









CIVIL ENGINEERING AND ARCHITECTURE	
CYCLE	XXXVIII
COORDINATOR	Prof. Sandro LONGO email: sandro.longo@unipr.it Department of Engineering and Architecture
DURATION	3 years
STARTING DATE OF THE PHD PROGRAM	01/11/2022
RESEARCH TOPICS (The candidate MUST mandatorily indicate one research topic in the form ANNEX A and submit a RESEARCH PROJECT in the relevant field)	
<ul style="list-style-type: none">• Infrastructure and Environmental Engineering• Structural and Geotechnical Engineering• Architecture and Urban Planning	
TRAINING OBJECTIVES	
To develop specialized skills in the following fields: (1) Infrastructure and Environmental Engineering: civil infrastructures for transport; survey, management, and analysis of land data, control and monitoring of displacements and deformations at all scales; issues related to surface waters and groundwater; (2) Structural and Geotechnical Engineering: mechanical behaviour of materials, structural components and structures; behaviour of soils and geotechnical structures; (3) Architecture and Urban Planning: theoretical, formal, distributional and functional aspects in architecture; the problems related to methods for survey and to computer-graphics in architecture; issues related to the implementation and the development of urban settlements; historical, artistic, technical and aesthetic themes in the architecture of the past.)	
ADMISSION REQUIREMENTS	Regardless of age and citizenship, applicants holding at least one of the following academic qualifications can apply for admission: <ul style="list-style-type: none">– Laurea specialistica or Laurea magistrale (second cycle master's degree)– Laurea Vecchio Ordinamento (degree obtained under the previous Italian regulations);– Second cycle Master's degree obtained abroad, equivalent to the above mentioned Italian degrees and recognized as suitable for the admission to doctoral program Undergraduates can also apply for admission to the selection, with the obligation to obtain the degree within the deadline set for enrollment, that is by 24.10.2022

POSITIONS PUT OUT TO COMPETITION	16	With Scholarship	13
		Reserved to holders of scholarship within specific international mobility programs	2
		Reserved for employees of companies or public institutes and research centers engaged in highly qualified activities	1
Position with Scholarship			
N°	<i>Funding entity</i>	<i>Research Topic, if any</i>	
3	Scholarship funded by University of Parma (Ministerial funds)	---	



2	Scholarship funded by University of Parma (University funds)	---
1	Scholarship co-funded by Fondazione Cariparma	---
Position with Scholarship LINKED TO SPECIFIC TOPICS (art. 11 of the Competition notice)		
<p>During the Oral Exam, applicants may express and/or confirm their interest of being assigned a scholarship linked to a specific research topic. The Examination Board will evaluate their eligibility based on specific competences, experience and specific aptitudes of the applicants.</p>		
N°	Funding entity	BOUND RESEARCH TOPIC
1	Scholarship partly financed with UNIVERSITY funds and co-financed by the Department of Engineering and Architecture	<ul style="list-style-type: none"> Fracture model of elastomeric multilayers and simulation of failure in tyres
1	Scholarship co-financed with funds under the PNRR - Mission 4 component 2 (Ministerial Decree 352/2022) and co-financed by the Company SISGEO S.r.l. 	<ul style="list-style-type: none"> Innovative monitoring system for railways
1	Scholarship co-financed with funds under the PNRR - Mission 4 component 2 (Ministerial Decree 352/2022) and co-financed by the Company ANDRITZ Hydro 	<ul style="list-style-type: none"> Development of a Smoothed Particle Hydrodynamics model for hydraulic turbines simulation
1	Scholarship financed under the PNRR – Mission 4 component 2 – Investment 1.4 NATIONAL CENTER for sustainable mobility 	<ul style="list-style-type: none"> Railway Infrastructure Definition of data-driven and model-based methods for monitoring, diagnosis, and predictive maintenance of rail infrastructure, with a focus on subballast-ballast-rail systems and related joints. Sustainable solutions and decision support for civil infrastructure analysis and management
1	Scholarship financed under the PNRR – Mission 4 component 2 – Investment 1.4 NATIONAL CENTER for sustainable mobility 	<ul style="list-style-type: none"> Planning Cities of Proximity: urban retrofit planning scenarios for accessible and inclusive public spaces
1	Scholarship financed under the PNRR – Mission 4 component 2 – Investment 1.5 Ecosystem for sustainable Transition in Emilia-Romagna 	<ul style="list-style-type: none"> New architectural typologies of public service in the social-health sector in the definition of peripheral urban centralities
1	Scholarship financed under the PNRR – Mission 4 component 2 – Investment 1.5 Ecosystem for sustainable Transition in Emilia-Romagna 	<ul style="list-style-type: none"> Performance-based planning of pedestrian and bicycle networks to improve spatial and urban accessibility



Reserved to HOLDERS OF SCHOLARSHIP WITHIN SPECIFIC INTERNATIONAL MOBILITY PROGRAMS	
N°	Agreements/Cooperations/Mobility Programs
2	Reserved to holders of scholarship under the mobility program or other forms of financial support under the EU Project H2020 - MSCA ITN "Innovative Training Networks" CIRPAV 101072820
Position reserved for EMPLOYEES of companies or public institutes and research centers engaged in highly qualified activities	
N°	Company/Institution
1	Reserved to employees of company Autovie Venete S.p.A.

ADMISSION PROCEDURES	Assessment of QUALIFICATIONS: up to 70 points (a minimum score of 40 points shall be required to be admitted to the Oral Exam) ORAL EXAM: up to 50 points Minimum score for ELIGIBILITY: 70/120
ADMISSION PROCEDURES for positions reserved to scholarship holders within specific international mobility programs	Assessment of QUALIFICATIONS: up to 120 points Minimum score for ELIGIBILITY: 70/120
Foreign Language	The language for which the fluency must be assessed during the Oral Examination: ENGLISH . The assessment of knowledge of this language will be oral and will consist in reading and translating a scientific text.
APPLICANTS ADMITTED TO THE ORAL EXAM CAN TAKE IT EITHER IN PRESENCE OR REMOTELY IN AUDIO AND VIDEO TELECONFERENCE (Applicants who intend to take the Oral Exam remotely must submit a formal request, using the form attached to the competition notice)	
THE INTERVIEW MAY BE HELD ALSO IN ENGLISH	
LIST OF QUALIFICATIONS TO BE SUBMITTED AND THEIR ASSESSMENT	
MANDATORY DOCUMENTS TO BE ATTACHED TO THE ON-LINE APPLICATION	
ANNEX A	(art. 5 of the Competition notice)
Identification Document	Scanned Copy of a valid identity document with photo (i.e. identity card, passport)
Curriculum Vitae et studiorum	No specific CV format is required (see art. 4 of the Competition notice)
Abstract of degree thesis	Abstract of the second cycle master's degree thesis. Undergraduate applicants must submit the draft of the thesis approved by their supervisor (abstract/draft of the thesis: 10.000 characters including spaces)
Qualifications	Certificates and academic transcript of records for both Bachelor' and Master' degrees containing the following details for each degree held: (art. 4 of the Competition notice): University that granted the degree - Type of degree (first cycle/second cycle/single cycle) Name of the degree program - Date of graduation - Final mark - List of exams and corresponding scores (academic transcript of records) - Translation into Italian or English (only for degrees issued in languages other than Italian or English).



Statement of Research interest	Short text – maximum 2 pages – in Italian or in English, aimed at explaining the candidate's reasons to attend the PhD program and at describing her/his specific research interests	
FURTHER QUALIFICATIONS THAT MAY BE ATTACHED TO THE APPLICATION, IF IN POSSESSION OF THE APPLICANT (only qualifications attested by a document drawn up in Italian or in English)		
Reference Letters	A maximum of 2 written by professors or researchers at the University of origin of the candidate or from other universities or from experts in the research areas working in public or private research facilities. The reference letters must be sent directly by the signer to the address e-mail: andrea.maranzoni@unipr.it Reference letters sent directly by the candidate or received in any other way will not be evaluated.	
Research Project	The research project shall consist of a maximum of 3 pages, be written in Italian or in English, and it shall be structured as follows: introduction of the problem in the scientific context, significance of the problem, expected results. The project must focus on an original research topic (unpublished, personally developed by the candidate). It should be noted that the Examination Board can use of IT tools useful for verifying the originality of the submitted Project. <u>It does not represent a constraint with respect to the following choice of the doctoral thesis, that shall be defined together with the supervisor and approved by the Academic Board.</u>	
Scientific Publications	Articles on national and international journals, papers presented at conferences or symposia, book chapters etc.	
EVALUATION CRITERIA		
QUALIFICATION	EVALUTATION CRITERIA	POINTS
Curriculum Vitae et studiorum	Including academic career and postgraduate experience, accompanied by a statutory declaration in lieu of the certification of the exams passed with the relevant marks, as well as the final graduation mark. Mandatory: Statement of Research Interest Not mandatory: Reference Letters	Up to 30 points
Graduation mark	---	Up to 5 points
Average of the exam marks (if the candidate will attain the degree no later than 24 October 2022)	---	Up to 5 points
Graduation thesis	Consistency of the Master's Degree thesis with the doctoral program research topics (briefly describe the topics in the curriculum vitae by attaching the abstract of the degree thesis or draft of the thesis approved by the supervisor)	Up to 6 points
Research Project	---	Up to 25 points
Scientific publications	Maximum 2	Up to 4 points
ORAL EXAM	EVALUATION CRITERIA	POINTS
The ORAL EXAM includes the presentation of the research project and is intended to assess the suitability of the applicant to pursue scientific research as well as the general knowledge of issues connected to the PhD course	<ul style="list-style-type: none"> ○ knowledge of the foreign language ○ research project presentation ○ general knowledge of issues connected to the PhD course 	Up to 50 points



LIST OF QUALIFICATIONS TO BE SUBMITTED AND THEIR ASSESSMENT		
Positions reserved to holders of scholarship within specific international mobility programs		
Curriculum Vitae et studiorum	Including academic career and postgraduate experience, accompanied by a statutory declaration in lieu of the certification of the exams passed with the relevant marks, as well as the final graduation mark. Mandatory: Statement of Research Interest Not mandatory: Reference Letters	Up to 52 points
Graduation mark	---	Up to 8 points
Average of the exam marks (if the candidate will attain the degree no later than 24 October 2022)	---	Up to 8 points
Graduation thesis	Consistency of the Master's Degree thesis with the doctoral program research topics (briefly describe the topics in the curriculum vitae by attaching the abstract of the degree thesis or draft of the thesis approved by the supervisor)	Up to 10 points
Research Project	---	Up to 44 points
Scientific publications	Maximum 2	Up to 6 points
SCHEDULE OF THE ADMISSION EXAMS		
ORAL EXAM	DATE	19 September 2022 (with possible extension to the afternoon)
	TIME	09:30 AM (Italian time)
	PLACE	Department of Engineering and Architecture MEETING ROMM – Building 10 Parco Area delle Scienze, 181/A – Campus 43124 PARMA - ITALY
OTHER INFORMATION	<p>The Oral Exam must be taken in Italian or in English. If the candidate wishes to take the oral exam in English he/she must attach a formal request to the application form (Form ANNEX A).</p> <p>In the application for participation in the competitive examination, the Applicant must choose and specify only ONE Thematics (between the 3 possible Thematics), and the Applicant must take the oral exam on the chosen Thematics. During the Oral Exam the candidate must indicate the theme of research of his/her interest among those listed in https://dia.unipr.it/en/themes_38_Cycle</p> <p>In the case of admission to the PhD programme, the above choice will be binding for the research activity of the winner.</p> <p>For Applicants who will take the Oral Exam in Italian, knowledge of English will be assessed orally and the test will consist of reading and translating a scientific text.</p> <p>Foreign Applicants, if they are among the winners of the PhD admission competition, are strongly encouraged to attend an Italian language course (http://www.lass.unipr.it/en/teaching/italian-courses-foreigners). The Faculty Board will recognize the credits based on the level of knowledge acquired.</p>	