed through the assessment of the qualifications listed in the section “Qualification assessment” (<b>maximum 50 points</b>) and through an interview (<b>maximum 50 points</b>). The Selection Board will therefore award a <b>final score from 1 to 100</b>.</p>
	<p>The Selection Board will assess the submitted scientific qualifications awarding a score up to 50 points. The candidates obtaining a score of at least <b>36/50</b> in the assessment phase, will be accepted to the interview. Candidates are not required to be present during the assessment of qualifications.</p> <p>The interview may also be carried out online, if the candidate can be identified. The interview will entail a discussion about the scientific background and skills of the candidate and about the research that the candidate would like conduct, as well as technical/scientific questions, with the aim of ascertaining the candidate’s background, vocation and aptitude for research. Candidates obtaining a score below <b>36/50</b> in the interview will not be eligible to be admitted to the programme hence not part of the ranking list.</p> <p><b><u>During the interview, the selection board will verify that the candidate has the necessary fundamental knowledge and skills to for attending the doctoral course</u></b></p>

	<b><u>and evaluate the eligibility for the research topics of the scholarships announced.</u></b> IUSS Pavia will notify the scholarship holders of their admission to the programme using the e-mail address provided in the application.
<b>Test schedule</b>	The results about the evaluation process will be published on the IUSS website <a href="http://www.iusspavia.it">http://www.iusspavia.it</a> . The interviews will be carried out from <b>22/07/2024 at 09:30 CEST</b> onwards, at the “EUCENTRE Foundation”, Via Ferrata n. 1, 27100, Pavia or online.
<b>Information</b>	e-mail: <a href="mailto:postlaurea@iusspavia.it">postlaurea@iusspavia.it</a>