# Doctoral Programme in Smart Computing

Coordinator prof. Paolo Frasconi

Pegaso Scholarships are funded with resources of the POR FSE TOSCANA 2014/2020 in the frame of the Tuscany Region Project “Giovanisi” (www.giovanisi.it) for the autonomy of young people.

<table>
<thead>
<tr>
<th>Technological Area</th>
<th>Administrative Office</th>
<th>Regional Toscana Pegaso Project 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Department of Information Engineering</td>
<td>University of Florence</td>
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<table>
<thead>
<tr>
<th>Curricula</th>
<th>Positions Available: 12</th>
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<tbody>
<tr>
<td></td>
<td>Positions with scholarship: 11</td>
</tr>
<tr>
<td></td>
<td>Positions without Scholarship: 1*</td>
</tr>
<tr>
<td></td>
<td>* Standard ranking only</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Ranking List for Standard Positions Scholarships Available: 8</th>
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<tbody>
<tr>
<td>5 – University Florence</td>
</tr>
<tr>
<td>3 – Regione Toscana <em>Pegaso Scholarships 2019</em></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Ranking Lists for Positions with Specific Research Topics Scholarships Available: 3</th>
</tr>
</thead>
</table>
| 3 – Regione Toscana **Pegaso Scholarships 2019**
| 1. “Machine Learning and Explainable AI” |
| 2. “Smart Wearable Systems for Personalized Healthcare” |
| 3. “Quantitative Analysis and Software Architectures for Manufacturing Districts” |
| **A period of training/research in an enterprise, a public research institution or other public institution (not a university) of at least 3 months is mandatorily required.** |

<table>
<thead>
<tr>
<th>Study/Research Period Abroad</th>
<th>YES - for Pegaso Scholarships 2019 – standard position only</th>
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<tr>
<th>Mandatory Period Required</th>
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<tr>
<td>6 months for Regione Toscana Pegaso Scholarships 2019 - standard positions</td>
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<tr>
<th>Documents Required for the Admission (under penalty of exclusion)</th>
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<tbody>
<tr>
<td>• Copy of the Identification Document</td>
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<tr>
<td>• Replacement Declaration Form self-declaration for:</td>
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<tr>
<td>- Italian Degree required for the access</td>
</tr>
<tr>
<td>- transcript of records with marks (for those candidates whose degrees will be awarded within the 31 October 2019)</td>
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<tr>
<td>- acknowledgment of compliance for any other qualification documents enclosed with the application</td>
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<tr>
<td>• Foreign Degree required for the access (for those candidates whose degrees will be awarded within the 31 October 2019)</td>
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</table>
awarded within the 31st October 2019 shall enclose the list of the examinations completed with marks)

<table>
<thead>
<tr>
<th>DOCUMENTS REQUIRED FOR THE EVALUATION</th>
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<tbody>
<tr>
<td><strong>MANDATORY</strong></td>
</tr>
<tr>
<td>• Curriculum vitae</td>
</tr>
<tr>
<td>• Transcript of records of M.Sc. degree</td>
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<tr>
<td>• Title of the M.Sc. thesis</td>
</tr>
<tr>
<td>• Abstract of the M.Sc. thesis</td>
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<tr>
<td>• Research project</td>
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<tr>
<td><strong>OPTIONAL</strong></td>
</tr>
<tr>
<td>• List of publications</td>
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<tr>
<td>• PDF copy or a chapter of the M.Sc. thesis (if available)</td>
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<thead>
<tr>
<th>REFERENCE LETTERS</th>
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<tbody>
<tr>
<td>A section is provided in the online application to specify the e-mail addresses of two professors/researchers willing to provide information about candidates training path and activities performed within a scientific field related to the Ph.D. course.</td>
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<tr>
<th>RESEARCH PROJECT</th>
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<tr>
<td>The research proposal should be written in English and should be submitted as a PDF file. The length may not exceed 12,000 characters. The research proposal should describe a three years project having a high potential for a novel scientific contribution in any area related to smart computing. In the proposal, briefly summarize the state-of-the-art, identify one or more open problems, explain why solving these open problems is significant, and describe a research plan, possibly addressing the associated risk factors and strategies for dealing with them.</td>
</tr>
<tr>
<td>The research proposal needs not to be directly related to one of the reserved research topics (see below) for which you may want to apply. In facts, this proposal will not be even used to bound you to do research in any particular area, it just serves the purpose of assessing your technical writing skills, your ability to envision sensible long-term research goals, and your ability to plan and evaluate research activities.</td>
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<tr>
<th>MODALITY OF EVALUATION</th>
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<tbody>
<tr>
<td>• Evaluation of curriculum vitae, research project, publications and other qualification documents</td>
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<tr>
<td>• Interview</td>
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<tr>
<td>As detailed in the section below “Evaluation Marks”</td>
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<tr>
<th>LANGUAGE FOR THE EXAMINATION</th>
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<tbody>
<tr>
<td>English</td>
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<tr>
<th>SKYPE INTERVIEW</th>
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<tbody>
<tr>
<td>YES – possible for residents abroad only</td>
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<thead>
<tr>
<th>FURTHER INFORMATION</th>
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<tbody>
<tr>
<td>Note on applications for the “specific research topic scholarships”:</td>
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<tr>
<td>A subset of the available positions will be reserved to the specific research topics listed below. To be considered for one of these positions, please select one or more of them during the application process. Since we strive to fill as many of these positions as possible, by applying for one or more reserved positions you may significantly increase your chances of being accepted in the program. You may apply for as many reserved positions as you wish. During the interview, there will be one additional test for each reserved positions you have</td>
</tr>
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</table>
applied for. Passing the test is a necessary (but not sufficient) condition for accessing the corresponding reserved position. Failing one or more of these tests will not reduce your chances of being accepted for the remaining (non-reserved) positions.

There are additional thematic positions (not reserved) that do not require a specific test as detailed in the section below “Thematics”

Further Topics are listed at smartcomputing.unifi.it/procedures.html#positions

<table>
<thead>
<tr>
<th>EVALUATION MARKS</th>
<th>minimum score</th>
<th>maximum score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Curriculum vitae, publications, qualification documents</td>
<td>27/120</td>
<td>40/120</td>
</tr>
<tr>
<td>Research proposal</td>
<td>27/120</td>
<td>40/120</td>
</tr>
<tr>
<td>Applicants who obtain a mark of at least 54/120 according to the minimum score for each parameter will be admitted to the interview</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interview (including a discussion of the research proposal) in English language</td>
<td>26/120</td>
<td>40/120</td>
</tr>
<tr>
<td>Candidates with an overall score below 80/120 cannot be admitted to the program</td>
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- Artificial Intelligence
- Computer Networking
- Computer Vision
- Computer Architectures
- Conversational Agents
- Data Analysis and Social Network Data Analysis
- Fog/Edge computing in IoT
- Embedded and Cyber-physical Systems
- Machine Learning
- Neuroinformatics
- Pervasive Sensing & Computing
- Quantitative evaluation and verification of concurrent systems
- Security and Privacy in Smart Systems
- Software architectures and engineering methods

Further information available at the following web page: http://smartcomputing.unifi.it/

<table>
<thead>
<tr>
<th>EXAMINATION SCHEDULE</th>
<th>DATE</th>
<th>TIME</th>
<th>PLACE</th>
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</thead>
<tbody>
<tr>
<td>INTERVIEW</td>
<td>9th July 2019</td>
<td>09:30 a.m.</td>
<td>Department of Information Engineering Via Santa Marta, 3 – Florence Meeting Room</td>
</tr>
</tbody>
</table>

The list of candidates admitted to the interview and the final ranking will be published online at the following web page: https://www.unifi.it/p11549.html