

Title of the Ph.D. course	AGRICULTURAL, FOOD AND ENVIRONMENTAL SCIENCE (INTERNATIONAL)
Cycle	XXXV
Scientific area	Agricultural science
Duration	3 years
Department	Department of Agriculture, Food and Environment
Department website	http://www.di3a.unict.it/
Ph.D. Course Coordinator	Prof. Alessandro Priolo
Partner Institution(s)	Technical University of Lisbon (Portugal)
Research theme(s)	<p>Due to its interdisciplinary nature covering all sectors of Area 07, the Ph.D. course aims at training professional figures qualified for both pure and applied research in the domain of agriculture, food and environment, capable of:</p> <ul style="list-style-type: none"> - organizing and conducting experiments in the diverse phases of the interested industries, interpreting results by means of suitable statistical methodologies; - making choices allowing to obtain programmed production in terms of quality, quantity and time and without negative impact on the environment and the healthiness of products; - managing agri-food and environmental systems for the protection of land and water resources; - managing machinery and products utilized in agriculture and agri-food industry; - checking, also by means of innovative, eco-compatible technologies, adversities, both biotic and abiotic, threatening agricultural and food produce and agricultural and forest ecosystems; - analyzing agri-food systems in order to intervene on the planning and management of the diverse industries and to know economic instruments to protect and manage the environment; - transferring advanced, innovative technologies to agricultural and food processes and products, with respect to eco-sustainability; - training experts on rural development
Available places	1) Places with scholarship financed by the University of Catania: 4 2) Places without scholarship: 1 TOTAL: 5
Selection procedures	1) Evaluation of qualifications; 2) Oral interview Candidates living abroad can take the form of videoconference interview
Date, place, format and language of the oral interview	Date: September 26 2019, h. 9:30 (9,30 a.m. Italian time) Place: Via Valdisavioia n.5 – Di3A – Aula “A. Jannaccone” (1 ^o piano), Catania Format: Interview Language: English

Title of the Ph.D. Course	BASIC AND APPLIED BIOMEDICAL SCIENCES (INTERNATIONAL)
Cycle	XXXV
Scientific area	Medicine and surgery
Duration	3 years
Department	Department of Biomedical and Biotechnological Science
Department website	http://biometec.unict.it/
Ph. D. Course Coordinator	Prof. Massimo Libra
Partner Institution(s)	University of Crete (Greece)
Research themes	1) Traslational oncology, immunology and aging; 2) Experimental surgery and anatomy; 3) Molecular Biomedicine and Biotechnology; 4) Molecular Genetics, Microbiology and Virology
Available places	1) Places with scholarship financed by the University of Catania: 4 2) Places without scholarship: 1 TOTAL: 5
Selection Procedure	1) Evaluation of qualifications

Title of the Ph.D.	TRASLATIONAL BIOMEDICINE (INTERNATIONAL)
Cycle	XXXV
Scientific area	Medicine and Surgery
Duration	3 years
Department	Department of Clinical and Experimental Medicine
Department website	http://www.medclin.unict.it
Ph.D. Course Coordinator	Prof. Carlo Vancheri
Partner Institution(s)	University of Granada (Spain)
Research themes	Physiopathology of complex diseases: from clinical observation to molecular mechanisms
Available places	1) Places with scholarship financed by the University of Catania: 4 2) Places without scholarship: 1 TOTAL: 5
Selection procedures	1) Evaluation of qualifications 2) Oral interview Candidates living abroad can take the form of videoconference interview
Date, places, format and language	Date: September 18 2019, h. 9,00 (9,00 am Italian time) Place: Aula Magna – Torre Biologica “F. Latteri” – via Santa Sofia n. 89 - Catania Format: discussion of the submitted project Language: Italian

Title of the Ph.D. course	BIOTECHNOLOGIES
Cycle	XXXV
Scientific area	INTERDISCIPLINARY
Duration	3 years
Department	Department of Biomedical and Biotechnological Sciences
Department website	http://biometec.unict.it/
Ph.D. Course Coordinator	Prof. Vito De Pinto
Partner Institution(s)	None
Research themes	<p>The interdisciplinary Ph.D. course in Biotechnologies of the University of Catania represents the biotechnological characters of the University through a balanced but meaningful of academic disciplines for Italian Universities in biomedical, agricultural and pharmaceutical fields and an additional provision as regard to Bio informatics and System Biology. Three Departments of the University, whose research and didactics have a focus on biotechnologies, contribute to this Ph.D. course. The Ph.D. course is organised in four curricula to highlight its research and educational character: Molecular biotechnologies, biomedical and preclinical biotechnologies, agri-food biotechnologies and pharmaceutical biotechnologies. The aims of the course are: the acquisition of genetic, transcriptomic and proteomic knowledge and its application to animal and plant field; the identification and characterization of innovative molecules potentially exploitable in industrial or health field; the implementation of innovative analytical systems or biological and natural molecules; genetic and food improvement in the agri-food sector. Here follow, to be illustrative but not limiting, some of the research themes carried out in the laboratories</p> <p><u>Molecular Biotechnologies</u></p> <ol style="list-style-type: none"> 1) Novel mechanisms of cell-to-cell communication: extracellular vesicles in CNS health and disease; 2) Identification and modulation of DNA-protein molecular interaction: principles of biological recognition for therapeutic approach; 3) Structural analysis of membrane proteins; 4) Use of interfering peptides to fight interactions between VDAC1 and proteins/peptides associated to neuro-degenerative diseases; 5) Role of metal-chaperone and research of new targets in neovascular disorders; 6) Synthetic & Systems Biology, Bioengineering. <p><u>Biomedical and preclinical biotechnologies</u></p> <ol style="list-style-type: none"> 1) Innovative Cell Strategies with Stem/neuroprogenitors and Astrocytes to Boost Neurorepair/Regeneration in Neurodegenerative Diseases; 2) Electrophysiological study of endogenous neurotransmitters and neuromodulators on membrane ionic currents, neuronal excitability, transmission of nerve impulses and synaptic plasticity of the central nervous system; 3) Preclinical studies of molecular basis of neurodegenerative processes and therapeutical interventions; 4) Biomarkers in disorders associated to autism; 5) Biotechnological approaches and preclinical imaging in animal modelling of neurodegenerative diseases. 6) Mechanobiology, Health Sports Technology and Tissue Engineering. <p><u>Agri-food biotechnologies</u></p> <ol style="list-style-type: none"> 1) Omic sciences and analysis of host-pathogen interaction for the purpose of resistance; 2) "Priming process" effect in the response to abiotic stress in Citrus plants; analysis of transcriptome, epigenetic modifications and microbiome alterations; 3) Energy crops and biotechnology for the production of sustainable energy; 4) Genomics, transcriptomics and proteomics of animal production; 5) Zootechnical biodiversity e mechanisms of adaptation to hot climate; 6) Analysis of wheat and barley diversity through genome sequencing and its application to genetic improvement. <p><u>Pharmaceutical Biotechnologies</u></p> <ol style="list-style-type: none"> 1) Preparation and characterization of colloidal for cosmetic, oftalmic and cerebral use; 2) Design, synthesis and in vitro pharmacological of sigma ligands for treatment of neurodegenerative diseases and anticancer; 3) Study of the interaction and absorption of drugs from bio-membrane models and their release of different carriers (SLN, micelles, cyclodextrins); 4) Development of inhibitors and inductors in the enzime Heme Oxygenase – 1 (HO-1); 5) Rational design through computational methods, synthesis and biologic evaluation of ligands for treatment of cancer and pain
Master degrees required for the admission	<p>LM-6 Biologia (Biology)</p> <p>LM-7 Biotechnologie agrarie (Agricultural biotechnology)</p> <p>LM-8 Biotechnologie industriali (Industrial biotechnology)</p> <p>LM-9 Biotechnologie mediche, veterinarie e farmaceutiche (Medical, Veterinary and Pharmaceutical Biotechnology)</p> <p>LM-13 Farmacia e farmacia industriale (Pharmacy and Industrial Pharmacy)</p> <p>LM-17 Fisica (Physics)</p> <p>LM-18 Informatica (Computer Science)</p>

	LM-21 Ingegneria biomedica (Biomedical Engineering) LM-41 Medicina e chirurgia (Medicine and Surgery) LM-42 Medicina veterinaria (Veterinary Medicine) LM-54 Scienze chimiche (Chemical science) LM-69 Scienze e tecnologie agrarie (Agricultural Science and Technology) LM-70 Scienze e tecnologie alimentari (Food Science and Technology) LM-71 Scienze e tecnologie della chimica industriale (Industrial chemical science and technology) LM-86 Scienze zootecniche e tecnologie animali (Zootechnical Science and Animal Technology) 6/S (specialistiche in biologia) (Biology) 7/S (specialistiche in biotecnologie agrarie) (Agricultural Biotechnology) 8/S (specialistiche in biotecnologie industriali) (Industrial Biotechnology) 9/S (specialistiche in biotecnologie mediche, veterinarie e farmaceutiche) (Medical, Veterinary and Pharmaceutical Biotechnology) 14/S (specialistiche in farmacia e farmacia industriale) (Pharmacy and Industrial Pharmacy) 46/S (specialistiche in medicina e chirurgia) (Medicine and Surgery) 47/S (specialistiche in medicina veterinaria) (Veterinary Medicine) 62/S (specialistiche in scienze chimiche) (Chemical Science) 77/S (specialistiche in scienze e tecnologie agrarie) (Agricultural Science and Technology) 78/S (specialistiche in scienze e tecnologie agroalimentari) (Food Science and Technology) 79/S (specialistiche in scienze e tecnologie agrozootecniche) (Agro-Zootechnical Science and Technology) 81/S (specialistiche in scienze e tecnologie della chimica industriale) (Industrial Chemical Science and Technology)
Available places	1) Places with scholarship financed by the University of Catania: 6 2) Places without scholarship: 1 TOTAL: 7
Selection procedures	1) Evaluation of qualifications 2) Oral Interview Candidates living abroad can take the oral interview in the form of video conference interview
Date, place, format and language of the oral interview	Date: September 27 2019, h. 9,30 (9,30 am Italian time) Place: Torre Biologica "F. Latteri" – via Santa Sofia n. 89 – Catania Format: interview focusing on the candidate's qualifications and career, the research project chosen by the candidate, on his/her reasons for the choice of the theme and on his/her scientific knowledge suitable to carry out the chosen project. Language: The interview will be in Italian and in English with reference to the part of the interview concerning the research project

Title of the Ph.D. course	PHYSICS	
Cycle	XXXV	
Scientific field	Mathematics, physics and natural sciences	
Duration	3 years	
Department	Department of Physics and Astronomy	
Department website	http://www.dfa.unict.it/	
Ph.D. course Coordinator	Prof. Sebastiano Albergo	
Partner Institution(s)	National Institute for Nuclear Physics (INFN)	
Research Themes	Themes related to the Ph.D. course curricula: <ol style="list-style-type: none"> 1. Nuclear and sub-nuclear Physics; 2. Matter Physics and Quantum Technology; 3. Astrophysics; 4. Applied Physics. 	
Available places	<u>Ordinary places:</u> <ol style="list-style-type: none"> 1) Places with scholarship financed by the National Institute for Nuclear Physics-Laboratori Nazionali del Sud (INFN-LNS): 2 2) Places with scholarship financed by National Institute for Nuclear Physics –Catania: 1 3) Places with scholarship financed by the University of Catania: 2 4) Places with scholarship financed by the Institute for Bio-images and Molecular Physics of the National Council for Research (IBFM-CNR): 1 Research theme: Use of the Monte Carlo method in radioprotection and validation of methods through experimental measures of different radioprotection dimensions and indifferent radiation fields 5) Places with scholarship financed by National Institute of Astrophysics – Catania Astrophysical Observatory: 1 Research theme: Diagnostic and modelling techniques for the study of the extended solar corona. Participation in the scientific operations of coronagraph Metis aboard the space mission Solar Orbiter. 6) Places without scholarship: 1 TOTAL: 8 <u>Places reserved to graduates from foreign universities:</u> <ol style="list-style-type: none"> 1) Places with scholarship financed by the University of Catania: 1 TOTAL: 1	
Selection procedures	Ordinary places: <ol style="list-style-type: none"> 1) Evaluation of qualifications; 2) Written exam; 3) Oral interview. 	Places reserved to graduates from foreign universities: <ol style="list-style-type: none"> 1) Evaluation of qualifications; 2) Oral interview. Candidates living abroad can take the oral interview in the form of video conference interview
Date, place, format, duration and language of the written examination	Date: September 10 2019, h. 10:00 (10,00 am Italian time) Place: Dipartimento di Fisica ed Astronomia “Ettore Majorana”, via S. Sofia, n. 64 - Catania Format: Written paper Duration: 3 hours Language: Italian or English	
Date, place, format and language of the oral interview	Date: September 17 2019, h. 9:00 (9,00 am Italian time) Place: Dipartimento di Fisica ed Astronomia “Ettore Majorana”, via S.Sofia, n. 64 - Catania Format: Interview Language: Italian or English	

Title of the Ph.D. course	LAW (INTERNATIONAL)
Cycle	XXXV
Scientific field	Law
Duration	3 years
Department	Department of Law
Department website	http://www.lex.unict.it/
Ph.D. Course Coordinator	Prof. Anna Maria Maugeri
Partner Institution(s)	University of Castilla – La Mancha (Spain)
Research themes	<p>The Ph.D. course is aimed at training lawyers expert in techniques and methodologies of legal research, providing them with tools suitable for the identification of solution of interest conflicts in a globalised reality. To this purpose, the structure of the course consists, on one hand, in the in-depth analysis of interdisciplinary and general topics connected to legal studies (not only related to positive law, but also involving historical and philosophical aspects), and in the study of argumentation techniques and legal research methodology, including comparison to foreign systems and confrontation to European Union law and international law; on the other, in a specific study related to scientific sectors on which the final thesis is focused. The course is aimed at teaching research methods through an approach in the domain of the so called multilevel constitutionalism, featuring all branches of law and proceeding from the European Convention of Human Rights, as interpreted by the Court of Strasbourg, and the fundamental principles of the EU (enshrined in the Chart of fundamental rights) in the light of the jurisprudence of the Court of Justice to national constitutions as interpreted by constitutional courts.</p> <p>Listed below are the 13 <i>curricula</i> into which the Ph.D. course is divided : private and comparative private law, commercial law, constitutional law, comparative public law, church law, administrative law, history of medieval and modern law, civil procedural law, criminal law, Roman law and law of ancient societies, labour law, tax law, criminal procedural law, philosophy of law, international law, European Union law.</p>
Available places	<p>1) Places with scholarship financed by the University of Catania: 4 (1 place for the curriculum : criminal procedural law; 1 place for the curriculum: tax law; 1 place for the curriculum: constitutional law, comparative public law, church law; 1 place for the curriculum: Roman law and law of ancient societies);</p> <p>2) Places with grant “Department of Excellence” 2017: 2 Research theme: Legal profiles of the economic development in the context of the fourth industrial revolution.</p> <p>3) Places without scholarship: 1</p> <p>Each candidate must indicate for which curriculum he/she is applying or whether he/she is applying for the grant “Department of Excellence” (Ministerial decree 45/2013, art.8, paragraph 3). If no candidates qualify for one curriculum, the scholarship will be assigned to the best candidate in the other curricula.</p> <p>TOTAL: 7</p>
Selection procedures	<p>1) Evaluation of qualifications</p> <p>2) Written examination</p> <p>3) Oral examination</p>
Date, place, format, duration and language of the written examination	<p>Date: September 16 2019 h. 8,30 (8,30 am Italian time)</p> <p>Place: Dipartimento di Giurisprudenza, Via Gallo 24 – 95124 Catania</p> <p>Format: short paper, set of open-ended questions</p> <p>Duration: 6 hours (360 minutes)</p> <p>Language: Italian (foreign candidates can choose from one of the following languages: Italian, English or Spanish)</p>
Date, place, format and language of the oral examination	<p>Date: September 24 2019 h. 8,30 (8,30 am Italian time)</p> <p>Place: Dipartimento di Giurisprudenza, Via Gallo 24 – 95124 Catania</p> <p>Format: Discussion of the submitted project, assessment of knowledge of research themes concerning the Ph.D. course.</p> <p>Language: Italian (foreign candidates can choose from one of the following languages: Italian, English or Spanish)</p>

Title of the Ph.D. course	COMPUTER SCIENCE (INTERNATIONAL)
Cycle	XXXV
Scientific area	Mathematics, physics and natural science
Duration	3 years
Department	Department of Mathematics and Computer Science
Department website	http://web.dmi.unict.it
Ph.D. course Coordinator	Prof. Sebastiano Battiato
Partner Institution(s)	University of Hertfordshire (U.K)
Research themes	<p>The 3-year Ph.D. course in Computer Science is primarily aimed at training young researchers in the domains of Computer science, both basic and applied, and developing professionals who can have career opportunities in the academic world as well as in the industry.</p> <p>The principal research themes concern:</p> <ul style="list-style-type: none"> • Algorithms and Combinatorics • Artificial Intelligence • Assistive Technologies; • Autonomous Systems; • Big Data; • Computer Vision and applications; • Cryptography and Safety Information; • Information Forensics and Security; • Pattern Recognition and Machine Learning; • Smart Cities & Communities; • Distributed systems; • Video Analytics (e.g. Retail, Security, etc.)
Available places	<p>1) Places with scholarship financed by the University of Catania: 4</p> <p>2) Places with scholarship financed by the Department of Pharmaceutical Sciences – Project STriTuVaD: In Silico Trial for Tuberculosis Vaccine Development (H2020 SC1-2016-2017): 1</p> <p>Research theme: Agent based modelling to predict the effect of vaccinations strategies against Tuberculosis in clinical trials</p> <p>3) Places with scholarship financed by Eclat S.r.L. (in the context of the project “Centre of Excellence – FSFW COE1-05): 1</p> <p><u>Research theme:</u> Development of computer vision and machine learning algorithms in the context of Smart Health</p> <p>4) Places with scholarship financed by the Institute of Informatics and Telematics of the National Council for Research and Park Smart S.r.L. in the context of the project “<i>Dottorati Industriali</i>” promoted by CNR and Confindustria: 1</p> <p><u>Research theme:</u> Study and design of an EDGE and cloud computing collaborative architecture for the security and privacy of intelligent transport systems</p> <p>5) Places with scholarship financed by the National Institute for Geophysics and Volcanology: 1</p> <p><u>Research theme:</u> Mathematical models for Volcanic Hazard Monitoring and Decision Methods for Risk Mitigation and Uncertainty Quantification</p> <p>6) Places without scholarship: 2</p> <p>TOTAL: 10</p>
Selection procedures	Evaluation of qualifications

Title of the Ph.D. Course	SYSTEMS, ENERGY, COMPUTER AND TELECOMMUNICATION ENGINEERING
Cycle	XXXV
Scientific area	Industrial and Information Engineering
Duration	3 years
Department	Department of Electric, Electronic and Computer Engineering
Department website	http://www.dieei.unict.it/
Ph.D. Course Coordinator	Prof. Paolo Arena
Partner Institution(s)	None
Research themes	<p>The Ph.D. course learning paths concern Electronics, Automation, Complex Systems Engineering and Control, Instrumentation, Sensors and Wireless Networks of Sensors, Internet of Things, Big Data, Mechanics, Materials, Bio-engineering and Bio-Robotics, Microsystems, Generation, Transmission, Use, Management and Control of Energy, Information Systems, Systems of Telecommunications and Magnetic Fields with a focus on themes related to Smart Systems, Cities and Environment.</p> <p>The course provides candidates with a skill profile that associates technical-scientific training with the development of a research project to be carried out at highly qualified institutions, both national and international, or enterprises. The academic board is integrated by foreign academics who support candidates in their training and research work.</p>
Available places	<ol style="list-style-type: none"> 1) Places with scholarship financed by the University of Catania: 6 2) Places with scholarship financed by ENI S.p.A.: 1 <u>Research theme:</u> Advanced Control Algorithms for fusion systems 3) Places with scholarship financed by the Advanced Energy Technology Institute of the National Council for Research and Hydron S.r.L. in the context of the project “Dottorati Industriali” promoted by CNR and Confindustria: 2 Research theme 1: Development of advanced robotic systems Research theme 2: Advanced heat storage systems for marine applications 4) Places with scholarship financed by Schaeffler Automotive Buchi GmbH & Co: 1 Research theme: Enablers and inhibitors of the implementation of Industry 4.0 5) Places without scholarship: 1 6) Places without scholarship reserved to graduates from foreign universities: 1 <p>TOTAL: 12</p>
Selection procedures	Evaluation of qualifications

Title of the Ph.D. course	NEUROSCIENCE (INTERNATIONAL)
Cycle	XXXV
Scientific area	Medicine and surgery
Duration	3 years
Department	Department of Biomedical and Biotechnological Science
Department website	http://biometec.unict.it/
Ph.D. Course Coordinator	Prof. Salvatore Salomone
Partner Institution(s)	University of Bordeaux (France)
Research themes	Neuropsychopharmacology (preclinical models of addiction, depression schizophrenia, dopaminergic system) Ocular pharmacology (preclinical models, in vitro and in vivo, of retinopathy, preclinical models of glaucoma) Pharmacological approaches to the stroke and pathophysiology of cerebral circulation Biological basis of neurodegenerative diseases Innovative drug delivery systems (e.g. nanoparticle) and CNS drug delivery systems Stem cells and cell differentiation to natural type Clinical neuroscience of neurodegenerative diseases Primary SNC cancers
Available places	1) Places with scholarship financed by the University of Catania: 4 2) Places without scholarship: 1 TOTAL: 5
Selection procedure	1) Evaluation of qualifications; 2) Oral interview Candidates living abroad can take the oral interview in the form of videoconference interview
Date, place, format and language of the oral interview	Date: September 16 2019, h. 9,00 (9,00 AM Italian Time) Place: Torre Biologica, Via S. Sofia 97, Catania (Sala riunioni, second floor, torre sud) Content: Discussion of the submitted project in connection to the research themes pertinent to the Ph.D. course Language: English

Title of the Ph.D. Course	Educational processes, theoretical-transformative models and research methods applied to the territory
Cycle	XXXV
Scientific area	Educational sciences
Duration	3 years
Department	Department of Educational Sciences
Department website	http://www.dfa.unict.it/
Ph.D. Course Coordinator	Prof. Francesco Coniglione
Partner Institution(s)	None
Research themes	<ul style="list-style-type: none"> a) Epistemology and theory of research both in general and with reference to pedagogical sciences and educational processes; b) Analysis of educational, psychological and social processes in multicultural contexts; c) Educational models and practices aimed at reducing and contrasting education poverty and psycho-social distress as well as experimenting new practices of social inclusion (migration, new types of addiction, revitalization of work and life environments); d) Forms and practices of citizenship connected to identity processes and participation in local development; e) Cultural and environmental heritage, transformative processes and sustainable development of the territory
Available places	1) Places with scholarship financed by the University of Catania: 6 2) Places without scholarship: 1 TOTAL: 7
Selection procedures	1) Evaluation of qualifications; 2) Oral Interview. Candidates living abroad can take the oral interview in the form of video-conference interview
Date, place, format and language of the oral interview	Date: September 9 2019, h. 9,00 (9,00 am Italian time) Place: Dipartimento di Scienza della Formazione, sede di Palazzo Ingrassia, aula riunioni ex biblioteca, ex piano terra Format: public discussion on the candidate's qualifications and research project Language: Italian and/or English

Title of the Ph.D. Course	MATERIALS SCIENCE AND NANOTECHNOLOGIES
Cycle	XXXV
Scientific area	Mathematics, Physics and Natural Science
Duration	3 years
Department	Department of Physics and Astronomy
Department website	http://www.dfa.unict.it/
Ph.D. Course Coordinator	Prof. Maria Grazia Grimaldi
Partner Institution(s)	None
Research themes	Materials and nanotechnologies for the environment, Energy, health, electronics and photonics
Available places	<p>1) Places with scholarship financed by the University of Catania: 6</p> <p>2) Places with scholarship financed by the Institute for Microelectronics and Microsystems of the National Council for research: 3</p> <p><u>Research theme 1</u>: Defects evolution of 3C-SiC bulk and influence of the growth process</p> <p><u>Research theme 2</u>: Nanoscale transport phenomena in electronic devices based on advanced semiconductor materials</p> <p><u>Research themes 3</u>: Novel concepts for High Performance Silicon Based Solar Cells</p> <p>3) Places with scholarship financed by ENI S.p.A.: 1</p> <p><u>Research theme</u>: Power electronics in SiC for efficient electric power conversion and particle detectors</p> <p>4) Places with scholarship financed by the Institute for Microelectronics and Microsystems of the National Council for the Research and ST Microelectronics S.r.L. in the context of the project “<i>Dottorati Industriali</i>” promoted by CNR and Confindustria: 1</p> <p><u>Research theme</u>: Materials and innovative processes for SiC and GaN devices on Silicon</p> <p>5) Places without scholarship: 1</p> <p>TOTAL: 12</p>
Selection procedures	<p>1) Evaluation of qualifications;</p> <p>2) Oral Interview.</p> <p>Candidates living abroad can take the oral interview in the form of video-conference interview</p>
Date, place, format and language of the oral interview	<p>Date: September 19 2019, h. 9,00 (9,00 am Italian time)</p> <p>Place: Dipartimento di Fisica e Astronomia, via S. Sofia 64, Catania</p> <p>Format: Interview</p> <p>Language: Italian and English</p>

Title of the Ph.D. Course	CHEMICAL SCIENCES (INTERNATIONAL)
Cycle	XXXV
Scientific area	Mathematics, physics and natural science
Duration	3 years
Department	Department of Chemical Science
Department website	http://www.dipchi.unict.it/
Ph.D. Course Coordinator	Prof. Salvatore Sortino
Partner Institution(s)	University of Gothenburg (Sweden)
Research themes	Nanomedicine, Energy conversion and Environment protection, Supramolecular Chemistry, Chemistry of Natural compounds
Available places	1) Places with scholarship financed by the University of Catania: 4 2) Places without scholarship: 1 TOTAL: 5
Selection procedures	1) Evaluation of qualifications 2) Oral Interview Candidates living abroad can take the oral interview in the form of video conference interview
Date, place, format and language of the oral interview	Date: September 25 24 2019, h. 9,00 (9,00 am Italian time) Place: Dipartimento di Scienze Chimiche, Viale Andrea Doria 6, Catania Format: Presentation of the Research project and assessment of the candidate's basic knowledge concerning research activity. Language: English

ANNEX n. 13

Title of the Ph.D. course	SCIENCE OF INTERPRETATION
Cycle	XXXV
Scientific area	Humanities
Duration	3 years
Department	Department of Humanities
Department website	http://www.disum.unict.it/
Ph.D. course Coordinator	Prof. Antonino Sichera
Partner Institution(s)	None
Research themes	Philosophical hermeneutics; Literary hermeneutics; Linguistics and translation; Philology of texts and critical editions; Linguistic analysis and hermeneutics of texts; Digital humanities
Available places	1) Places with scholarship financed by the University of Catania: 6 2) Places with scholarship financed by Fondazione “Cesare e Doris Zipelli” – Banca Agricola Popolare di Ragusa: 1 This place is related to a research theme in the field of Linguistic Mediation and is reserved to holders of a <i>laurea magistrale</i> obtained from the Didactic Unit – Foreign Languages and Literatures of Ragusa 3) Places without scholarship: 1 TOTAL: 8
Selection procedures	1) Evaluation of qualifications 2) Oral interview Candidates living abroad can take the oral interview in the form of video conference interview
Date, place, format and language of the oral interview	Date: September 27 2019, h. 10.00 (10,00 am Italian time) Place: Dipartimento di Scienze Umanistiche (Piazza Dante 32 – 95124 CATANIA) Format: Interview Language: Italian

Title of the Ph.D. Course	EARTH AND ENVIRONMENTAL SCIENCES (Curriculum 1: GEOSCIENCE; Curriculum 2: ENVIRONMENTAL BIOLOGY AND BIOTECHNOLOGIES)
Cycle	XXXV
Scientific area	Mathematics, Physics and Natural Science
Duration	3 years
Department	Department of Biological, Geological and Environmental Science
Department website	http://www.dipbiogeo.unict.it/
Ph.D. Course Coordinator	Prof. Agata Di Stefano
Partner Institution(s)	None
Research themes	All research themes related to both curricula are suitable
Available places	1) Places with scholarship financed by the University of Catania: 6 2) Places without scholarship: 1 TOTAL: 7
Selection procedures	1) Evaluation of qualifications 2) Oral Interview Candidates living abroad can take the oral interview in form of video conference interview
Date, place, format and language of the oral interview	Date: September 24 2019, h. 9,00 (9,00 am Italian time) Luogo: Aula Ponte – Sezione di Scienze della Terra, Corso Italia 57, 95129 CATANIA Format: discussion focused on the research project and subjects related to the chosen curriculum Language: Italian or English

Title of the Ph.D. Course	SCIENCES OF CULTURAL HERITAGE AND PRODUCTION
Cycle	XXXIV
Scientific area	Humanities
Department	Department of Humanities
Department website	http://www.disum.unict.it/
Ph.D. Course Coordinator	Prof. Pietro Militello
Partner Institution(s)	None
Research themes	History of cultural heritage and its interpretation. Material and immaterial cultural heritage (archaeological, archival, philological-documental, historical-artistic, historic-music and performative). Archaeometry and sciences applied to cultural heritage (physics, computer science, geophysics and geology). Economics of cultural heritage and production. Communication technologies for Cultural Heritage
Available places	1) Places with scholarship financed by the University of Catania: 6 2) Places without scholarship: 1 TOTALE: 7
Selection procedures	1) Evaluation of qualifications; 2) Oral interview Candidates living abroad can take the oral interview in the form of video conference interview
Date, place, format and language of the oral interview	Date: September 26 2019, h. 9,00 (9,30 a.m. Italian time) Place: Coro di notte, Aula Rettangolare, Dipartimento di Scienze Umanistiche (Piazza Dante 32 – 95124 CATANIA) Format: Interview Language: Italian. The oral interview can be carried out in English in case of candidates who are not native Italian speakers.

Title of the Ph.D. course	POLITICAL SCIENCE
Cycle	XXXV
Scientific area	Political science
Department	Department of Political and Social Science
Department website	http://www.dsps.unict.it/
Ph.D. course Coordinator	Prof. Fabrizio Sciacca
Partner Institution(s)	None
Research Themes	Research themes compatible with the interdisciplinary nature of the Ph.D. course interpretable through the Ph.D. scientific sectors (SPS/01, SPS/02, SPS/03, SPS/04, SPS/07, SPS/09, SPS/10, SPS/11, SPS/12, SPS/13, IUS/08, IUS/10, IUS/12, IUS/17, IUS/21, M-STO/02, M-STO/04, M-PED/01, M-DEA/01, M-FIL/01, L-LIN/12) with particular reference to the complexity of the political dimension.
Available places	1) Places with scholarship financed by the University of Catania: 6 ; 2) Places without scholarship: 1 . TOTAL: 7
Selection procedures	1) Evaluation of qualifications; 2) Oral interview. Candidates living abroad can take the oral interview in the form of video conference interview
Date, place , format and language of the oral interview	Date: September 30 2019 ore 8.30 (8,30 am Italian time). Place: Dipartimento di Scienze politiche e sociali, Via Vittorio Emanuele II 49, Catania. Aula riunioni (I piano). Format: the oral interview principally consists in a discussion of the candidate's research project with reference to the themes and methodologies pertinent to Ph.D. course in Political science Language: Italian

Title of the Ph.D. course	COMPLEX SYSTEMS FOR PHYSICAL, SOCIO-ECONOMIC AND LIFE SCIENCE	
Cycle	XXXIV	
Scientific field	Interdisciplinary	
Duration	3 years	
Department	Department of Physics and Astronomy	
Department website	http://www.dfa.unict.it/	
Ph.D. Course Coordinator	Prof. Andrea Rapisarda	
Partner Institution(s)	None	
Research themes	Complex systems, agent-based models, Big Data analysis, network science, bioinformatics, econophysics, sociophysics	
Available Places	<p><u>Ordinary places:</u></p> <p>1) Places with scholarship financed by the University of Catania: 5</p> <p>2) Places without scholarship: 1</p> <p>TOTAL: 6</p> <p><u>Places reserved to graduates from foreign universities:</u></p> <p>1) Places with scholarship financed by the University of Catania 1</p> <p>TOTAL: 1</p>	
Selection procedures	<p>Ordinary places:</p> <p>1) Evaluation of qualifications;</p> <p>2) Oral interview</p>	<p>Places reserved to graduates from foreign universities:</p> <p>1) Evaluation of qualifications;</p> <p>2) Oral interview in English</p> <p>3) Two reference letter</p> <p>Candidates living abroad can take the oral interview in the form of video conference interview</p>
Date, place, format and language of the oral interview	<p>Date: September 16 2019, h. 9.30 (9.30 am Italian time)</p> <p>Place: Dipartimento di Fisica e Astronomia, via S.Sofia 64, Catania</p> <p>Format: Oral Interview, discussion of the submitted project</p> <p>Language: Italian</p>	

Title of the Ph.D. course	EVALUATION AND MITIGATION OF URBAN AND LAND RISKS
Cycle	XXXV
Scientific field	Engineering and Architecture
Duration	3 years
Department	Department of Civil Engineering and Architecture
Department website	http://www.dicar.unict.it/
Ph.D. Course Coordinator	Prof. Massimo Cuomo
Partner Institution(s)	None
Research themes	<p>The Doctoral Programme is divided into 3 curricula: Engineering for Hydraulic, Health-Environmental and Transport Infrastructures. Structural and Geotechnical Engineering Plan and Design for the Territory and the Environment. Some of the research topics developed in the PhD course are described in the Department web site. Research topics pertain to the safety assessment of urban and territorial infrastructures subjected to various hazards, the development of innovative strategies, materials and processes aimed to improve the performances and the efficiency of buildings and infrastructures, with respect to safety, energy saving, environmental protection etc.</p>
Available places	<p><u>Ordinary places</u> 1) Places with scholarship financed by the University of Catania: 6 2) Places with scholarship financed by Sezione Autonoma Costruttori Edili – ANCE Catania (Home Builders Association of Catania): 1 <u>Research theme</u>: Development of a decision-making system for seismic and energy redevelopment of buildings with framed structure 3) Places without scholarship: 1 TOTAL: 8 <u>Places reserved to employees of “MT Ortho S.r.L.” (legal address of the company: Aci Sant’Antonio (CT), via fossa lupo sn) (D.M. 45/2013, art.11, co. 2): 2</u> TOTAL: 2</p>
Selection procedures	1) Evaluation of qualifications; 2) Written examination; 3) Oral Interview
Date, place, format, duration and language of the written examination	Date: September 20 2019, h. 9.00 (9,00 am Italian time) Place: Aula D31 Edificio 14, Viale Andrea Doria 6, Catania Format: Written paper Duration: 4 hours Language: Italian or English
Date, place, format and language of the oral interview	Date: September 26 2018, h. 9.00 (9,00 am Italian time) Place: Aula D42, Edificio 14, Viale Andrea Doria 6, Catania Format: Interview Language: Italian or English