

Annex A

BIOENGINEERING AND ROBOTICS	2
ADVANCED AND HUMANOID ROBOTICS (CODE 7902).....	2
COMPUTER SCIENCE AND SYSTEMS ENGINEERING	3
COMPUTER SCIENCE (CODE 7897).....	3
SYSTEMS ENGINEERING (CODE 7898)	4
SECURE AND RELIABLE SYSTEMS (CODE 7899).....	5
MARINE SCIENCES AND TECHNOLOGIES	6
NAVAL ARCHITECTURE AND MARINE ENGINEERING - MARINE TECHNOLOGIES (CODE 7900)	6
SCIENCE AND TECHNOLOGY FOR ELECTRONIC AND TELECOMMUNICATION ENGINEERING	8
COMPUTATIONAL VISION, AUTOMATIC RECOGNITION AND LEARNING (CODE 7901)	8

Course in: BIOENGINEERING AND ROBOTICS

In agreement with the Foundation of the Italian Institute of Technology (Fondazione Istituto Italiano di Tecnologia – IIT)

Curriculum: ADVANCED AND HUMANOID ROBOTICS (CODE 7902)

Coordinator: Cannata Giorgio	
Department of IT, Bioengineering, Robotics and Systems Engineering (Dipartimento di Informatica, bioingegneria, robotica e ingegneria dei sistemi – DIBRIS)	
Places: 2 – Grants: 2 (*)	
(*) 2 grants from the Foundation of the Italian Institute of Technology (IIT), the annual gross amount of the grant, including social security expenses to be paid by the recipient, is € 16.500,00.	
Comparative assessment procedure	QUALIFICATIONS/PUBLICATIONS
Further information on how to present qualifications/publications	<p>Candidates must submit an exhaustive list of all the exams sat during their Bachelor's and Master's degree and/or equivalents (BS, Master) specifying the averages of marks or an equivalent indicator.</p> <ul style="list-style-type: none">- the specific research themes candidates want to be evaluated on (see list of topics relevant to each curriculum , website http://phd.dibris.unige.it/biorob/index.php/how-to-apply);- a project work related to one (or more) of the themes offered, see the template http://phd.dibris.unige.it/biorob/index.php/how-to-apply); website, http://phd.dibris.unige.it/biorob/index.php/how-to-apply);- a curriculum vitae et studiorum including all the technical-scientific studies/activities already done and pertinent to the doctoral programme;- Name(s), status and place of employment of the referee(s)- from one up to three- chosen by the candidates to support their candidature.
Research Themes	<ul style="list-style-type: none">- Control of humanoid robots.- Legged robots.- Robot design and manipulation.- Perception and learning.- Teleoperation.- Exoskeletons.- Robot actuators.- Multimodal perception.- Robot assisted microsurgery.- Assistive robots.- Industrial robotics for inspection and maintenance. <p>Specific themes will be presented in an attachment available at the following links: http://phd.dibris.unige.it/biorob/index.php/how-to-apply https://www.iit.it/phd-school</p>
Information on references	<p>Candidates must choose not less than one and not more than three referees to support their candidature. These referees must be university professors or experts in the subject and it will be their concern to send reference letters, within the deadline of the public notice, to the Coordinator of the Doctoral Course at the following address: phd.biorob@dibris.unige.it.</p> <p>The name, status and service place of the referees chosen by the candidates must be stated in their applications.</p>
Foreign Languages	English
Further Information	<p>For information on the research themes please contact:</p> <p>Dr. Ferdinando Cannella ferdinando.cannella@iit.it (Advanced Robotics)</p> <p>Dr. Lorenzo Natale lorenzo.natale@iit.it (Humanoid Robotics)</p>

Course in: COMPUTER SCIENCE AND SYSTEMS ENGINEERING

Doctoral Course in agreement with the Bruno Kessler Foundation (Fondazione Bruno Kessler – FBK)

Curriculum: COMPUTER SCIENCE (CODE 7897)

Coordinator: Delzanno Giorgio	
Department of IT, Bioengineering, Robotics and Systems Engineering (Dipartimento di Informatica, bioingegneria, robotica e ingegneria dei sistemi – DIBRIS)	
Places: 3 – Grants: 1 (*)	
(*) 1 grant funded by DIBRIS funds. The annual gross amount of the grant, including social security expenses to be paid by the recipient, is € 15.343,28.	
Comparative assessment procedure	QUALIFICATIONS/PUBLICATIONS AND INTERVIEW
Interview	11.10.2019 - 9.00 am at the Department of IT, Bioengineering, Robotics and Systems Engineering (Dipartimento di Informatica, bioingegneria, robotica e ingegneria dei sistemi – DIBRIS), Sede di Valletta Puggia, Via Dodecaneso 35, Genova. An interview via video conference is also possible. Should there be a high number of candidates, the interviews can be scheduled in the following days
Further information on how to present qualifications/publications	Suggestions on how to organize the research projects are available on the Doctoral web page at the following link: http://phd.dibris.unige.it/csse/index.php/how-to-apply .
Exam Syllabus	The comparative assessment procedure consists in the evaluation of qualifications/publications and in an interview to assess the knowledge needed to undertake a doctoral course in computer science and a discussion on the candidate's research proposal.
Research Themes	The research lines of the Curriculum in Computer Science concern the following macro areas: <ul style="list-style-type: none"> - Artificial intelligence and Multi-agent Systems. - Data Science and Engineering. - Secure and Reliable Systems. - Human-Computer Interaction. - Science and Technology for Health. <p>Some more specific research projects proposed by DIBRIS research groups are described at the link: http://phd.dibris.unige.it/csse/index.php/how-to-apply. Research projects which do not refer to the specific themes listed above will be taken into consideration as long as they are within the research lines of the Doctoral Course.</p>
Information on references	Candidates must choose not less than one and not more than three referees to support their candidature. These referees must be university professors or experts in the subject and it will be their concern to send reference letters, within the deadline of the public notice, to the Coordinator of the Doctoral Course at the following address: phd.compsci@dibris.unige.it . The name, status and service place of the referees chosen by the candidates must be stated in their applications.
Foreign Languages	English
Further Information	Coordinator of the Doctoral Course Prof. Giorgio Delzanno DIBRIS Via Dodecaneso 35, Genova (+39) 0103536603 giorgio.delzanno@unige.it

Course in: COMPUTER SCIENCE AND SYSTEMS ENGINEERING

Doctoral Course in agreement with the Bruno Kessler Foundation (Fondazione Bruno Kessler – FBK)

Curriculum: SYSTEMS ENGINEERING (CODE 7898)

Coordinator: Delzanno Giorgio	
Department of IT, Bioengineering, Robotics and Systems Engineering (Dipartimento di Informatica, bioingegneria, robotica e ingegneria dei sistemi – DIBRIS)	
Places: 1 – Grants: 1 (*)	
(*) 1 grant funded by CIMA Foundation. The annual gross amount of the grants, including social security expenses to be paid by the recipient, is € 15.343,28.	
Comparative assessment procedure	QUALIFICATIONS/PUBLICATIONS AND INTERVIEW
Interview	11.10.2019 - 12.00 am at the Department of IT, Bioengineering, Robotics and Systems Engineering (Dipartimento di Informatica, bioingegneria, robotica e ingegneria dei sistemi – DIBRIS), Sede di Valletta Puggia, Via Dodecaneso 35, Genova. An Interview via video conference (Skype) is also possible. Should there be a high number of candidates, the interviews can be scheduled in the following days
Further information on how to present qualifications/publications	Suggestions on how to organize the research projects are available on the Doctoral web page at the following link: http://phd.dibris.unige.it/csse/index.php/how-to-apply .
Exam Syllabus	The comparative assessment procedure consists in the evaluation of qualifications/publications and in an interview on theoretical and/or practical contents concerning the research themes indicated below and the on the candidate's research activities of interest.
Research Themes	The research line is “an analytic definition of coping and adaptive capacity for civil protection planning and climate change adaptation”.
Information on references	Candidates must choose not less than one and not more than three referees to support their candidature. These referees must be university professors or experts in the subject and it will be their concern to send reference letters, within the deadline of the public notice, to the Coordinator of the Doctoral Course at the following address: phd.compsci@dibris.unige.it . The name, status and service place of the referees chosen by the candidates must be stated in their applications. A template of a reference letter is available on the Doctoral web page at the following link: http://phd.dibris.unige.it/csse/index.php/how-to-apply .
Foreign Languages	English
Further Information	Coordinator of the Doctoral Course Prof. Giorgio Delzanno DIBRIS, Via Dodecaneso 35 Genova (+39) 0103536603 giorgio.delzanno@unige.it Reference person CIMA Prof. Luca Ferraris DIBRIS, Via Magliotto 2, 17100, Savona (+39) 01923027240 luca.ferraris@dibris.unige.it

Course in: COMPUTER SCIENCE AND SYSTEMS ENGINEERING

Doctoral Course in agreement with the Bruno Kessler Foundation (Fondazione Bruno Kessler – FBK)

Curriculum: SECURE AND RELIABLE SYSTEMS (CODE 7899)

Coordinator: Delzanno Giorgio	
Department of IT, Bioengineering, Robotics and Systems Engineering (Dipartimento di Informatica, bioingegneria, robotica e ingegneria dei sistemi – DIBRIS)	
Places: 1 – Grants: 1 (*)	
(*) 1 grant funded by the Bruno Kessler Foundation (Fondazione Bruno Kessler – FBK), the annual gross amount of the grant, including social security expenses to be paid by the recipient, is € 15.343,28.	
Comparative assessment procedure	QUALIFICATIONS/PUBLICATIONS AND INTERVIEW
Interview	11.10.2019 - 11.00 am at the Department of IT, Bioengineering, Robotics and Systems Engineering (Dipartimento di Informatica, bioingegneria, robotica e ingegneria dei sistemi – DIBRIS), Sede di Valletta Puggia, Via Dodecaneso 35, Genova. An interview via video conference (Skype) is also possible. The date will probably be scheduled on the following days should there be a high number of candidates.
Further information on how to present qualifications/publications	Suggestions on how to organize the research projects are available on the Doctoral web page at the following link: http://phd.dibris.unige.it/csse/index.php/how-to-apply .
Exam Syllabus	The comparative assessment procedure consists in the evaluation of qualifications/publications and in an interview on theoretical and/or practical contents concerning the research themes indicated below and the on the candidate's research activities of interest.
Research Themes	The research theme of the FBK scholarship concerns Safety analysis for space and avionics systems and software
Information on references	Candidates must choose not less than one and not more than three referees to support their candidature. These referees must be university professors or experts in the subject and it will be their concern to send reference letters, within the deadline of the public notice, to the Coordinator of the Doctoral Course at the following address: phd.compsci@dibris.unige.it . The name, status and service place of the referees chosen by the candidates must be stated in their applications.
Foreign Languages	English
Further Information	Coordinator of the Doctoral Course Prof. Giorgio Delzanno DIBRIS Via Dodecaneso 35 16146 Genova (+39) 0103536603 giorgio.delzanno@unige.it FBK contact person Dott. Marco Bozzano - bozzano@fbk.eu FBK Trento Via Sommarive 18, Trento (+39) 0461314367

Course in: MARINE SCIENCES AND TECHNOLOGIES

Curriculum: NAVAL ARCHITECTURE AND MARINE ENGINEERING - MARINE TECHNOLOGIES (CODE 7900)

Coordinator: Ferrari Claudio	
Centro del Mare	
Places: 1 (°)	
(°) 1 grant reserved for an Officer of the Genio Navale (Civil Engineer Corps of the Italian Navy)	
Comparative assessment procedures	QUALIFICATIONS/PUBLICATIONS AND INTERVIEW
Interview	11.10.2019 – 11.00 am at Dipartimento di Ingegneria navale, elettrica, elettronica e delle telecomunicazioni (DITEN), Polo Navale, via Montallegro 1, Genova. The option of a video conferencing interview via SKYPE is available; candidates intending to participate in a video conferencing interview must request this option at least a week before the scheduled date. The request must be sent to Prof.Cesare M.Rizzo via email (cesare.rizzo@unige.it)
Further information on how to present qualifications/publications	Candidates must: 1) present a research project (max. 10 pages/A4); 2) a curriculum vitae et studiorum (updated) Graduating Italian students must provide the list of the exams sat during their Master’s degree.
Exam syllabus	The interview will deal with the candidate’s research project and with other topics linked with it.
Research Themes	The research themes concern the idea, the project, the building and the management of different vessels, fixed, surface/underwater vessels, conventional and unconventional, with particular reference to the processes necessary for the synthesis and integration of many different aspects. All this needs an interdisciplinary approach. The possible research themes are: 1. Design process: preliminary design and detailed design, hull development (shapes), hydrostatics and hydrodynamics 2. Resistance towards motion in water, controllability (maneuvering) and dynamic positioning 3. Propellers and their performances 4. Analysis of environmental actions, of loads and of the structural response – both structural and dynamic – including FSI 5. Deterioration, inspections and maintenance of vessels; structural integrity and longevity 6. noise propagation in the vessel and out of it: in the air, in the water 7. Technological processes specific for shipbuilding 8. Materials and conventional/non conventional junctions, intact and damaged ones 9. Development of innovative methods and procedures and their implementation within technical legislation 10. Mechanical transmissions and drives for naval systems and their performances 11. technical maintenance 12. Off-shore platforms for the production of renewable energy 13. Energy efficiency and innovative propulsion systems 14. Modelling and simulating naval systems 15. Control and improvement of naval energy systems 16. Systems for autonomous navigation 17. Reliability and safety of vessels 18. Reliability, availability and safety of the systems 19. Diagnostics and prognostics aimed at the maintenance of the systems 20. The human factor and the use of the ship within the context of a safety-based project
Information on references	Candidates must choose not less than one and not more than three referees to support their candidature. These referees must be university professors or experts in the subject and it will be their concern to send reference letters, within the deadline of the public notice, to the following address:

	<u>cesare.rizzo@unige.it</u> . The name, status and service place of the referees chosen by the candidates must be stated in their applications.
Foreign Languages	English

Course in: SCIENCE AND TECHNOLOGY FOR ELECTRONIC AND TELECOMMUNICATION ENGINEERING

In agreement with the Foundation of the Italian Institute of Technology (Fondazione Istituto Italiano di Tecnologia - IIT)

Curriculum: COMPUTATIONAL VISION, AUTOMATIC RECOGNITION AND LEARNING (CODE 7901)

Coordinator: Marchese Mario	
Department of Marine, Electrical, Electronic and Telecommunications Engineering (Dipartimento di Ingegneria navale, elettrica, elettronica e delle telecomunicazioni – DITEN)	
Places: 3 – Grants: 3 (*).	
(*) 3 grants funded by the Istituto Italiano di Tecnologia - IIT (Foundation of the Italian Institute of Technology), the annual gross amount of the grant, including social security expenses to be paid by the recipient, is € 16.500,00	
Comparative assessment procedure	QUALIFICATIONS/PUBLICATIONS AND INTERVIEW
Interview	16.10.2019 – 9.00 am at the Istituto Italiano di Tecnologia (IIT), Via Enrico Melen, 83, Genova The interviews may also take place electronically with a Skype connection, video included to check identity, on request to the Coordinator of the Doctoral Course, Prof. Mario Marchese, by email to mario.marchese@unige.it and to Prof. Andrea Trucco, andrea.trucco@unige.it .
Further information on how to present qualifications/publications	<p>In presenting their CV, it is important for candidates to highlight the following features as they will be used as evaluative parameters: publications done (e.g. in International Journals, International Conferences, Book Chapters), the degree mark (or equivalent qualification) obtained, work experience and acquired skills.</p> <p>It is also important for candidates to highlight the following features when presenting their research project as they will be used as evaluative parameters: Relevance to the research themes that appear in this public exam, Originality, Execution modalities, Feasibility, Clear presentation/exposition.</p> <p>A possible outline for the presentation of the research project plan, which should not exceed 10 page, is the following:</p> <ul style="list-style-type: none"> - motivations and logic foundation; - state of the art; - objectives; - methods employed; - preliminary workplan; - expected outcomes; - bibliography. <p>Further details for the preparation of the research project are available in a document at the following address: https://pavisdata.iit.it/data/phd/ResearchProjectTemplate</p>
Exam Syllabus	The interview aims at evaluating the candidates' competences in relation to the research themes listed and methodological abilities to face research problems. Furthermore, the interview will also deal with the thematics of the research project plan presented by the candidate.
Research Themes	<p>Theme A - Computer vision for AI spatial reasoning</p> <p>Theme B - Zero-and Few-Shot Learning</p> <p>Theme C - Online 3D scene understanding with geometrical and deep learning reasoning</p> <p>Theme D - Re-identification from multi-modal data</p> <p>Further details on specific themes are available in a document at the following address: https://pavisdata.iit.it/data/phd/2019_ResearchTopicsPhD_IIT_PAVISVGM_RECALS.pdf</p>

Information on references	<p>Candidates must choose not less than one and not more than three referees to support their candidature. These referees must be university professors or experts in the subject and it will be their concern to send reference letters, within the deadline of the public notice, to the Coordinator of the Doctoral Course Prof. Mario Marchese at the following addresses, mario.marchese@unige.it and to Prof. Andrea Trucco, andrea.trucco@unige.it.</p> <p>The name, status and service place of the referees chosen by the candidates must be stated in their applications.</p> <p>The candidates' aptitude for scientific research must emerge from the contents of the reference letters.</p>
Foreign Languages	English
Further Information	<p>Prof. Mario Marchese Dipartimento di Ingegneria navale, elettrica, elettronica e delle telecomunicazioni (DITEN) via Opera Pia 13 16145 Genova mario.marchese@unige.it</p> <p>Prof. Andrea Trucco, Ph.D. DITEN - Università di Genova Via Opera Pia 13 16145, Genova, Italy andrea.trucco@unige.it</p>