



Annex 1

Ph.D. in BioRobotics

<http://www.santannapisa.it/en/education/phd-biorobotics>

<http://www.santannapisa.it/en/institute/biorobotics/biorobotics-institute>

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| <b>Coordinator</b>                   | Prof. Paolo Dario<br>e-mail: paolo.dario@santannapisa.it  |
| <b>Language</b>                      | Italian, English  |
| <b>Duration</b>                      | 3 years   |
| <b>Number of positions available</b> | <p><b>N. 12 positions, of which:</b></p> <ul style="list-style-type: none"> <li>– <b>11 with scholarship funded by the Scuola Superiore Sant'Anna;</b></li> <li>– <b>1 with scholarship funded by the “Dipartimento di Eccellenza”.</b> It proposes to develop a new generation of connected robots that, by integrating the most recent developments in the Artificial Intelligence (AI) and Materials Science (MS) fields, can provide robots with augmented cognitive, sensorimotor, and physical capabilities. Both disciplines have reached recently a maturity, both scientific and technological, capable of inducing a rapid acceleration in the development of new robotic systems and technologies. In particular, in the AI field the results obtained by integrating computer based on parallel computation, IoT techniques, machine learning, deep learning, and reinforcement learning algorithms, can produce new cognitive capabilities in autonomous robots with a quality that is much better than the one of the current generation. Similarly, material physics/chemistry/technology has reached a maturity and a variety of solutions to allow the development of new sensors and actuators specialized and miniaturized, and also the development of multifunctional parts of machines and robots. Both disciplines, represent can be leveraged for the development of innovative robots for applications in the life science, industry 4.0, and cyber security.</li> </ul> <p>Furthermore, before the beginning of the Course, on the basis of specific agreements following positions may be activated:</p> <ul style="list-style-type: none"> <li>- positions dedicated to specific industrial research activities, in partnership with organisations and private companies;</li> <li>- positions intended for apprenticeship contracts, pursuant to article 11 of Italian Ministerial Decree no. 45/2013 and article 5 of Italian Legislative Decree 167/2011 (High-level Apprenticeship PhD);</li> <li>- positions reserved for employees of companies which perform research and development activities, pursuant to article 11 of Italian Ministerial Decree no. 45/2013 (Industrial PhD).</li> <li>- positions reserved to foreign recipients of scholarship.</li> </ul> <p><b>Additional positions could be funded with research fellowships</b> lasting three years pursuant to article 22 of Italian Law 240/2010, as provided for under article 8, paragraph 3 of Italian Ministerial Decree no. 45/2013, from research funds of the BioRobotics Institute. Research grants will be assigned, based on the ranking list, to eligible candidates who have not been awarded with a scholarship. Research grant can be assigned to candidates owing the M.Sc. degree at the submission deadline. The number of positions with scholarship may be increased if further funding becomes available, including funding originating from specific agreements pursuant to article 11 of Italian Ministerial Decree 45/2013 (Industrial PhD) or from apprenticeship contracts, pursuant to article 11 of Italian Ministerial Decree 45/2013 and article 5 of Italian Legislative Decree 167/2011 (High-level Apprenticeship PhD).</p> |



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| <p><b>Scholarship amount</b></p>  | <p><b>16,000.00 euros</b> gross paid to payee in deferred monthly instalments.</p> <p>The gross amount includes social security contributions payable by the recipient.</p> <p>The scholarship can be increased as provided for by the Training Activity Regulations for periods abroad, whether authorised by the Teaching Board.</p> <p>Starting from the second year of the Programme, PhD students will also dispose of an annual budget, pursuant to article 9 of Italian Ministerial Decree 45/2013, to cover research activity-related expenses.</p>  |
| <p><b>Research fellowship amount</b></p>  | <p><b>19.367,00 euros</b> gross paid to payee in monthly instalments.</p> <p>For a fair distribution of the resources and considering the higher amount of the research fellowship compared to the scholarship amount, please note that the research fellowship includes contribution for period abroad.</p> <p>Starting from the second year of the Programme, PhD students will also dispose of an annual budget, pursuant to article 9 of Italian Ministerial Decree 45/2013, to cover research activity-related expenses.</p>  |
| <p><b>Submission deadline for the online application</b></p>  | <p><b>June 3<sup>rd</sup> , 2019 (13:00 CEST)</b></p>  |
| <p><b>Documentation obligatory under penalty of exclusion, to be attached to the online application</b></p> | <ul style="list-style-type: none"> <li>a) pdf format copy of a valid identity document;</li> <li>b) Curriculum vitae et studiorum, CV;</li> <li>c) academic transcripts of examinations passed in degree courses, both for Bachelor and M.Sc. Degree indicating the mark received for each one, showing any first class honours awarded; and specifying the average mark; a list of examinations passed, along with marks, in both the degree courses must be provided in order to be able to fully assess the candidate. Where required, those holding a qualification obtained abroad must indicate the minimum and maximum marks required for obtaining the same qualification, as well as the minimum and maximum marks possible for each individual examination; these documents have to be provided in English or Italian;</li> <li>d) <b>only for candidates who obtained their qualification abroad:</b> copy of the University Master Degree (to be translated in Italian or in English unless written in French, German or Spanish). Candidates that are going to obtain the M.Sc. Degree no later than October, 31st must submit a draft or a summary of their degree thesis;</li> <li>e) copy of the degree thesis– M.Sc. Degree - (or an abstract of at least 5 pages, with a photocopy of the cover page) and of any other qualification they deem appropriate (for example, articles published or submitted – with submission certification documents-, participation in courses, attendance at schools, internships, documents attesting to work experience or research carried out, if any; typewritten works are permitted); candidates that are going to obtain the M.Sc. Degree no later than the starting date of the Program must submit a draft or a summary of their degree thesis;</li> <li>f) names and contact details of at least two members of university teaching staff who monitored the candidate's education during his/her university studies; letters of reference, if any, may be sent directly by the member of teaching staff to the following email address: PhDBiorobotics@sss.up.it;</li> <li>g) a <b>not binding</b> research plan of a maximum of 3500 words which must include (in English or in Italian):             <ol style="list-style-type: none"> <li>1. the title of the research;</li> <li>2. the scientific premises and relevant bibliography;</li> <li>3. the aim and expected results of the research project;</li> <li>4. the experimental and data analysis methods, where necessary.</li> </ol> <p>The purpose of submitting the research plan is to ascertain the candidate's vocation for research and his/her ability to submit an innovative, coherent and independent research plan; the said plan is not binding for the definition of the</p> </li> </ul> |



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|                          | research plan to be carried out as part of the Programme.  |
| <b>Test examinations</b> | <p><b>Qualifications and Interview</b></p> <p>Selection will be performed through <b>an assessment of the qualifications listed in the section “documentation to be annexed to the online application”</b>, from points b) to e) inclusive, with the awarding of a maximum of 50 points, and an <b>interview</b>, for a maximum of 50 points. The Board will therefore award a score from 1 to 100, out of one hundred.</p>  |
|                          | <p><i>Assessment of qualifications – maximum score possible: 50</i></p> <p><i>Interview- maximum score possible: 50</i></p> <p>1. The Examining Board will assess the scientific qualification, expressing a concise judgement and awarding a score out of fifty. <b>Those candidates obtaining a score of at least 35/50 in the assessment phase will be accepted for interview.</b></p> <p><b>Candidates are not required to be present during the assessment of qualifications.</b></p> <p>2. The interview may also be carried out by using electronic communications instruments which allow the candidate to be identified. The interview will entail a discussion about the qualifications submitted and the research plan, with the aim of ascertaining the candidate’s vocation for research and his/her ability to submit an innovative, coherent and independent research plan. <b>Candidates obtaining a score below 35/50 will be excluded from the merit ranking list.</b></p> <p>3. The School will notify scholarship holders of their admission to the School using the email address given in the application; the said scholarship holders are required to confirm their acceptance by responding within 15 days, on pain of forfeiture and awarding of the position to the first suitable candidate on the ranking list.</p> |
| <b>Test schedule</b>     | <p>The test schedule will be published at:<br/><a href="http://www.santannapisa.it/it/phdbiorobotics-application">www.santannapisa.it/it/phdbiorobotics-application</a><br/><b>by June 7<sup>th</sup>, 2019</b></p> <p>The School will notify those candidates selected for interview in a timely manner of the day and time of the same, <u>by writing to the email address specified in the application.</u></p> <p>The general merit ranking list will be made available on the page:<br/><a href="http://www.santannapisa.it/it/phdbiorobotics-application">www.santannapisa.it/it/phdbiorobotics-application</a><br/><b>by July 11<sup>th</sup>, 2019</b></p>   |
| <b>Information</b>       | <p>info-phdbiorobotics@santannapisa.it</p> <p>tel. +39.050.883.136 - + 39. 050.883.420 - +39.050.883.528</p>   |