



INFORMATION TECHNOLOGIES		
<b>Cycle</b>	XXXIV	
<b>Coordinator</b>	Prof. Marco LOCATELLI Department of Engineering and Architecture email: <a href="mailto:marco.locatelli@unipr.it">marco.locatelli@unipr.it</a>	
<b>Duration</b>	3 years	
<b>Starting date of the PdD programme</b>	01/11/2018	
<b>Research Topics</b>		
<ul style="list-style-type: none"><li>• Electronics instrumentation and electrical drives</li><li>• Computer systems and automatic control</li><li>• Telecommunications and electromagnetic fields</li></ul>		
<b>Training Objectives</b>		
The course aims at educating the future Ph.D.'s so that they will enter the research world with an active role, within both universities and industries.		
<b>Admission requirements</b>		
Applicants who have one of the following degrees may participate in the selection: <ul style="list-style-type: none"><li>- Laurea specialistica or Laurea magistrale (second cycle degree)</li><li>- Laurea Vecchio Ordinamento (degree obtained under the Italian previous regulations);</li><li>- an academic Master's degree obtained abroad, comparable to the above mentioned Italian degrees and recognized as suitable for the admission to doctoral programmes.</li></ul> Undergraduate applicants may also submit applications with the obligation of getting their degree by <b>October 31<sup>st</sup> 2018</b> .		
<b>POSITIONS PUT OUT TO COMPETITION*</b> <i>(*Amended by Rector's Decree n. 1762 of 24.07.2018)</i>		
<b>With Scholarship</b>		10
<b>Without Scholarship</b>		2
<b>Covered by company internship for Higher Education and Research Agreements</b>		1
<b>Reserved to holders of scholarship funded by foreign States</b>		1
	<b>TOTAL</b>	<b>14</b>
<b>Positions with University Scholarship</b>		
<b>N°</b>	<b>Funding entity</b>	<b>Research Topic, if any</b>
<b>3</b>	Scholarship Ministerial funds	---
<b>1</b>	Scholarship co-funded by Fondazione Cariparma	---



## Position with Scholarship LINKED TO SPECIFIC TOPICS (art. 11 of the Call for applications)

During the Oral Exam, applicants may express their interest in being assigned a scholarship dedicated to a specific research topic to the Examination Board. The Board will express its judgement on eligibility to be assigned the scholarship in consideration of the specific competences, experience and specific aptitudes of the applicants.

N°	Funding entity	BOUND RESEARCH TOPIC
1	Funded by the Department of Engineering and Architecture	<ul style="list-style-type: none"> <li>Theoretical and experimental development of statistical, predictive and machine learning-based modelling methods for predictive maintenance applications</li> </ul>
1	Funded by Adidas AG	<ul style="list-style-type: none"> <li>Product image similarity for fashion industry through computer vision and machine learning techniques</li> </ul>
1	Funded by Adidas AG	<ul style="list-style-type: none"> <li>Machine learning and pattern recognition for automatic text analysis in fashion industry</li> </ul>
1	Funded by the Department of Engineering and Architecture	<ul style="list-style-type: none"> <li>Applications for vehicles Artificial Vision For Autonomous Driving</li> </ul>
1	Funded by EMILIA ROMAGNA REGION	<ul style="list-style-type: none"> <li>Femtosecond laser-induced two-photon polymerization</li> </ul>
1	Funded by EMILIA ROMAGNA REGION	<ul style="list-style-type: none"> <li>IoT-based Systems for Efficient Data Collection and Processing in Smart and Sustainable Agriculture (AgrIoT)</li> </ul>

## Positions covered by High Internship and Research Agreements

N°	Company	BOUND RESEARCH TOPIC
1	Elettric80 S.p.A.	<ul style="list-style-type: none"> <li>Localization, indoor navigation, and area coverage techniques for autonomous industrial vehicles</li> </ul>

## Position reserved to holders of scholarship funded by foreign States

N°	University or Foreign State
1	Reserved to holders scholarship from the country of origin (EGYPT)

## ADMISSION PROCEDURES

**Assessment of QUALIFICATIONS:** up to 70 points  
(a minimum score of 30 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 holders of scholarship funded by foreign States**

**Assessment of QUALIFICATIONS:** up to 120 points  
**Minimum score for ELIGIBILITY:** 70/120



<b>Foreign Language</b>	Language the fluency of which shall be assessed during the Oral Exam: <b>ENGLISH.</b> The evaluation of the knowledge of this language will be oral and will consist of a brief interview on a technical topic (for example a translation of a scientific text).	
<b>Possibility of videoconference for candidates residing or temporarily abroad</b> (the relevant request shall be submitted using the form attached to the competitive examination announcement and it is also necessary to indicate the Skype account in the curriculum vitae)  THE INTERVIEW MAY BE HELD ALSO IN ENGLISH		<b>YES</b>
<b>LIST OF QUALIFICATIONS TO BE SUBMITTED AND THEIR ASSESSMENT</b>		
<b>Mandatory documents to be attached to the on-line application</b>		
<ul style="list-style-type: none"> <li>– <b>ANNEX A</b> (art. 5 of the Call for Applications)</li> <li>– Scanned Copy of a <b>valid identification document</b> with photo</li> <li>– <b>Curriculum Vitae et studiorum</b> (art. 4 of the Call for Applications)</li> <li>– <b>Abstract of the second cycle master's degree thesis.</b> Undergraduate applicants may submit the draft of the thesis approved by their supervisor (10.000 characters including spaces)</li> <li>– <b>Certificates and academic transcript of records for both the Bachelor' and the Master' degrees</b> containing the following details for each degree held: (art. 4 of the Call for Applications):             <ul style="list-style-type: none"> <li>○ University that granted the degree</li> <li>○ Type of degree (first cycle/second cycle/single cycle)</li> <li>○ Name of the degree programme</li> <li>○ Date of graduation</li> <li>○ Final mark</li> <li>○ List of exams and corresponding scores (academic transcript of records)</li> <li>○ Translation into Italian or English (only for degrees issued in languages other than Italian or English)</li> </ul> </li> </ul>		
<b>Further qualifications that may be attached to the application, if in possession of the applicant</b> (only qualifications attested by a document drawn up in Italian or in English)		
<ul style="list-style-type: none"> <li>– <b>Research Project:</b> The research project shall consist of a maximum of 3 pages, be written in Italian or in English, focus on an original research topic and it shall be structured as follows: introduction of the problem in the scientific context, significance of the problem, expected results, argumentation;  <u>it does not represent a constraint with respect to the following choice of the doctoral thesis</u>, that shall be defined together with the supervisor and approved by the Academic Board;</li> <li>– <b>Scientific Publications:</b> Articles on national and international journals, papers presented at conferences or symposia, book chapters etc;</li> <li>– <b>Reference Letters:</b> Maximum 2 letters and must be sent directly by the signer to the address e-mail: <a href="mailto:marco.locatelli@unipr.it">marco.locatelli@unipr.it</a> (The candidate, therefore, must not uploading them through the procedure of the competition online registration);</li> <li>– <b>Any other document</b> certifying the applicant's training and abilities (grants, test GRE, awards, apprenticeships etc.).</li> </ul>		
<b>EVALUATION CRITERIA</b>		
<b>QUALIFICATION</b>	<b>EVALUTATION CRITERIA</b>	<b>POINTS</b>



<b>Curriculum Vitae et studiorum</b>	<p>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.</p> <p>It will also be evaluated the congruence of the degree obtained with the PhD themes.</p>	<b>Up to 25 points</b>
<b>Graduation thesis</b>	<p>Abstract of the master's degree thesis (<b>even if not yet discussed as long as countersigned by the supervisor</b>).</p> <p>It will also be evaluated the consistency of the Master's Degree thesis with the doctoral programme research topics.</p>	<b>Up to 5 points</b>
<b>Research Project</b>	<p>Max 3 pages, either in Italian or English. It must present an original research topic and be structured as follows: introduction of the problem within the scientific framework, relevance of the topic, expected results, motivations.</p> <p>The candidates are strongly invited to browse the research topics of the Ph.D. program at the web site <a href="http://phd.dii.unipr.it">phd.dii.unipr.it</a> in order to prepare a research project compatible with them.</p> <p><u>It does not represent a constraint with respect to the following choice of the doctoral thesis</u></p>	<b>Up to 30 points</b>
<b>Scientific Publications</b>	Articles on national and international journals, papers presented at conferences or symposia, book chapters etc.	<b>Up to 5 points</b>
<b>Reference Letters</b>	<p>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.</p> <p>They must be sent directly by the signer to the address e-mail: <a href="mailto:marco.locatelli@unipr.it">marco.locatelli@unipr.it</a></p>	<b>Up to 2 points</b>
<b>Other qualifications</b>	Grants, test GRE, awards, apprenticeships etc.	<b>Up to 3 points</b>
<b>ORAL EXAMINATION</b>	<b>EVALUATION CRITERIA</b>	<b>POINTS</b>
<p>The ORAL EXAM includes the presentation of the research project and is intend to assess the suitability of the applicant to pursue scientific research as well as the general knowledge of issues connected to the PhD course.</p>	<ul style="list-style-type: none"> <li>○ knowledge of foreign languages: 5 points</li> <li>○ research project presentation: 25 points</li> <li>○ general knowledge of issues connected to the PhD course: 20 points</li> </ul>	<b>Up to 50 points</b>

**LIST OF QUALIFICATIONS TO BE SUBMITTED AND THEIR ASSESSMENT**  
**Positions reserved to holders of scholarship funded by Foreign States (EGYPT)**



<b>Curriculum Vitae et studiorum</b>	<p>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.</p> <p>It will also be evaluated the congruence of the degree obtained with the PhD themes.</p>	<b>Up to 45 points</b>
<b>Graduation thesis</b>	<p>Abstract of the master's degree thesis (<b>even if not yet discussed as long as countersigned by the supervisor</b>).</p> <p>It will also be evaluated the consistency of the Master's Degree thesis with the doctoral programme research topics.</p>	<b>Up to 10 points</b>
<b>Research Project</b>	<p>Max 3 pages, either in Italian or English. It must present an original research topic and be structured as follows: introduction of the problem within the scientific framework, relevance of the topic, expected results, motivations.</p> <p>The candidates are strongly invited to browse the research topics of the Ph.D. program at the web site <a href="http://phd.dii.unipr.it">phd.dii.unipr.it</a> in order to prepare a research project compatible with them.</p> <p><u>It does not represent a constraint with respect to the following choice of the doctoral thesis</u></p>	<b>Up to 50 points</b>
<b>Scientific Publications</b>	<p>Articles on national and international journals, papers presented at conferences or symposia, book chapters etc.</p>	<b>Up to 10 points</b>
<b>Reference Letters</b>	<p>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.</p> <p>They must be sent directly by the signer to the address e-mail: <a href="mailto:marco.locatelli@unipr.it">marco.locatelli@unipr.it</a></p>	<b>Up to 5 points</b>
<b>SCHEDULE OF THE ADMISSION EXAMS</b>		
<b>ORAL EXAM</b>	<p><b>ORAL EXAM DATE:</b> 13 September 2018 (with possible extension to 14 September 2018)</p> <p><b>TIME:</b> 09:30am</p> <p><b>PLACE:</b> Meeting Room – Building 4 - Scientific Branch of Engineering Parco Area delle Scienze, 181/A – 43124 PARMA - ITALY</p>	
<b>OTHER INFORMATION</b>	<p>For foreign candidates, the admission examinations may be held in English at the candidate's choice.</p>	