UNIVERSITÀ DEGLI STUDI DI CAGLIARI

PhD Programme in NEUROSCIENCE in collaboration with - Université Laval - Université Clermont Auvergne	
DISCIPLINARY SCIENTIFIC AREAS	05 - BIOLOGICAL SCIENCES; 06 - MEDICAL SCIENCES; 11 - HISTORICAL, PHYLOSOPHICAL, PEDAGOGICAL AND PSYCHOLOGICAL SCIENCES
COORDINATOR	PROF. PAOLA FADDA
HEAD DEPARTMENT	DEPARTMENT OF BIOMEDICAL SCIENCES
DURATION	3 YEARS
LEARNING OUTCOMES AND RESEARCH TOPICS	The Neurosciences are a field of high and timely scientific relevance, which has undergone a remarkable growth for the combined application of molecular, cellular and physic technologies, opening the way to the comprehension of the molecular basis of complex processes which characterize the central and peripheral nervous system. Therefore, the Neurosciences involve a growing number of researchers, rapidly developing as an independent branch of biomedical sciences, pivotal for the human health care. The PhD program in Neuroscience aims at ensuring a high level education enabled by the constant work of a productive research team internationally acknowledged, and based on the acquisition of the required skills to perform high level research and professional activity. The PhD Board includes both basic and clinical researchers from UNICA, foreign Universities and the CNR Institute of Neuroscience, Cagliari section. Researchers hold different skills and multiple collaborations with national and international research centres. Specifically, researchers at UNICA belong to two distinct Departments: Biomedical Sciences and Medical and Public Health Sciences, which constantly collaborate with italian and foreign Universities and Research Centers as well as with private companies. Based on the scientific interests and multidisciplinary skills of the PhD Board members, research fields within the Neurosciences include chemical neuroanatomy, neurophysiology, sensorial physiology, neurobiology, neuropathology, neurodegenerative mechanisms, neuropsychopharmacology, behavioral neurosciences, and the development of new diagnostic tools and new molecules acting on the nervous system. PhD program objectives: The PhD programme in Neuroscience aims at training independent scientists to carry out basic and clinical neuroscience research, by means of multidisciplinary approaches. The Neuroscience PhD programme specific aims are: 1) Transmitting the knowledge of neuroanatomy and neurophysiology and sensorial physiology, the understanding of developmental and functional mechanisms of central and peripheral nervous systems; 2) Understanding the neuro-pathological and physio-pathological bases of diverse pathologies such as psychiatric diseases (anxiety, depression, bipolar disorders, psychotic disorders and schizophrenia, addictive disorders, eating disorders, borderline personality disorder), neurodegenerative diseases, epilepsy, dementia, migraine, pain, and their related therapeutic approaches.

	Educational objectives: - Training in both basic and clinical neuroscience. - Acquisition of research methodology by means of classical and innovative techniques in histochemistry, immunochemistry, neurochemistry molecular biology, electrophysiology, genetics and behavioural analyses, in the fields of basic and clinic neuroscience. - The acquisition of independent and critical approach to scientific research, as well as methodological accuracy. - To introduce the PhD students into scientific networks with national and international researchers groups. Specifically, during the first PhD year, the lectures and the seminars will be devoted to basic neuroscience, including biomedical statistics, neuroanatomy, neurophysiology, neuropharmacology, in vivo and ex vivo research methods, animal use in research, and research ethics. During the second and third years, the lectures and the seminars will focus on neurological disorders covered in relation to neuropathology and clinical-therapeutic management. Supported by the tutor, the PhD student will acquire technical skills required to master the experiments, including the use of instruments, data analysis and interpretation. Research fields: Main professional positions for PhD graduates in Neuroscience are: - Academic career in public and private, national and international universities - Public health services; - Research activity in public centers (Istituto Superiore di Sanità, CNR, IRCCS); - Research activity in local, national and international pharmaceutical companies, diagnostics and biotechs; - Preclinical research and technological development in public and private, local, national and international structures; - Management in public and private biotechnological structures; - Promotion and development of scientific and technological innovation in neurobiology; - Publishing of high level scientific culture with specific focus to Neurosciences; - Applied biology and biochemistry in Neuroscience in health and neuropharmacological fields; - Testing and development of biological/biotechnological drugs. The acquired theoretical and practical skills apply to fields beyond the Neurosciences as well. Regione Autonoma della Sardegna envisions the support to Research as a main objective for local economic and cultural development, which has led to the establishment of several private and public companies in the biomedical and pharmacological field. In this context, the PhD programme is specifically tailored to impart the professional skills for such job opportunities. The interaction with local enterprises begins during the PhD training period throughout collaborative relations between the PhD Academic Board and the companies located in the Scientific and Technologic Park of Sardinia, within the projects founded by MUR and Regione Autonoma della Sardegna.
ELIGIBILITY AND OTHER	LM-6 Biologia

REQUIREMENTS FOR CANDIDATES (ART. 2 - NOTICE OF COMPETITION)	LM-9 Biotecnologie mediche, veterinarie e farmaceutiche LM-13 Farmacia e farmacia industriale LM-21 Ingegneria biomedica LM-41 Medicina e chirurgia LM-42 Medicina veterinaria LM-51 Psicologia LM-55 Scienze cognitive LM-60 Scienze della natura LM-61 Scienze della nutrizione umana LM/SNT3 Scienze delle professioni sanitarie tecniche 6/S (specialistiche in biologia) 9/S (specialistiche in biotecnologie mediche, veterinarie e farmaceutiche) 14/S (specialistiche in farmacia e farmacia industriale) 26/S (specialistiche in ingegneria biomedica) 46/S (specialistiche in medicina e chirurgia) 47/S (specialistiche in medicina veterinaria) 58/S (specialistiche in psicologia) 63/S (specialistiche in scienze cognitive) 68/S (specialistiche in scienze della natura) 69/S (specialistiche in scienze della nutrizione umana) and all equivalent second level degrees. Foreign candidates: If the foreign applicant's degree does not suit those degrees included in the Italian educational system, the application will be individually evaluated for applicant's eligibility.
ADMISSION TESTS	ASSESSMENT OF QUALIFICATIONS AND CURRICULUM VITAE AND VIDEO CONFERENCE INTERVIEW English skills will be evaluated.
ADMISSION TESTS FOR FOREIGN CANDIDATES APPLYING FOR RESERVED POSITIONS SUPPORTED BY A SCHOLARSHIP	ASSESSMENT OF QUALIFICATIONS AND CV, VIDEO CONFERENCE INTERVIEW English skills will be evaluated. The interview will be held in English. Reference letters (up to 3) 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	5
SCHOLARSHIPS	4 funded by MUR PL, 1 of which reserved for foreign candidates with a degree awarded abroad
POSITIONS WITHOUT SCHOLARSHIP	1
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