PHD IN	**Archaeology, History and Human Sciences**
PHD COORDINATOR	Prof. Maria Grazia Melis – mgmelis@uniss.it
TRAINING GOALS	The main purpose of the Course is to train graduates in advanced research, supporting the increase of knowledge in the disciplines that characterise it, methodological skills, the ability to independently conduct high-level research activities, and the ability to compare and dialogue within the scientific community and with the general public. PhD students will have the concrete opportunity to take part in the numerous scientific activities carried out by the members of the Board and by the scholars who will be called upon to intervene with initiatives of a didactic nature as part of their training. The numerous research activities, in the laboratory and in the field, which are concentrated not only in Sardinia but also in France, Spain, Romania and Tunisia, will be able to count on the active involvement of PhD students. Through a high-level training process, specifically dedicated to refining the critical tools of scientific research, PhD students will be able to familiarise themselves with the methodologies of data collection and processing, up to the realisation of original research paths that will lead them to acquire the skills to publish scientific works in monographic form or in the form of articles for indexed journals.
RESEARCH FIELDS (SSD)	ARCH-01/A - Prehistory and Protohistory STAN-01/A - Greek History STAN-01/B - Roman History ARCH-01/C - Civilization of pre-Roman Italy and Etruscology ARCH-01/D - Classical Archaeology ARCH-01/E - Christian Archaeology, Late Antiquity and the Middle Ages ARCH-01/G - Archaeological research methodologies LATI-01/A - Latin language and literature FICP-01/A - Greek and Latin philology LIFI-01/A - Italian linguistics STAA-01/F - Phoenician-Punic archaeology PHIL-03/A - Moral philosophy PHIL-05/A - History of philosophy PAED-02/A - Special education and teaching HIST-01/A - Medieval history HIST-02/A - Modern history HIST-03/A - Contemporary history
SELECTION	Qualifications, research project and interview (30+20+50)
SCHOLARSHIPS (Distinguished by administrative category)	**n. 1 scholarship funded by the University** - Topic: The reconstruction of archaeological ecosystems through a bioarchaeological or biohistorical approach - Topic: Cultural models of social self-representation

	<u>n. 7 scholarships funded by the Autonomous Region of Sardinia on the PR Sardinia ESF+ 2021-2027 (Line A)</u> - Topic: Natural resources and territory. Research and development in a diachronic and interdisciplinary perspective - Topic: Archaeology and history of human rights in prison camps between Sardinia and Europe - Topic: Social and political history and development strategies in the Mediterranean area - Topic: Environmental ethics and sustainable development - Topic: Public archaeology and public history. Memory and actuality - Topic: The idea of technique in its relation to nature in philosophical, literary and historical contexts - Topic: Specialized productions and technical knowledge in the Mediterranean
RESEARCH TOPICS FOR PHD RESEARCH PROJECT AND INTERVIEW	The same topics already indicated for the scholarships should be used. The topics associated with scholarships funded by the Autonomous Region of Sardinia can also be used for participation in the position with a scholarship funded by the University.
DIRECTIONS REGARDING THE WRITING OF THE RESEARCH PROJECT	The research project must be written in a maximum of 4500 characters including spaces and excluding the bibliography.
INTERVIEW	The interview will take place online

PHD IN	**Architecture and Environment**
PHD COORDINATOR	Prof. Fabio Bacchini – bacchini@uniss.it
TRAINING GOALS	The aim of the PhD programme in Architecture and Environment is to train a researcher capable of understanding built spaces and their relationships with the environment and landscape in order to design their management and transformation. In particular, the perspective of the PhD programme is to train new researchers capable of reflecting within action and learning in a self-formative process. The primary objective of the course is to generate new scientists, professionals and entrepreneurs capable of achieving international prominence. The PhD Course promotes a systemic and multidisciplinary approach, in which the contents, objectives and research methodologies are consistent with the individual research topics and are open to an interdisciplinary approach as proposed by the course design. The various disciplines that are part of the doctoral programme aim to work in an innovative and sustainable manner with respect to the challenges of an ever-changing society, dealing with material and immaterial objects in relation to the structures and functions of complex ecosystems. In addition to the basic objectives typical of the third cycle of Higher Education, which envisage the perfect mastery of sources within a disciplinary framework relating to one's research, good writing skills in a scientific and academic context and the ability to transmit scientific results through appropriate forms of communication, the PhD Course in Architecture and Environment has as its peculiar objectives the construction of specific contents relating to a research method that responds to specific themes of investigation of the various disciplines pertaining to the course and the construction of operative methodologies that envisage an analytical-constructive reading parallel to a profound reflection on action. The interoperable components between the different fields, in collaboration with various research organisations and territorial government structures, aim to provide research and training capacities that enable the future PhD to respond to issues of particular complexity and specificity even in non-academic environments, such as private companies and local authorities.
RESEARCH FIELDS (SSD)	AGRI-06/C - Pedology BIOS-05/A - Ecology GEOS-02/B - Stratigraphic Geology and Sedimentology GEOS-03/A - Physical Geography and Geomorphology GEOS-01/D - Mineral Georisources and Mineralogical-Petrographic Applications for the Environment and Cultural Heritage CEAR-03/B - Transportation CEAR-06/A - Construction Science CEAR- 08/C - Technological and environmental design of architecture CEAR-08/D - Design CEAR-09/A - Architectural and urban composition CEAR-10/A - Drawing CEAR-11/A - History of architecture CEAR-11/B - Restoration of architecture CEAR-12/A - Urban planning and technology ARCH-01/E - Christian archaeology, late antique and medieval

	FICP-01/A - Greek and Latin philology SDEA-01/A - Demoethnoanthropological disciplines PHIL-02/A - Logic and philosophy of science PHIL-05/B - History of ancient philosophy MATH-02/B - Geometry MATH-03/A - Mathematical analysis MEDS-24/B - General and applied hygiene
SELECTION	Qualifications and interview (30+70)
SCHOLARSHIPS (Distinguished by administrative category)	**- n. 1 scholarship funded by the University** - Topic: Enhancement and regeneration of tangible and intangible cultural heritage, revitalization of places and territories, climate change, environmental conservation and rethinking, ecological transition, cultural and creative industries, new spaces of learning: the role of scientific knowledge, philosophical and historical reflection, and urban, architectural and design **n. 2 scholarships funded by the Autonomous Region of Sardinia on the PR Sardinia ESF+ 2021-2027 (Line A)** - Topic: Enhancement and regeneration of tangible and intangible cultural heritage, revitalization of places and territories, climate change, environmental conservation and rethinking, ecological transition, cultural and creative industries, new spaces of learning: the role of scientific knowledge, philosophical and historical reflection, and urban, architectural and design **n. 5 scholarships funded by the Autonomous Region of Sardinia on the PR Sardinia ESF+ 2021-2027 (Line B)** - Topic: Enhancement and regeneration of tangible and intangible cultural heritage, revitalization of places and territories, climate change, environmental conservation and rethinking, ecological transition, cultural and creative industries, new spaces of learning: the role of scientific and technological knowledge in its relations with urban, architectural and design projects and with philosophical and historical reflection **- n. 1 place reserved for Foreign Scholars from the Universidade Estadual Paulista "Júlio de Mesquita Filho"** - Theme: Contribution to actions to optimize the use of natural resources and increase forest productivity in the medium to long term with a view to environmental and socio-economic sustainability
RESEARCH TOPICS FOR PHD RESEARCH PROJECT AND INTERVIEW	1. Architecture, Urban Studies, and Cultural Heritage 2. Architecture, Complexity, and Society 3. Community Empowerment and Participatory Planning 4. Architecture, Ecology, and Sustainability 5. Ecology, Geology, Pedology: New Perspectives for Environmental Management 6. Monitoring of Climate Change for Environmental Conservation 7. Architecture, Space, and Learning Processes 8. Visual and Graphic Sciences and Communication Design 9. Architecture, Structures, and Technology 10. Territory, Dwelling, and Movement 11. Urban Studies, Architecture, and Depopulation 12. Philosophy of Architecture, Environment, and Cultural Heritage

DIRECTIONS REGARDING THE WRITING OF THE RESEARCH PROJECT	The research project can be written either in Italian or in English (candidates from UNESP are allowed to write it in Portuguese). Research projects should not exceed 5000 characters (including spaces and excluding the list of references) and should be articulated into the following sections: Title (maximum 70 characters); Short research question (maximum 150 characters); Goals; Positioning of the research project with regard to the state of the art in the relevant disciplinary field(s); Methodology; Social and practical implications; Originality. The research project will not receive a separate panel score and will rather be used as a basis for discussion during the interview.
INTERVIEW	In-person or online, at the candidate's choice

PHD IN	**Cultures, Literatures, Rights, Tourism and Territory**
PHD COORDINATOR	Prof. Carla Bassu – carlabassu@uniss.it
TRAINING GOALS	PhD students in the PhD Course in Cultures, Literatures, Rights, Tourism and Territory will have to: - develop a theoretical-critical instrumentation adapted to the complex cultural and social scenario generated by globalisation, going back to its social and linguistic cultural roots, in the context of pluralist democracy; - critically examine the transnational dynamics of today's knowledge society and at the same time oppose the uncritical homologation of contemporary reality, drawing on the cultural wealth of the territory and the memory of the past, also in function of a collaboration with companies, local authorities and communities in the perspective of democratic social order; - increase their linguistic, sociological and literary knowledge with a view to broadening their research horizons and international mobility; - provide skills for the use of new research methods through new technologies; - develop skills and research methodologies in relation to cultural activities linked to the territory with a view to economic enhancement; - develop skills relating to technological tools for analysing spatial data
RESEARCH FIELDS (SSD)	CEAR-04/A - Geomatics GIUR-11/B - Comparative public law ARCH-01/A - Prehistory and protohistory STAN-01/B - Roman history ARTE-01/C - Contemporary art history ARTE-01/D - Museology and art and restoration criticism PEMM-01/B - Cinema, photography, radio, television and digital media FLMR-01/A - Medieval and humanistic Latin literature FLMR-01/B - Romance philology and linguistics ITAL-01/A - Italian literature LICO-01/A - Contemporary Italian literature LIFI-01/B - Philology of Italian literature FRAN-01/A - French literature FRAN-01/B - Language, translation and French linguistics SPAN-01/A - Spanish literature SPAN-01/C - Spanish language, translation and linguistics ANGL-01/A - English literature ANGL-01/C - English language, translation and linguistics GERM-01/B - German literature GERM-01/C - Language, translation and German linguistics SLAV-01/A - Slavistics PHIL-04/B - Philosophy and theory of languages GEOG-01/A - Geography GEOG-01/B - Economic-political geography PAED-01/B - History of pedagogy and education

	PSIC-03/A - Social psychology GSPS-05/A - General sociology
SELECTION	Qualifications, research project and interview (30+20+50)
SCHOLARSHIPS (Distinguished by administrative category)	**n. 1 Scholarship co-funded by the University and the Department of Humanities and Social Sciences** - Topic: Discovering the hidden heritage: geomatic techniques for knowledge, dissemination and conservation of natural and cultural heritage not easily accessible **n. 6 scholarships funded by the Autonomous Region of Sardinia on the PR Sardinia ESF+ 2021-2027 (Line A)** - Topic: Methodologies for the enhancement of photographic and audiovisual archives of the twentieth century, with a focus on the history of women and their relationship with places and communities - Topic: Gender discrimination in the German and Italian press: a pragmatic-communicative analysis in contrastive perspective - Topic: Communicating wine in the digital age: effectiveness, perception and economic impact on the territory. A Sardinia-Burgundy comparative approach - Topic: Interdisciplinary study of the Sardinian territory in comparison with Catalonia for an enhancement and promotion of Catalan-language cultural and environmental heritage in Sardinia - Topic: Restorative justice: work in schools and prisons for a Restorative Cities model - Topic: The otherworldly journey in late medieval romance literature **n. 1 position without scholarship** - Topic: Interdisciplinary reading and analysis of literary, theatrical, audiovisual and musical texts in relation to processes of identity crisis and recomposition in marginal contexts, especially from the perspective of the Sardinian context and its artistic expressions in contemporary times, from the perspective of a postcolonial reflection or crisis of social and developmental models
RESEARCH TOPICS FOR PHD RESEARCH PROJECT AND INTERVIEW	The same themes already indicated for the scholarships should be used
DIRECTIONS REGARDING THE WRITING OF THE RESEARCH PROJECT	Maximum of three folders excluding bibliography
INTERVIEW	In-person or online, at the candidate's choice

PHD IN	**Economics, Management and Quantitative Methods**
PHD COORDINATOR	Prof. Andrea Carosi – acarosi@uniss.it
TRAINING GOALS	The PhD program in Economics, Management, and Quantitative Methods (EMQM) at the University of Sassari is a four-year advanced training course that combines a solid theoretical foundation in economics and business studies with rigorous quantitative preparation. The program is structured in two main phases: an initial phase of advanced coursework aimed at developing strong analytical, theoretical, and empirical skills, followed by a research phase focused on the writing of the doctoral dissertation. The dissertation must demonstrate the candidate's ability to conduct original and independent research at a high academic standard. Thanks to its interdisciplinary approach, the wide range of courses offered, and a strong emphasis on innovative methodologies, the EMQM PhD program fosters the development of original intellectual profiles with cross-cutting skills, capable of analyzing the complex dynamics of firms and markets. The program provides advanced, specialized training in economics and management, with particular focus on the application of mathematical, statistical, and computational models in these disciplines. Its overarching aim is to prepare researchers who are equipped to face future challenges, particularly by responding to the growing demand for digital, technical, and scientific skills that are increasingly crucial in academic, professional, and institutional contexts.
RESEARCH FIELDS (SSD)	GEOG-01/B - Economic-political geography ECON-01/A - Political economy ECON-02/A - Economic policy ECON-06/A - Business administration ECON-07/A - Economics and business management ECON-09/A - Business finance ECON-09/B - Economics of financial intermediaries STAT-03/A - Demography STAT-03/B - Social statistics STAT-04/A - Mathematical methods of economics and actuarial and financial sciences
SELECTION	Qualifications, Research Project and Interview, in English (30+20+50)
SCHOLARSHIPS (Distinguished by administrative category)	**n. 1 scholarship co-funded by the University and the Department of Economics and Business Administration** - Topic: The candidate has to submit a research project on a topic consistent with the Research Fields of the Course (SSD) **n. 5 scholarships funded by the Autonomous Region of Sardinia on the PR Sardinia ESF+ 2021-2027 (Line A)** - Topic: The candidate has to submit a research project on a topic consistent with the Research Fields of the Course (SSD)
RESEARCH TOPICS FOR PHD RESEARCH PROJECT AND INTERVIEW	1 - Economics (Microeconomics, Macroeconomics, Econometrics); 2 - Management (Financial Accounting, Business Administration, Public Management, Corporate Finance, Banking, Marketing); 3 - Quantitative Methods (Applied Mathematics, Applied Statistics).
DIRECTIONS REGARDING THE WRITING OF THE RESEARCH PROJECT	The research project must be in English. The research project must be presented, in English, during the interview, with the aid of a presentation with slides (max. 10 slides). As a guide, the project and presentation must have the following structure: - Introduction and related literature; - Motivation; - Data and Methodology;

	- Expected or Preliminary Results; - Conclusion and expected contributions.
INTERVIEW	Online

PHD IN	**Life Sciences and Biotechnologies**
PHD COORDINATOR	Prof. Daria Sanna – dsanna1@uniss.it
TRAINING GOALS	The PhD Course in Life Sciences and Biotechnologies, promoted by professors belonging to three Departments of the University of Sassari, intends to propose itself as a center of advanced training, open to young Italian and foreign graduates, with the following objectives: to offer high scientific qualification in both basic and applied research; to develop aptitude for national and international scientific cooperation; to stimulate the ability to research independently both in terms of scientific understanding and technological spin-offs of the research topics studied. It aims to offer structured educational activities and research projects that are broadly interdisciplinary in order to foster interactions and knowledge exchanges between rapidly growing fields such as modern biological and biomedical sciences, as well as to promote theoretical-experimental cultural training and multiple interactions with national and international laboratories with the goal of enabling students to engage with other study and research realities while increasing employment opportunities, even beyond the academic sphere
RESEARCH FIELDS (SSD)	BIOS-03/A - Zoology BIOS-05/A - Ecology BIOS-06/A - Physiology BIOS-07/A - Biochemistry BIOS-08/A - Molecular Biology BIOS-09/A - Clinical Biochemistry and Clinical Molecular Biology BIOS-12/A - Human Anatomy BIOS-14/A - Genetics BIOS-15/A - Microbiology IINF-04/A - Automatics IBIO- 01/A - Bioengineering MEDS-02/A - General pathology MEDS-03/A - Clinical microbiology and microbiology MEDS-05/A - Internal medicine MEDS-09/C - Rheumatology MEDS-12/A - Neurology MEDS-19/A - Diseases of the musculoskeletal system MVET-03/A - Infectious diseases of animals
SELECTION	Qualifications and interview (30+70)
SCHOLARSHIPS (Distinguished by administrative category)	**n. 1 scholarship funded by the University** - Topic: Human Movement Measurement and Analysis **n. 1 scholarship funded by the Department of Biomedical Sciences** - Topic: Bioinformatics applied to host and pathogen gene expression in neurodegenerative diseases (ALS, Alzheimer's and Parkinson's) and autoimmune diseases (MS, T1D)

	n. 1 scholarship funded by the Autonomous Region of Sardinia on the PR Sardinia ESF+ 2021-2027 (Line A) - Topic: Social behavior and population dynamics of the wolf in Italy **n. 1 scholarship funded by the Autonomous Region of Sardinia on the PR Sardinia ESF+ 2021-2027 (Line B)** - Topic: Development of NGS protocols for infectious disease diagnosis and drug resistance control **n. 1 scholarship funded by the Autonomous Region of Sardinia on the PR Sardinia ESF+ 2021-2027 (Line B)** - Topic: Use of high-dimensional statistical approaches for the analysis of electroencephalographic data; - Topic: Application of Machine Learning and/or Artificial Neurointelligence systems for analysis and categorization of electroencephalographic responses; - Topic: Use of Neural Mass Models (Virtual Brain or others) for modeling electroencephalographic data; - Topic: Use of electroencephalography for the study of brain dynamics related to complex cognitive processes; **n. 1 scholarship funded by the Autonomous Region of Sardinia on the PR Sardinia ESF+ 2021-2027 (Line B)** - Topic: Identification of Therapeutic Targets for the Study of Neurodegenerative Diseases **n. 1 scholarship funded by the Autonomous Region of Sardinia on the PR Sardinia ESF+ 2021-2027 (Line B)** - Topic: Use of cytotoxins of microbial origin as candidate anticancer therapeutic agents **n. 1 scholarship funded by the Autonomous Region of Sardinia on the PR Sardinia ESF+ 2021-2027 (Line B)** - Topic: Study of novel mechanisms of resistance in MRSA against emerging antibacterial agents by Transposon insertion sequencing **n. 1 scholarship funded by the Autonomous Region of Sardinia on the PR Sardinia ESF+ 2021-2027 (Line B)** - Topic: Assessing the biological activity of molecules that can modulate the onset or progression of diseases, in which events such as oxidative stress and vascular remodeling play a crucial role **n. 1 scholarship funded by the Autonomous Region of Sardinia on the PR Sardinia ESF+ 2021-2027 (Line B)** - Topic: Fine-tuning computational approaches for the development of neurally acting drugs by analyzing network effects induced by selective changes in neuronal excitability **n. 1 Place reserved for Foreign States Scholars from "Shantou University"** - Tematica: New tools in personalized medicine **n. 1 position without scholarship** - Topic: Evaluation of the efficacy and safety of salvage therapies in severe attacks of autoimmune/demielinating diseases of the central nervous system **n. 1 position without scholarship** - Topic: Evaluation of the efficacy and safety of advanced infusion therapies in Parkinson's disease patients with motor and non-motor complications

RESEARCH TOPICS FOR PHD RESEARCH PROJECT AND INTERVIEW	The same themes already indicated for the scholarships should be used
DIRECTIONS REGARDING THE WRITING OF THE RESEARCH PROJECT	The research project should be a maximum of 2 pages long
INTERVIEW	Online

PHD IN	**Agricultural Sciences**
PHD COORDINATOR	Prof. Severino Zara – szara@uniss.it
TRAINING GOALS	The course aims to train highly qualified PhDs capable of meeting the demand for research and development in the fields of: (i) agrometeorology and plant ecophysiology; (ii) productivity of agricultural crops; (iii) management and protection of agricultural and forestry production systems; conservation, protection and enhancement of natural resources; (iv) biotechnology aimed at regional, national and international production needs; v) breeding and reproduction techniques, nutrition and feeding, applied genetics and selection of zootechnical animals also with the use of molecular biology techniques, quality and safety of food products of animal origin. (vi) The study of forms of land degradation, understood as actual or potential loss of land productivity or utility due to natural or anthropogenic factors affecting food production and security, livelihoods, production and provision of other ecosystem goods and services. (vii) Factors and forces leading to land degradation and desertification. In the three years PhD students acquire the scientific method and the skills necessary for preparing experimental designs, conducting experimental plans and laboratory activities, mathematical-statistical data processing, evaluating statistical-experimental inferences and disseminating research results.
RESEARCH FIELDS (SSD)	AGRI-01/A - Agricultural, food and rural economics AGRI-02/A - Agronomy and herbaceous crops AGRI-03/A - General arboriculture and tree crops AGRI-02/B - Horticulture and floriculture AGRI-03/B - Forestry, planning and forest ecology AGRI-06/A - Agricultural genetics AGRI-04/A - Agricultural hydraulics and hydraulic-forestry systems AGRI-04/B - Agricultural mechanics AGRI-04/C - Rural construction and agroforestry land AGRI-05/A - General and applied entomology AGRI-05/B - Plant pathology AGRI-06/B - Agricultural chemistry AGRI-06/C - Pedology AGRI-07/A - Food science and technology AGRI-08/A - Agricultural microbiology, food and environmental AGRI-09/A - General animal husbandry and genetic improvement AGRI-09/B - Animal nutrition and feeding AGRI-09/C - Special animal breeding AGRI-09/D - Zoocultures BIOS-01/A - General botany BIOS-01/B - Systematic botany BIOS-01/C - Environmental and applied botany

	BIOS-02/A - Plant physiology BIOS-03/A - Zoology PHYS-02/A - Theoretical physics of fundamental interactions, models, mathematical methods and applications GSPS-05/A - General sociology
SELECTION	Qualifications and interview (30+70)
SCHOLARSHIPS (Distinguished by administrative category)	**Curriculum in Agrometeorology and ecophysiology of agricultural and forestry systems** **n. 1 scholarship funded by the Autonomous Region of Sardinia on the PR Sardinia ESF+ 2021-2027 (Line A)** - Theme: Agricultural and natural tree systems, particularly those in the Mediterranean, are particularly vulnerable to threats from climate change, compromising their health, viability, and consequently their functionality, productivity, and resilience to biotic disturbances. Traditional monitoring techniques are insufficient to capture the ecophysiological responses of these systems to such conditions, and it is becoming increasingly important to have real-time monitoring systems available to more fully understand and even predict the negative side effects of climate change. This research focuses on the use of monitoring methods and techniques involving advanced and innovative IoT-based monitoring tools and devices such as, for example, Tree Talks sensors. Continuous monitoring of ecophysiological variables of Mediterranean tree and forest systems "plant based," i.e., at the scale of individuals (trees), will be the basis for characterizing the main functional processes of tree systems, water and health status and, more generally, for studying the response of these systems to current and future climatic conditions. The research aims to contribute to scientific knowledge on this topic and to provide data and guidelines to support sustainable management of Mediterranean tree and forest systems **n. 1 scholarship co-funded by the University and the Department of Agriculture** - Topic: Deepening knowledge of agroecosystem functions in tree crops, particularly on vine and olive crops, with reference to innovative monitoring systems for water stress management **Curriculum in Microbial Biotechnology and Food Technology** **n. 1 scholarship funded by the Autonomous Region of Sardinia on the PR Sardinia ESF+ 2021-2027 (Line A)** - Tematica: Valorizzazione dei sottoprodotti dell'industria enologica in un'ottica di economia circolare **n. 1 borsa di studio finanziata dal Dipartimento di Agraria** - Tematica: Gli attuali modelli lineari nella produzione alimentare devono essere trasformati in sistemi più sostenibili, verso un approccio di economia circolare. È necessaria una nuova organizzazione dei processi, che includa il recupero dei sottoprodotti che contengono ancora nutrienti. L'industria della birra è un'importante attività alimentare globale con enormi ricavi, poiché la birra è la bevanda analcolica più consumata al mondo. Il processo di produzione della birra genera grandi quantità di sottoprodotti, con una massa stimata di 40 milioni di tonnellate all'anno; il principale, che rappresenta l'85%, è la trebbia di birra (BSG), che può essere valorizzata come fonte a basso costo di fibre e proteine per ingredienti innovativi e alimenti salutari. Tuttavia, a causa del suo elevato contenuto di umidità, la BSG è rapidamente deperibile e difficile da trattare. L'essiccazione ad aria calda è comunemente utilizzata dalle grandi aziende per stabilizzare e ridurre il volume della BSG,

sebbene questa pratica sia ad alto consumo energetico. Negli impianti di piccole e medie dimensioni, la BSG viene generalmente destinata all'alimentazione animale o smaltita in discarica. Una gestione più appropriata di questo sottoprodotto può aumentare l'efficienza delle risorse nella filiera alimentare, mitigare l'inquinamento ambientale riducendo l'impronta di carbonio e portare benefici economici per i birrifici. L'obiettivo del progetto è valorizzare le trebbie attraverso la produzione di ingredienti innovativi e alimenti salutari. Gli obiettivi sono: i) mettere a punto strategie di fermentazione del BSG per sviluppare starter microbici per prodotti da forno a lievitazione naturale; ii) progettare una matrice alimentare ad alto contenuto proteico derivata dalla crescita di microrganismi di qualità alimentare su BSG umido. Il piano sperimentale utilizzerà come modello le BSG derivate da malto d'orzo utilizzato per la produzione di birra pilsner, la tipologia più venduta sul mercato

Curriculum in Desertification and Land Degradation

n. 1 scholarship funded by the Autonomous Region of Sardinia on the PR Sardinia ESF+ 2021-2027 (Line A)
- Topic: Socio-ecological dynamics and water resource management in Mediterranean rural contexts

n. 1 borsa di studio finanziata dal Dipartimento di Agraria
- Topic: Sustainable land and water management in Mediterranean cropping systems

Curriculum in Monitoring and control of agricultural and forest ecosystems in the Mediterranean environment

n. 1 scholarship funded by the Autonomous Region of Sardinia on the PR Sardinia ESF+ 2021-2027 (Line A)
- Topic: Introduction of the entomopathogenic fungus *Entomophaga maimaiga* in the region of Sardinia for the containment of *Lymantria dispar* pullulations: Virulence and fitness of the entomopathogenic fungus *Entomophaga maimaiga* in its host *Lymantria dispar* and in non-target Lepidoptera

n. 1 borsa di studio finanziata dal Dipartimento di Agraria
- Topic: Sustainable and efficient soil management and the improvement of soil health have become priority research and development topics in Europe and particularly in the Mediterranean regions. Soil information and data, if of good quality and managed appropriately and effectively, can play a very important role. Unfortunately, they are in many cases out of date, not harmonised, or not accessible to potential users. In other cases, they are available but lack procedures and tools to make them easily usable and interpretable according to the many possible uses. The objective of the research is to develop innovative methods and tools, including WEB-GIS applications, possibly based on digital mapping and machine learning approaches, that allow soil data with different genealogy and quality levels to be made interoperable and to be exploited with a user-friendly approach at different spatial scales in relation to different user needs, from spatial planning, to outscaling of sustainable practices, to precision applications

n. 1 scholarship funded by the Department of Agriculture
- Topic: The role of insects in oak decay

Curriculum in Crop Productivity

n. 1 scholarship funded by the Autonomous Region of Sardinia on the PR Sardinia ESF+ 2021-2027 (Line A)
- Topic: Designing a study to assess adaptive variability and/or organoleptic and nutritional characteristics in germplasm collections of horticultural

	species in response to abiotic stress conditions of interest in the Mediterranean area **Curriculum in Animal Science and Technology** **<u>n. 1 scholarship funded by the Autonomous Region of Sardinia on the PR Sardinia ESF+ 2021-2027 (Line A)</u>** - Topic: Genetics and genomics applied to livestock species, statistics, use of software for data analysis in genetic improvement
RESEARCH TOPICS FOR PHD RESEARCH PROJECT AND INTERVIEW	The same themes already indicated for the scholarships should be used
DIRECTIONS REGARDING THE WRITING OF THE RESEARCH PROJECT	
INTERVIEW	In presence or online, at the candidate's choice

PHD IN	**Chemical Sciences and Technologies (in agreement with the University of Cagliari)**
PHD COORDINATOR	Prof. Carla Cannas – ccannas@unica.it
TRAINING GOALS	The PhD Course aims to train highly qualified PhD students in the field of chemistry, offering Italian and foreign graduates the opportunity to independently develop an original and innovative research project in the most advanced sectors of chemical sciences and technologies. To this end, PhD students will be trained, within the framework of the different topics offered by the Course, through constant experimental and/or theoretical research activities supported by an appropriate teaching programme. PhD students will acquire the scientific method, develop a keen critical mind, and acquire the knowledge and skills necessary to carry out high-level research activities in a variety of interdisciplinary fields of interest in chemistry, both nationally and internationally. The centrality of the chemical sciences is widely recognised and cuts across several scientific disciplines (physics, biology, engineering, geology, pharmacy, archaeology), and thus finds applications in fields that are also very different from each other, from materials science to biomedicine, from energy to agriculture, from electronics to biology, from conservation of cultural heritage to environmental protection. The research activity will be complemented by specific advanced teaching, as well as transversal teaching aimed at training PhD students in all those soft-skills that are fundamental for dissemination, both in oral and written form, as well as aspects related to research and acquisition of funding and technology transfer. This course of study will enable PhD students to consolidate their basic knowledge and to progress through high-level specialised training. The skills acquired during the PhD Course will enable them to make an active contribution to the advancement of the chemical sciences both in the industrial world, by taking up highly professional positions, and in the academic world, in a context of global international competition. To achieve this goal, PhD students are offered the opportunity to come into contact with researchers and research institutions both at home and abroad. In fact, the PhD Course pursues mobility and internationalisation objectives, both incoming and outgoing, promoting the exchange of lecturers and PhD students with other Italian and foreign, public and private institutions. In particular, all PhD students are offered the opportunity to carry out a period of activity at highly qualified foreign research institutions, to come into contact with the world of industry and, possibly, to obtain multiple or joint degrees in agreement with other universities. In addition, the PhD Course ensures that the research carried out generates products directly attributable to the PhD student (individually or in collaboration) and that these products are adequately made accessible, according to the open-source paradigm, in compliance with the mechanisms of intellectual protection of research products, where applicable, and offers all PhD students the opportunity to attend seminars and training schools, also promoting their participation in national and international conferences. The experience of the Board of Lecturers has shown that an excessively rigid scheduling of teaching and all the other activities is ill-suited to a cutting-edge and constantly evolving research activity. For this reason, the Course proposes the attendance of transversal courses preferably during the first year, precisely because the topics covered represent the foundation of many of the subsequent activities, while it chooses to leave flexibility to the PhD student to propose to the College, in agreement with his/her supervisor, a customised calendar for the attendance of the specialised courses that the Course offers indiscriminately, on an annual basis, in all three years. This flexibility makes it possible to automatically adapt the courses on offer to the real needs of the PhD student and his/her specific

	research project. The same approach is also applied to periods spent off-site and for attending PhD student schools or congresses.
RESEARCH FIELDS (SSD)	CHEM-01/A - Analytical chemistry CHEM-02/A - Physical chemistry CHEM-03/A - General and inorganic chemistry CHEM-04/A - Industrial chemistry CHEM-05/A - Organic chemistry CHEM-07/A - Pharmaceutical chemistry CHEM-08/A - Technology, socio-economics and regulation of medicinal and health products CHEM-07/B - Food chemistry CHEM-01/B - Chemistry of the environment and cultural heritage IMAT-01/A - Materials science and technology PHYS-01/A - Experimental physics of fundamental interactions and applications PHYS-06/A - Physics for life sciences, the environment and cultural heritage
SELECTION	Qualifications, research project and interview (30+20+50)
SCHOLARSHIPS (Distinguished by administrative category)	**n. 1 scholarship funded by the University of Sassari, n. 1 scholarship funded by the University of Cagliari (L.R. n. 7 del 07/08/2007, assegnata con delibera della Giunta Regionale n. 45/84 del 27/11/2024 – CUP F23C24001130002), n. 4 places without scholarship:** - Topic: The candidate shall present a research project on a theme consistent with the areas of interest of the course (SSD) **n. 2 scholarships funded by the Autonomous Region of Sardinia on the PR Sardinia ESF+ 2021-2027 (Line B) - UniCA and n. 6 scholarships funded by the Autonomous Region of Sardinia on the PR Sardinia ESF+ 2021-2027 (Line B) - UniSS** - Topic: The candidate shall present a research project on a theme consistent with the Scope of Research and Innovation of the NRP 2021-2027: climate, energy, environment, health, industry, food, agriculture, natural resources or with the Specialisation Area S3: Environment, biomedicine, agro-industry, ICT, tourism culture and environment **n. 2 scholarships funded by the Autonomous Region of Sardinia on the Sardinia ESF+ PR 2021-2027 (Line A) - UniCA** - Topic: The candidate shall present a research project on a topic consistent with the Research and Innovation Area of the NRP 2021-2027: climate, energy, environment, health, industry, food, agriculture, natural resources or with the Specialisation Area S3: Environment, biomedicine, agro-industry, ICT, tourism culture and environment **n. 1 scholarship funded on the Vinci 2025 call for applications (in thesis co-supervision with the Université d'Angers - France)** - Topic: Redox-active MOFs for applications in CO2 capture and conversion and in optoelectronics/MOF rédox-actifs pour applications en le captage et conversion de CO2 et/ou en optoélectronique
RESEARCH TOPICS FOR PHD RESEARCH PROJECT AND INTERVIEW	Content and Research Topics. The PhD Course in Chemical Science and Technology is organised in a single curriculum and comprises 18 advanced research topics. Each area is supported by experienced research groups, specialised laboratories and international collaborations.

	1. Nanostructured materials. Design, synthesis and characterisation of innovative nanostructured materials for applications in heterogeneous catalysis, chemical sensors, devices for energy conversion and storage, materials for selective removal of pollutants, biomedical devices and materials for controlled drug release, for CCU Technologies. 2. Complex biological systems. Molecular and functional analysis of biological systems using advanced techniques (NMR, CG-MS, LC-MS) with integrated metabolomics, proteomics and lipidomics approaches. Modelling of interactions between small molecules and biological targets. 3. Modelling and computational chemistry. Molecular simulations, quantum chemistry and molecular dynamics for the study of reactivity, catalysis, intermolecular interactions and spectroscopic properties. Development and application of theoretical ab initio, DFT, and machine learning methods for the prediction of structural and functional properties. 4. Thermodynamic characterisation of liquid mixtures. Experimental and theoretical studies of the thermodynamic properties of mixing, binary or ternary liquid mixtures containing ionic liquids. 5. Industrial catalytic processes. Study of heterogeneous and homogeneous catalysts for chemical reactions with high efficiency, stability and selectivity. Development of sustainable catalytic processes (e.g. biomass utilisation, CO_2 conversion, hydrogen production). 6. Bio-nanointerfaces. Design of biocatalytic processes based on free or immobilised enzymes, innovative immobilisation techniques, development of bioprocesses for the production of intermediates and value-added products in the food, pharmaceutical and environmental sectors. 7. Development of analytical methodologies for the characterisation of materials. Study of the chemical-physical reactivity of surfaces under environmental and biological conditions. Applications in corrosion, catalysis, renewable and environmental energy, tribology and sensor technology. 8. Application of conventional and supercritical carbon dioxide extraction technologies. Use of supercritical CO_2 and other green solvents for the extraction of active ingredients from plant matrices, natural products or agro-industrial waste. Optimisation of process parameters for selective and sustainable separation. Applications in nutraceuticals, cosmeceuticals and pharmaceuticals. 9. Design and development of new synthesis methods for obtaining complex organic molecules. Study of stereoselective reactions catalysed by transition metals for the synthesis of bioactive and natural compounds. Rational design of synthetic strategies for the construction of complex molecular architectures with pharmacological potential. Development of green synthetic strategies based on alternative approaches with environmentally friendly, solvent-free solvents using mechanical, microwave or ultrasonic milling, or in continuous flow. Application to industrial chemical processes with reduced environmental impact. 10. Synthesis, characterisation, properties and reactivity of new inorganic or organometallic compounds. Design and synthesis of new metal complexes with catalytic, magnetic, electronic and pharmacological properties. Characterisation using spectroscopic techniques, X-ray crystallography, computational modelling. Study of reactivity and potential applications. 11. Molecular materials. Synthesis and characterisation of coordination polymers, MOFs and COFs, with applications in electronic devices, optoelectronics, environmental sensing, gas separation and storage. Design of molecular sensors (fluorescent, redox) for environmental and health analysis. 12. Analytical methodologies and applications. Development, validation and application of instrumental analysis methods to real matrices. Development of optical and electrochemical sensors for analytes in food, environmental and biomedical matrices. Study of complexometric systems for heavy metal detoxification. 13. Design, synthesis and characterisation of new ligands and metal complexes. Design and synthesis of small molecules as potential drugs (anticarcinogens, antivirals, anti-inflammatories). Study of structure-activity

	relationships (SAR), in vitro and in vivo tests. Use of rational drug design approaches, molecular docking and QSAR. 14. Design, synthesis and biological evaluation of small molecules. Synthesis, characterisation and biological evaluation of new chemical structures with potential pharmacological activity. 15. Design and testing of innovative platforms for drug delivery through different routes of administration. Development of nanosystems (liposomes, polymeric nanoparticles, nanocrystals, micelles, vesicles, microemulsions) for targeted and controlled drug delivery. Integration with molecular diagnostic strategies (theranostics). Study of new routes of administration (transdermal, nasal, pulmonary) using innovative platforms. 16. Pharmaceutical chemical and toxicological analysis. Validation of LC-MS/MS methods for the analysis of drugs, metabolites and emerging drugs in biological fluids. Study of pharmacokinetics, pharmacodynamics and metabolism of bioactive molecules. Applications in forensic medicine, clinical pharmacology and environmental toxicology. 17. Cultural heritage. Archaeometric studies and development of inorganic consolidants. Study of historical materials (ceramics, metals, glass, obsidian) and their degradation. Development of conservation strategies based on nanomaterials and corrosion inhibition techniques. Application of portable in situ diagnostic techniques and deterioration prediction models. 18. Polymeric materials. Design of polymers from renewable sources, biodegradable materials for sustainable packaging, polymeric devices for biomedical, sensor and energy devices. Study of innovative production processes (3D printing) and modelling.
DIRECTIONS REGARDING THE WRITING OF THE RESEARCH PROJECT	Language: english Title: Abstract (maximum 300 words) State of art (maximum 800 words max 5 references included) Description of the project over three years: methodologies, activities, objectives, and novelties with respect to the state of art (maximum 1200 words maximum 2 figures, one of which figure should the Gantt chart) Expected results, potential applications, and scientific, social, and economic impact (max 500 words references included)
INTERVIEW	In presence or online, at the candidate's choice

PHD IN	**Juridical Sciences**
PHD COORDINATOR	Prof. Omar Chessa – ochessa@uniss.it
TRAINING GOALS	The objective pursued by the PhD Course is that of Higher Education in the field of law, with specific attention to the various curricula, which respond to needs that are especially felt in the area in which the Doctoral Course operates, but with the intention of constituting a pole of attraction for scholars from other national areas and abroad. With regard to the first curriculum, the Course aims to provide doctoral students with tools for the legal analysis of supranational and state institutions, through recourse to doctrinal, jurisprudential and legislative formants. The curriculum also pays particular attention to the interactions between law and the economic world, and aims to stimulate inter-individual cooperation between researchers, overcoming the individualistic approach that usually characterises legal studies. With regard to the second curriculum, the Course intends to develop the study of the forms of protection of rights, activities and cultural heritage, which have assumed relevance not only at a national and international level, but also in the island's territory. The Course also aims to strengthen the international dimension of research in the field of culture, thanks to the numerous international agreements concluded with foreign universities involving European and non-European scholars. The objective of the third curriculum is to train PhDs able to give theoretical support to the study of rights in contemporary society, in which the dimension and extent of rights is changing due to rapidly evolving political, social, economic and cultural phenomena. The curriculum also aims to introduce innovative approaches to the themes of justice systems, with indepth studies of the new procedural paths introduced by the Cartabia reform and the study of alternative methods of dispute resolution. In terms of method, the Course intends to provide the necessary tools for learning suitable research methodologies, through the organisation of in-depth seminars, conferences and external collaborations. This activity is aimed at training scholars who demonstrate the maturity achieved through original monographic study, which makes an adequate scientific contribution to legal research.
RESEARCH FIELDS (SSD)	GIUR-04/A - Labour law GIUR-06/A - Administrative and public law GIUR-09/A - International law GIUR-11/B - Comparative public law GIUR-12/A - Civil procedural law GIUR-16/A - History of medieval and modern law GIUR-17/A - Philosophy of law GIUR-02/B - Navigation and transport law
SELECTION	Qualifications, written and interview (30+35+35)
SCHOLARSHIPS (Distinguished by administrative category)	**n. 1 scholarship funded by the University** - Topic: Work and artificial intelligence, rules and protections **n. 1 scholarship funded by the Autonomous Region of Sardinia on the Sardinia ESF+ 2021-2027 PR (Line A)** - Topic: International economic law and the protection of non-economic values **n. 1 scholarship funded by the Autonomous Region of Sardinia on the Sardinia ESF+ 2021-2027 PR (Line A)** - Topic: Theories of the legal norm **n. 1 scholarship funded by the Autonomous Region of Sardinia on the Sardinia ESF+ 2021-2027 PR (Line A)**

	- Topic: Economic constitution and forms of State **<u>n. 1 scholarship funded by the Autonomous Region of Sardinia on the Sardinia ESF+ 2021-2027 PR (Line A)</u>** - Topic: The trial relating to persons, minors and families **<u>n. 1 scholarship funded by the Autonomous Region of Sardinia on the Sardinia ESF+ 2021-2027 PR (Line A)</u>** - Topic: Systemic view and legal protection of the environment: administrative law profiles **<u>n. 1 scholarship funded by the Autonomous Region of Sardinia on the Sardinia ESF+ 2021-2027 PR (Line A)</u>** - Topic: History of private and public law between the 19th and 20th centuries **<u>n. 1 position without scholarship reserved for members of the Italian Finance Police (Guardia di Finanza)</u>** - Topic: Guardia di Finanza competences at sea **<u>n. 1 position without scholarship reserved for members of the Ministry of Justice - External Penal Enforcement Offices of the Region of Sardinia</u>** - Topic: The implementation of the Cartabia reform
RESEARCH TOPICS FOR PHD RESEARCH PROJECT AND INTERVIEW	The same topics as already indicated for the scholarships should be used
DIRECTIONS REGARDING THE WRITING OF THE RESEARCH PROJECT	
INTERVIEW	In presence

PHD IN	**Medical, Surgical and Experimental Sciences**
PHD COORDINATOR	Prof. Margherita Maioli – mmaioli@uniss.it
TRAINING GOALS	General objective: To train highly qualified researchers to be employed in both basic and applied research structures, both public and private. The training objective will also be pursued in collaboration with other Italian and foreign universities or by means of agreements with public and private entities possessing the requisites of high cultural and scientific qualification, as well as adequate personnel, facilities and equipment. The training of the PhD student will also be aimed at his/her insertion in the world of work and in the country's production system at public and private institutions. Specific objectives: - focus the training and research activity on extended scientific and methodological areas of great relevance for basic and applied research in the field of biomedical sciences; - carry out the proposed topics within the curricula with an interdisciplinary approach; - document the results of scientific activity on the proposed topics by the lecturers involved in the training activity; - carry out specific aspects of the training activity within the framework of interchange projects established with public and private research bodies, both Italian and foreign, willing to host doctoral students in their facilities. In order to achieve these training objectives, the PhD Course will set up a joint teaching committee, which will provide for the organisation, rationalisation and coordination of the teaching activity
RESEARCH FIELDS (SSD)	BIOS-06/A - Physiology BIOS-10/A - Cell and applied biology BIOS-11/A - Pharmacology BIOS-12/A - Human anatomy BIOS-13/A - Human histology and embryology BIOS-14/A - Genetics CHEM-07/B - Food chemistry PHYS-06/A - Physics for the life sciences environment and cultural heritage IBIO-01/A - Bioengineering MEDS-24/A - Medical statistics MEDS-01/A - Medical genetics MEDS-02/A - General pathology MEDS-09/A - Medical oncology MEDS-03/A - Microbiology and clinical microbiology MEDS-04/A - Pathological anatomy MEDS- 05/A - Internal medicine MEDS-07/A - Diseases of the respiratory system MEDS-07/B - Diseases of the cardiovascular system MEDS-10/A - Gastroenterology MEDS-10/B - Infectious diseases MEDS-06/A - General surgery

	MEDS-14/A - Plastic surgery MEDS- 14/C - Urology MEDS-11/A - Psychiatry MEDS-16/A - Oral and dental diseases MEDS-15/B - Maxillofacial surgery MEDS-17/A - Diseases of the visual apparatus MEDS-18/A - Otolaryngology MEDS-22/A - Diagnostic imaging and radiotherapy MEDS- 21/A - Gynaecology and obstetrics MEDS-23/A - Anaesthesiology MEDS-24/B - General and applied hygiene MEDS-25/A - Forensic medicine MEDS-08/C - Food science and applied dietetic techniques MEDF-01/A - Methods and didactics of motor activities
SELECTION	Qualifications, research project and interview (30+20+50)
SCHOLARSHIPS (Distinguished by administrative category)	**Curriculum in Biology, Genetics and Molecular Oncology** **n. 1 scholarship funded by the University** - Topic: Bioactive molecules of natural origin in regenerative medicine and tissue repair **n. 1 position without scholarship** - Topic: Melanoma and non-melanoma skin cancer, precancerosis and photodamage in a cohort of patients referred to our facility **Curriculum in Medical and Surgical Pathophysiology** **n. 1 post with scholarship co-funded by Medical Concept Lab s.p.a. and Boston Scientific s.p.a.** - Topic: Anti-inflammatory effects on coronary plaques of oral semaglutide use in patients with diabetes mellitus **n. 1 position without scholarship** - Topic: AI- and machine learning-guided multi-parametric algorithm in the treatment of ventricular arrhythmias **Curriculum in Neuroscience** **n. 1 scholarship funded by the Autonomous Region of Sardinia on the Sardinia ESF+ 2021-2027 PR (Line A)** - Topic: Morphological, molecular and functional responses to acute and chronic exercise in the elderly **n. 1 scholarship funded by the Autonomous Region of Sardinia on the Sardinia ESF+ 2021-2027 PR (Line A)** - Topic: Extracellular vesicles as mediators in brain modulation and neuroprotection **n. 1 scholarship funded by the Autonomous Region of Sardinia on the Sardinia ESF+ 2021-2027 PR (Line A)** - Topic: Development and validation of new methodologies for motor-functional assessment adapted to populations with chronic non-communicable diseases

	<u>n. 1 scholarship funded by the Autonomous Region of Sardinia on the Sardinia ESF+ 2021-2027 PR (Line A)</u> - Topic: Development of a conversational artificial intelligence model to support the collection and interpretation of medical history and clinical data **<u>n. 1 scholarship funded by the Autonomous Region of Sardinia on the Sardinia ESF+ 2021-2027 PR (Line A)</u>** - Topic: Studying neurotransmission and brain energy metabolism in models of neurodegenerative diseases **<u>n. 1 position without scholarship</u>** - Topic: Impact of Photon Counting CT (PCCT) in the Diagnosis of Central Nervous System Diseases **Curriculum in Public Health** **<u>n. 1 scholarship funded by the Autonomous Region of Sardinia on the Sardinia ESF+ 2021-2027 PR (Line A)</u>** - Topic: Microbial surveillance in wastewater: a One Health approach to emerging and endemic threats **<u>n. 1 scholarship funded by the Autonomous Region of Sardinia on the Sardinia ESF+ 2021-2027 PR (Line A)</u>** - Topic: Artificial intelligence in the control of antimicrobial resistance and care-related infections
RESEARCH TOPICS FOR PHD RESEARCH PROJECT AND INTERVIEW	The same topics as already indicated for the scholarships should be used
DIRECTIONS REGARDING THE WRITING OF THE RESEARCH PROJECT	
INTERVIEW	In person or online, at the candidate's choice

PHD IN	**Veterinary Sciences**
PHD COORDINATOR	Prof. Alberto Alberti – alberti@uniss.it
TRAINING GOALS	The aim of the PhD course is to train qualified researchers in the disciplines belonging to the Veterinary Sciences through a multidisciplinary scientific and cultural education transferred also through the provision of highly qualified specialist teaching. In line with the two curricula, the specific training objectives of the course are: - to possess in-depth and up-to-date knowledge of the mechanisms underlying the processes inherent to reproductive and productive biology and animal welfare conditions, with the aim of developing specific knowledge for the development and application of biotechnologies in animal reproduction and to improve the reproductive performance and profitability of livestock farms; - acquire knowledge and technical experience regarding animal production in order to improve its quality through the prudent management of resources and production processes; - develop specific knowledge for the study of animal pathologies and parasitic diseases, also in order to develop all those control measures that, through the optimisation of pharmacological interventions, can allow the quantitative-qualitative improvement of production; - deepen knowledge in the fields of microbiology, epidemiology and infectious diseases and develop specific skills in the study of pathogenesis, immunity, and the control of transverse infectious diseases and zoonoses; - tudy in depth the latest surgical, obstetric and internal medicine techniques in order to improve and update veterinary clinical practice; - develop specific skills in the fields of pharmacology and toxicology, food microbiology, the control of abiotic contamination, the methodologies required to achieve quality system certification and the policies of EUrecognised quality marks in order to enhance the value of animal products and develop innovative processing techniques.
RESEARCH FIELDS (SSD)	MVET-01/A - Veterinary anatomy MVET-01/B - Veterinary physiology MVET-02/A - Veterinary general pathology and pathological anatomy MVET-02/B - Inspection of food of animal origin MVET-03/A - Infectious diseases of animals MVET-03/B - Parasitology and parasitic diseases of animals and humans MVET-04/A - Veterinary pharmacology and toxicology MVET-04/B - Veterinary medical clinic MVET-05/A - Veterinary surgical clinic MVET-05/B - Veterinary obstetrics clinic, gynecology, andrology and veterinary neonatology AGRI-09/A - General animal husbandry and genetic improvement AGRI-09/B - Animal nutrition and feeding AGRI-09/C - Special animal breeding
SELECTION	Qualifications and interview (30+70)
SCHOLARSHIPS (Distinguished by administrative category)	**Curriculum in Food Production, Quality and Safety** **n. 1 scholarship funded by the University**

	- Topic: Integrated study of swine respiratory pathology: artificial intelligence applied to macroscopic and histological diagnosis and correlation with production impact **n. 1 scholarship funded by the Autonomous Region of Sardinia on the PR Sardinia ESF+ 2021-2027 (Line A)** - Topic: Study of innovative and sustainable diets and foods aimed at reducing environmental impact and antibiotic use in animal husbandry **n. 1 scholarship funded by the Autonomous Region of Sardinia on the PR Sardinia ESF+ 2021-2027 (Line A)** - Topic: Study of hygiene, quality and management parameters in integrated aquaponics systems **n. 1 scholarship funded by the Autonomous Region of Sardinia on the PR Sardinia ESF+ 2021-2027 (Line A)** - Topic: Wild boar as a sentinel of antimicrobial resistance, heavy metals, and pesticides: an integrated One Health approach to protecting food safety **n. 1 position without scholarship** - Topic: Identification of metabolic markers of adaptation to sports activity of different magnitude in the athlete horse, in relation to nutritional status and energy expenditure **n. 1 position without scholarship** - Topic: Role of echocardiography in the diagnosis and follow-up of cardiopulmonary parasitoses in dogs and cats: clinical-instrumental correlations **Curriculum in Reproduction, Pathology, Breeding and Animal Welfare** **n. 1 scholarship funded by the Autonomous Region of Sardinia on the PR Sardinia ESF+ 2021-2027 (Line A)** - Topic: Role of the mammary microbiota in modulating local immunity and production **n. 1 scholarship funded by the Autonomous Region of Sardinia on the PR Sardinia ESF+ 2021-2027 (Line A)** - Topic: Integrated approach for studying arthropod-borne diseases in the Mediterranean area: combining traditional molecular methods and shotgun metagenomics for pathogen identification and vector characterization **n. 1 scholarship funded by the Autonomous Region of Sardinia on the PR Sardinia ESF+ 2021-2027 (Line A)** - Topic: T.I.M.E. - Tracking Intestinal Microbiota Evolution in Horses: Functional Characterization of the Horse Microbiota at Different Growth Stages **n. 1 scholarship funded by the Autonomous Region of Sardinia on the PR Sardinia ESF+ 2021-2027 (Line A)** - Topic: Key determinants of oocyte competence in the sheep species: morpho-structural, molecular and functional analyses for optimizing reproductive activity
RESEARCH TOPICS FOR PHD RESEARCH PROJECT AND INTERVIEW	The same topics already indicated for the scholarships should be used
DIRECTIONS REGARDING THE WRITING OF THE RESEARCH PROJECT	Approximately 5000 characters including spaces, Times New Roman 12, line spacing 1.5, .pdf file format
INTERVIEW	In-person or online, candidate's choice