Section "Available Positions and Scholarships" integrated on 13/06/2022

Section "Available Positions and Scholarships" modified on 22/06/2022

Section "Available Positions and Scholarships" modified on 01/07/2022

PROGRAMME'S NAME	DATA SCIENCE AND COMPUTATION
ASSOCIATED PARTNERS *Pursuant to art. 3 para 2 lett. b) of the MD n. 226/2021*	Istituto Italiano di Tecnologia - IIT
DURATION	4 years
PROGRAMME START DATE	01/11/2022 (DD/MM/YYYY)
LANGUAGES	Italian, English
MANDATORY STAY ABROAD	3 months
COORDINATOR	Prof. Andrea Cavalli (andrea.cavalli@unibo.it)
CURRICULA	N/A
RESEARCH TOPICS	Detailed list at the bottom of the present document
PhD POSITIONS	10
ADMISSION PROCEDURE	Qualifications and research proposal evaluation Oral examination

Available Positions and Scholarships

Pos. n.	Financial Support	Description	Positions linked to research topics
1	PhD Scholarship	Totally funded by the University of Bologna general budget	
2	PhD Scholarship	Co- funded by the University of Bologna general budget, the Department of Computer Science and Engineering and the Department of Electrical, Electronic, and Information Engineering "Guglielmo Marconi"	
3	PhD Scholarship	Funded by Fondazione Istituto Italiano di Tecnologia (IIT)	Genomics and Bioinformatics, Personalized medicine, Computational Chemistry & Physics
4	PhD Scholarship	Funded by Fondazione Istituto Italiano di Tecnologia (IIT)	Genomics and Bioinformatics, Personalized medicine, Computational Chemistry & Physics
5	PhD Scholarship	Funded by Fondazione Istituto Italiano di Tecnologia (IIT)	Genomics and Bioinformatics, Personalized medicine, Computational Chemistry & Physics
6	PhD Scholarship	Funded by Istituto Nazionale di Fisica Nucleare (INFN)	Computational physics
7	PhD Scholarship	Funded by Istituto Nazionale di Fisica Nucleare (INFN)	Computational physics
8	Research Grant	Provided by the Department Electrical, Electronic, and Information Engineering "Guglielmo Marconi", with funds made available by the project HORIZON	Ultra-Low-Power AI-Powered Biosignal Analysis at the Edge

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		EUROPE Intelliman (GA Declaration - GAP-101070136 - 999993953) Resp. Prof. Gianluca Palli e sul progetto H2020 EPI-SGA1 (GA 826647) Resp. Prof. Luca Benin. The research grant will have a duration of 12 months, renewable up to ~~36 months~~ 48 months, and gross percipient amount of €19,367.	
9	PhD Scholarship	Funded by CINECA - Consorzio Interuniversitario	Molecular simulations of metalloproteins with deeplearning generated force fields
10	PhD Scholarship	Funded by CINECA - Consorzio Interuniversitario	Performance assesment and power management optimizations of HPC heterogeneous architectures based on highend RISC processors (ARM & RISC-V)

Admission Exams

	DATE AND TIME	RESULTS
Qualifications and research proposal evaluation	Applicants' participation is not required	Available from **01/07/2022****
Oral examination	**Date**: starting from **11/07/2022 – 9.00 a.m. CEST*** **Place**: In presence, Aula 1 – Department of Pharmacy and Biotechnology, Via Belmeloro 6, Bologna. Remotely, using Microsoft Teams	Available from **22/07/2022****

* In case that the oral examination cannot be completed in one day due to the large number of applicants, the oral examination detailed schedule shall be made available on the webpage Studenti Online together with the results of the qualifications and research proposal evaluation. **During the oral examination, applicants may express their interest in one or more positions linked to specific research topics.**

** The **results of the admission exams** will be available on the webpage Studenti Online (select "summary of the requests in progress" > "see detail" and open the .pdf file at the bottom of the page). **No personal written communication will be sent to applicants concerning the examinations results**.

Required and Supporting Documents to be attached to the application

All the documents listed below **shall be drawn up in English or in Italian**. In case of documents originally issued in any other language (e.g. identity document, qualifications), an official English or Italian translation is required.
Only qualifications obtained **during the last 5 calendar years** shall be taken into consideration, except for the University Degree. The Admission Board will assess the relevance of the supporting documents to the PhD Programme.

REQUIRED DOCUMENTS	
Identity document	Valid identity document with photo (i.e. identity card, passport)
Curriculum Vitae	No specific CV format is required
Degrees	Documents attesting the awarding of the first and second cycle degrees, the exams taken and the marks obtained (see Art. 3 of the Call for Applications). Applicants are required to indicate the Weighted Average Mark (WAM) for each degree submitted.
Research proposal	Brief research statement (2 pages maximum in Times New Roman 11, with references including maximum 20 articles)
SUPPORTING DOCUMENTS	
Publications	Lists of publications (i.e. monographs, articles on scientific journals), minor publications (conference papers, book's chapters etc.), abstracts and posters presented during national and international conferences, etc.

Other documents	- Postgraduate vocational training programmes relevant to the PhD Programme main research topics - Teaching activity carried out at university level - Research activity of any kind - whether basic, applied, translational, etc. - carried out in any capacity, including when covered by research grants, and as a staff member of research projects - Work activity - Curricular or non-curricular professional internships - Other qualifications attesting the suitability of the applicants (scholarships, prizes, etc.)

Evaluation criteria*

Scores will be expressed in points out of 100, as follows.

1. Qualifications and research proposal evaluation

Minimum score for admission to the oral examination: 30 points, Maximum score: 50 points

Qualifications evaluation	First cycle degree Weighted Average Mark (WAM) - 50% Second cycle degree Weighted Average Mark (WAM) - 50% Or Single cycle degree Weighted Average Mark (WAM) - 100% Or "Vecchio ordinamento" Italian degree (pre-1999 reform) average mark - 100% For degrees awarded abroad – CGPA - 100%	25 points max
	Publications	4 points max
	Postgraduate scholarships, research grants, research activity carried out in Universities, public or private bodies, in the last 5 years and after being awarded a second cycle degree	2 points max
	Other qualifications attesting the applicant's training and skills	3 points max
	Participation in conferences as a speaker or author/co-author of original contributions	1 points max
Research proposal evaluation	Scientific value and ground-breaking nature, structure and feasability of the proposal	15 points max

2. Oral examination

Minimum score for eligibility: 30 points, Maximum score 50 points

English language proficiency	10 points max
Research proposal presentation	15 points max
General knowledge of issues encompassed by the PhD Programme	25 points max

Oral examination aims to assess the suitability of the applicant for scientific research as well as the general knowledge of issues encompassed by the PhD Programme (see the list of research topics at the bottom of the present document).
During the oral examination, the applicant's English language proficiency shall be assessed.
The oral examination is carried out in Italian or in English.
* Possible further evaluation criteria will be available on the University website, selecting the relevant PhD Programme > "More information", at the bottom of the page in the section "Notices".

Research Topics

- Quantitative Finance and Economics
- Materials and Industry 4.0
- Genomics and bioinformatics
- Personalised medicine
- Hardware and Infrastructure
- Machine learning and deep learning
- Computational physics
- Computational chemistry
- Big Data, Smart Cities & Society

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