



UNIONE EUROPEA
Fondo Sociale Europeo



Università degli Studi di Cagliari

International PhD Programme in PHYSICS in collaboration with Universitat Autònoma de Barcelona	
DISCIPLINARY SCIENTIFIC AREA	02- PHYSICAL SCIENCES
COORDINATOR	PROF. PAOLO RUGGERONE
HEAD DEPARTMENT	DEPARTMENT OF PHYSICS
DURATION	3 YEARS
LEARNING OUTCOMES AND RESEARCH TOPICS	<p>The PhD programme in Physics pursues the following goals:</p> <ol style="list-style-type: none"> 1. COMPLETING THE BACKGROUND IN PHYSICS – The PhD candidates will attend specific lectures, seminars, and additional lecturing activities at post-graduate level. 2. DEVELOPING A PROPER RESEARCH ATTITUDE - The PhD candidate will be assigned a supervisor according to the state-of-the-art research topic who will supervise her/his research and training activities. PhD students join research groups and will work in teams including undergraduate students, post-docs, researchers, and faculty members. Additionally, to complete the training to research the supervisor will favour the involvement and the commitment of the PhD candidate in international collaborations as well as the attendance at workshops and conferences. 3. WORKING ON AN INNOVATIVE RESEARCH TOPIC – The research activity of the PhD candidates will be inserted in research projects. The PhD candidates have (i) to work on a novel topic; (ii) to publish the obtained results in national and international scientific journals; (iii) to present the research line and the obtained results in both internal review sessions (year-end seminars and year-end reports) and workshops and/or conferences. 4. DEEPENING ASPECTS OF PROJECT MANAGEMENT – The PhD candidate will be exposed to specific courses on skills related to drafting and managing a project including issues associated with the intellectual property. <p>In Italy, PhDs in Physics are usually employed in the academy and/or in public research institutes. However, due to the involvement of research groups of the Physics Department in projects with a strong contribution from companies (examples are the SRT-Sardinian Radio Telescope and the project supported by the NIH-National Institutes of Health) we hope that the connection with industries and companies will be strengthened.</p>
ELIGIBILITY AND OTHER REQUIREMENTS FOR CANDIDATES (ART. 2 - NOTICE OF COMPETITION)	LM-8 Biotecnologie industriali LM-9 Biotecnologie mediche, veterinarie e farmaceutiche LM-17 Fisica LM-18 Informatica LM-20 Ingegneria aerospaziale e astronautica LM-21 Ingegneria biomedica



	<p>LM-22 Ingegneria chimica LM-23 Ingegneria civile LM-25 Ingegneria dell'automazione LM-26 Ingegneria della sicurezza LM-27 Ingegneria delle telecomunicazioni LM-28 Ingegneria elettrica LM-29 Ingegneria elettronica LM-30 Ingegneria energetica e nucleare LM-31 Ingegneria gestionale LM-32 Ingegneria informatica LM-33 Ingegneria meccanica LM-34 Ingegneria navale LM-35 Ingegneria per l'ambiente e il territorio LM-40 Matematica LM-44 Modellistica matematico-fisica per l'ingegneria LM-53 Scienza e ingegneria dei materiali LM-54 Scienze chimiche LM-58 Scienze dell'universo LM-71 Scienze e tecnologie della chimica industriale LM-79 Scienze geofisiche 8/S (specialistiche in biotecnologie industriali) 9/S (specialistiche in biotecnologie mediche, veterinarie e farmaceutiche) 20/S (specialistiche in fisica) 23/S (specialistiche in informatica) 25/S (specialistiche in ingegneria aerospaziale e astronautica) 26/S (specialistiche in ingegneria biomedica) 27/S (specialistiche in ingegneria chimica) 28/S (specialistiche in ingegneria civile) 29/S (specialistiche in ingegneria dell'automazione) 30/S (specialistiche in ingegneria delle telecomunicazioni) 31/S (specialistiche in ingegneria elettrica) 32/S (specialistiche in ingegneria elettronica) 33/S (specialistiche in ingegneria energetica e nucleare) 34/S (specialistiche in ingegneria gestionale) 35/S (specialistiche in ingegneria informatica) 36/S (specialistiche in ingegneria meccanica) 37/S (specialistiche in ingegneria navale) 38/S (specialistiche in ingegneria per l'ambiente e il territorio) 45/S (specialistiche in matematica) 50/S (specialistiche in modellistica matematico-fisica per l'ingegneria) 61/S (specialistiche in scienza e ingegneria dei materiali) 62/S (specialistiche in scienze chimiche) 66/S (specialistiche in scienze dell'universo) and equivalent and suitable foreign academic degrees 85/S (specialistiche in scienze geofisiche).</p> <p>Foreign candidates: Master's degree in Physics and related subjects (to be evaluated on a case-by-case basis)</p>
<p>ADMISSION TESTS</p>	<p>ASSESSMENT OF QUALIFICATIONS AND CURRICULUM VITAE, AND VIDEOCONFERENCE INTERVIEW.</p>



	During the interview, the candidate's language skills in English will be assessed.
ADMISSION TESTS FOR FOREIGN CANDIDATES APPLYING FOR RESERVED POSITIONS SUPPORTED BY A SCHOLARSHIP	ASSESSMENT OF QUALIFICATIONS AND CV, VIDEO CONFERENCE INTERVIEW The interview can also be conducted in English. Reference letters must be written in English, using the form available on the webpage https://unica.it/dottoratiricerca (How to apply for PhD selection: Guidelines and forms- Annex C), by a university professor or an expert in the research fields of the PhD programme, on letterhead of their institution, dated and signed. Evaluators will send their letters directly to the email address phdcall_referenceletter@unica.it (object: surname and name of the candidate being evaluated and name of the PhD programme for which he/she is applying).
POSITIONS	7
SCHOLARSHIPS	2 FUNDED BY MUR "2019-2020 PLANNING EX ART. 1 D.M. N. 435/2020 STATE UNIVERSITIES" 2 FUNDED BY MUR PL, 1 OF WHICH RESERVED FOR FOREIGN CANDIDATES HOLDING A FOREIGN DEGREE 1 FUNDED BY I.N.F.N – NATIONAL INSTITUTE FOR NUCLEAR PHYSICS 1 FUNDED BY INAF-OAC – NATIONAL INSTITUTE FOR ASTROPHYSICS-ASTRONOMICAL OBSERVATORY OF CAGLIARI, research topic " <i>High-angular resolution studies of water megamasers in Seyfert galaxies</i> " - REFERENCE PERSON Dr. Andrea Tarchi, INAF-OAC. The recipients for the scholarship related to a specific topic will be selected among the candidates who will gain a suitable position in the ranking lists for the admission to the PhD programme, as well as a positive assessment as regards the adequacy of his/her CV to develop the specific topic.
POSITIONS WITHOUT SCHOLARSHIP	1
REFERENCE PERSON	PROF. PAOLO RUGGERONE EMAIL: dottorato.fisica@dsf.unica.it - TEL. +39 0706754922
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