CALL FOR APPLICATIONS FOR PLACES IN PH.D. COURSES

XXXVII CYCLE – UNIVERSITY OF CATANIA

Having regard to:

- The charter of the University of Catania currently in force;
- The Decree of President of the Council of Ministers 09/04/2001 with particular reference to art. 8, paragraphs 1 and 7;
- Ministerial Decree n. 45/2013 containing the rules on the modalities of accreditation of universities and Ph.D. courses and the principles for the implementation of Ph.D. courses in the accredited universities and particularly art. 8, paragraph 2, concerning the possibility of different selection procedures with references to places reserved to graduates from foreign universities;
- The current Regulation of the University of Catania governing Ph.D. courses;
- The mandatory conclusion of selection procedures by no later than September 30 of each year as in art. 8, par. 1 of the abovementioned Ministerial Decree 45/2013;
- Ministerial Decree n. 40 of 25/01/2018;
- Ministerial Communication prot. n. 7403 of 16/03/2021 “Guidelines for the accreditation of Ph.D. courses”;
- Ministerial Communication prot. n. 7757 of 11/03/2020 “Guidelines for the procedure of accreditation of Ph.D. courses (academic year 2021/2022 – XXXVIII cycle);
- The decisions of the Academic Senate of 25/05/2021 and of the Board of Trustees of the University of Catania of 27/05/2021 concerning Ph.D. courses – XXXVII cycle;
- The positive assessments issued by the Italian National Agency for the Evaluation of Universities and Research Institutes on June 4 2021;
- The review of the integrated proposal concerning the Ph.D. course in Complex systems for physical, socio-economic and life science by the Italian National Agency for the Evaluation of Universities and Research Institutes;
- The possibility of modifications and integrations of the call, if appropriate;
- All this considered;

the following Call is issued by the Rector of the University of Catania

Art. 1 – Selection procedures

1. In compliance with the provisions of the Italian National Agency for the Evaluation of Universities and Research Institutes as reported in the premises, the University of Catania officially announces the selection procedures for places in the following Ph.D. courses of cycle XXXVII:

1. Agricultural, food and environmental science (international);
2. Basic and applied biomedical sciences (international);
3. Translational biomedicine (international);
4. Biotechnologies;
5. Economics, Management and Decision Making;
6. Physics;
7. Law (international);
8. Computer Science (international);
9. Systems, energy, computer and telecommunications engineering;
10. Neuroscience (international);
11. Educational processes, theoretical-transformative models and research methods applied to the territory;
12. Materials science and nanotechnologies;
13. Chemical Sciences (international);
14. Science of Interpretation;
15. Earth and Environmental science;
16. Sciences of cultural heritage and production;
17. Political science;
18. Complex systems for physical, socio-economic and life science;
19. Evaluation and mitigation of urban and territorial risks.

2. In case of non-accreditation of a Ph.D. course after the review procedure as reported in the premises, selection procedures, when already completed, must be considered void according to the guidelines as in the premises to this call.

3. For all Ph.D. programs listed above course activities begin on October 31 2021.

4. Detailed information on each Ph.D. course, together with the number of scholarships and their sources of funding, is included in the annexed information sheets which constitute integral and substantial part of the Call (annexes 1 to 19).

**Art. 2 Admission requirements**

1. Applications are open without regard to nationality or age to candidates who hold either a Laurea (Vecchio Ordinamento) or a Laurea specialistica /magistrale or any foreign degree suitable for access to Ph.D. courses by the deadline of the present call.

2. The suitability of the foreign degree is assessed by the selection committee with respect to the rules in force in Italy and in the country where the degree was issued and according to international agreements on degrees recognition.

3. Applications are also open to candidates regularly enrolled in their final year of Laurea Vecchio ordinamento, Laurea specialistica/magistrale or foreign degree course who obtain their final degree by no later than October 31 2021.

   In case these candidates pass the selection procedure, their admission to the Ph.D. course is subject to the submission of a self-certification of degree completion (for holders of Laurea Vecchio Ordinamento or Laurea Specialistica/Magistrale) or a degree certificate (for holders of a degree issued by a foreign university) by no later than November 5 2021. Failure to submit the aforementioned documents within the abovementioned deadline will lead to the exclusion from the doctoral program.

4. Specific entry requirements, additional to those already provided for in the paragraph of this article, are reported in the information sheets (annexes 1-18) which constitute integral and substantial part of the Call.

**Art. 3 – Application form**

1. The application form is web based and must be completed electronically through the University of Catania online application system available at [https://www.unict.it>servizi>portale studenti – NUOVO](https://www.unict.it>servizi>portale studenti – NUOVO) according to the guidelines in paragraph 10 of the present article. The closing date for the application is **July 29 2021, h. 16,00 (4,00 pm, Italian time)**.

2. An application fee of € 30,00 as contribution to the costs for the organization of the selection procedure is required. The application fee must be paid according to the procedures described at paragraph. 10, let. i) of the present article by no later than **July 29 2021**. Candidates living in extra-EU countries are exempted from the payment of the application fee.

3. The application form, to be completed either in Italian or in English, must contain the following data:
   a) candidate's name and surname, fiscal code, date and place of birth, address (including postal code), telephone number and e-mail;
   b) candidate’s nationality;
   c) name of the Ph.D. course for which the candidate intends to apply;
   d) name of the candidate's degree;
   e) disability with relative percentage, if any;
   f) declaration of commitment to immediately communicate to the e-mail address [dottorati@unict.it](mailto:dottorati@unict.it) any change of address, telephone number or e-mail address;
g) express indication of candidature for a place reserved to graduates from foreign universities (for Ph.D. programmes including this type of places and for graduates meeting this requirement only);

h) candidate’s address for videoconference;

i) declaration of acknowledgment of the content of the present call.

4. The following annexes must be attached to application form:
   a) *Curriculum vitae et studiorum / Resume*, duly dated and signed, containing the authorization to the treatment of personal data according to the regulation in force;
   b) One of the following documents concerning admission requirements:
      - Self-certification of successful completion of the degree course, for candidates with *Laurea Vecchio Ordinamento, Laurea specialistica* or *Laurea magistrale* issued by an Italian university, including the study plan, the transcript of records and the final grade;
      - Bachelor and Master degree certificates (including transcript of records, final grade and date of the award of the degree) and request of equivalence (according to the form included in annex n.20, integral to this call), for graduates from foreign universities;
      - Self-certification of enrolment in the final year of the degree course, including transcripts of records, for candidates enrolled in the last year of *Laurea Vecchio Ordinamento, Laurea Specialistica* and *Laurea Magistrale* at any Italian Universities, who will complete the course and obtain the degree by no later than October 31 2021;
      - Bachelor degree certificate plus a certificate attesting the status of student in the final year, including transcripts of records, for candidates from foreign university who will complete their Master course and obtain the degree by no later than October 31 2021;
   c) Research project;
   d) List of publications with relative abstracts, if any;
   e) Documents attesting the knowledge of the foreign language reported in the information sheet of the Ph.D. course chosen by the candidate as well as further linguistic skills or computer skills, if any;
   f) Documents concerning the completion of further university courses;
   g) Declaration concerning the type of place for which the candidate intends to apply (according to the form included in annex n.21, integral to this call), for candidates who intend to apply for Ph.D. courses offering reserved places only;
   h) Copy of a valid Identity document;

5. All annexes listed in par. 4 must be uploaded in PDF format onto the online application system one by one. When the size of a document exceeds the maximum size permitted by the online system, the document must be divided into two or more parts to be uploaded separately. No other format than PDF is accepted. All annexes can be either in English or in Italian. Any annex in a language other than English or Italian must be accompanied by a legal translation in English or in Italian, under penalty of inadmissibility to evaluation.

6. Candidates who intend to apply for two or more different Ph.D. courses must complete two or more application forms separately and pay the application fee of € 30,00 for each application, without prejudice to the exemption from the payment of the application fee for candidates living in extra-EU countries.

7. Application forms will not be considered if either incomplete or submitted with different modalities or after the deadline indicated in this article. Furthermore, application forms will not be considered if the application fee is paid after the deadline indicated in par. 2 of this article.

8. Candidates are strongly advised to complete the application procedure well in advance of the expiration date of this call in order to avoid the clogging of the online system due to the volume of applications. The University is not responsible whereas the candidate cannot complete the application procedure because of unforeseeable circumstances, force majeure or any event not imputable to the university’s administration.

9. Candidates are the sole responsible for the authenticity of the information included both in the application form and in the annexes. The university’s administration is entitled to scrutinize the application forms and related annexes according to the legislation in force and exclude, in any moment and provided a proper motivation, those candidates whose applications do not comply with the requirements of this call.

This document is the translation into English of the Call for applications for places in Ph.D. programs – cycle XXXVII
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10. In order to complete the application procedure, each candidate must:
   a) Go to [https://www.unict.it>servizi>portale studenti - NUOVO ;](https://www.unict.it>servizi>portale studenti - NUOVO ;)
   b) Complete the registration entering his/her personal data in order to receive personal access credentials
   [candidates already registered with the University’s online system proceed from c]:
   c) Enter his/her personal credentials in the login box in order to access to his/her personal account;
   d) Once in his/her personal account, in the box “Enrolment” click in order “Doctorate” and “Admittance test”;
   e) Choose the Ph.D. course for which they intend to apply;
   f) Enter the data required by the online system and check their correctness;
   g) Upload all the documents required in par. 4 of this article in PDF format onto the online application system;
   h) Confirm the data clicking the apposite confirmation command;
   i) Pay the application fee according to the procedure provided for in the online system;
   j) Print and save a copy of the confirmation of the completion of the application procedure.

11. Candidates with disability higher than 66% who need assistance during the examination must submit formal request to the University’s Centre for the Integration and Assistance to people with disability and DSA, Via A. di Sangiuliano 259, 95131 Catania, tel. 095/7307182-189-188, e-mail: cs.cinap@unict.it, website [http://www.cinap.unict.it/](http://www.cinap.unict.it/), reporting the name of the Ph.D. course for which they have applied.
This request must be submitted by no later than [July 29 2021, h. 16,00 (4,00 pm, Italian time)].

**Art. 4 – Type of places**

1. Each Ph.D. courses includes places with scholarship and places without scholarship. After selected candidates are admitted to each doctoral program, the Ph.D. Academic boards identify the beneficiaries of the scholarships based on their educational projects.

2. Technical specifications concerning scholarships are reported in the information sheet of the relevant Ph.D. course. By way of example but not limited to, technical specifications may concern:
   a. Specific requirements needed by the candidate in order to be eligible for a particular scholarship;
   b. Research topic connected to a specific scholarship;
   c. Specific modalities of development of the educational project connected to a particular scholarship.

3. Scholarships can be financed:
   a. by funds from the University of Catania;
   b. by funds from public/private institutions, highly qualified from a scientific/cultural point of view and with suitable personnel, facilities and equipment;
   c. by funds from the National Operational Program for Research and Innovation 2014-2020, where available;
   d. by funds from the Regional Operational Program 2014-2020 – European Social Fund, where available;
   e. by funds from the Italian National Institute for Social Security, where available.;

4. With reference to the additional scholarships, financed either by public/private, national/foreign institutions or through specific programs/funds sponsored by public/private, national/foreign institutions, candidates might need to comply with particular requirements to be eligible for these scholarships (by way of example but not limited to, age, nationality, residence, maximum value of the Indicator of the Equivalent Economic Situation, relationship with specific individuals registered with the Italian National System for Social Security, etc.). Furthermore, these scholarships can be related to the development of a specific research topic. As for both the additional requirements and the research projects related to these scholarships, express reference is made to the provisions by the institution sponsoring the grant.

5. Whenever vacant, places reserved to graduates from foreign universities (either with or without scholarship) can be assigned to successful candidates from the list concerning ordinary places.
6. All the scholarships financed by external institutions, as in paragraph 3, letters b and e, will be paid to the relative beneficiaries subject to the actual collection of the sums by the University. At the beginning of each academic year, the University administration requests the sums necessary for the payment of the scholarships to the funding institutions as in paragraph 3, letters b and e. The University is not responsible for any delay in the payment of the scholarships, as in paragraph 3, letters b and e, to the relative beneficiaries in case this delay is due to circumstances imputable to the funding institution.

**Art. 5 – Selection procedures**

1. According to each Ph.D. information sheet (see art. 1), candidates’ selection can be based on one of the following procedures:
   - Evaluation of qualifications, written and oral examinations;
   - Evaluation of qualifications and oral examination.

2. As for the evaluation of qualifications, the following documents will be assessed:
   - *Curriculum vitae et studiorum*;
   - Certificates attesting the knowledge of the foreign language reported in the information sheet of the Ph.D. course chosen by the candidate, if any;
   - Publications, if any;
   - Research project.

3. In case of Ph.D. courses whose selection procedure is based on the evaluation of qualifications, written and oral examinations, the pass mark is an aggregate 80 points out of 120 with minimum 40 out of 60 points in the evaluation of qualifications, 20 out of 30 points in the written examination and 20 out of 30 points in the oral examination.

   The evaluation of qualifications is based on the following criteria:
   - *Curriculum vitae et studiorum* max 30 points;
   - Certificates attesting the knowledge of the foreign language reported in the information sheet of the Ph.D. course chosen by the candidate, if any max 5 points;
   - Publications, if any max 5 points;
   - Research project max 20 points.

   Regarding the *Curriculum Vitae et Studiorum*, the selection committee will evaluate the completion of the degree course in due time, the final grade and/or the grade average point as well as all professional and/or educational experiences deemed worthy of evaluation.

   The oral examination is based on:
   - Dissertation on the research project max 10 points
   - General knowledge of the themes of the candidate’s degree and/or the themes related to the Ph.D. course max 20 points

4. In case of Ph.D. courses whose selection procedure is based on the evaluation of qualifications and oral examination, the pass mark is an aggregate 80 points out of 120 with minimum 40 points out 60 points in the evaluation of qualifications and 40 out 60 points in the oral examination.

   The evaluation of qualifications is based on the following criteria:
   - *Curriculum vitae et studiorum* max 30 points;
   - Certificates attesting the knowledge of the foreign language reported in the information sheet of the Ph.D. course chose by the candidate, if any max 5 points;
   - Publications, if any max 5 points;
   - Research project max 20 points

   Regarding the *Curriculum Vitae et Studiorum*, the selection committee will evaluate the completion of the degree course in due time, the final grade and/or the grade average point as well as all professional and/or educational experiences deemed worthy of evaluation.
The oral examination is based on:
- Dissertation on the research project max 10 points
- General knowledge of the themes of the candidate’s degree and/or the themes related to the Ph.D. course max 50 points

5. The research project assessed by the selection committee in the phase of the evaluation of qualifications and provisionally discussed in the oral examination is not binding to the research subject effectively assigned to candidates admitted to any doctoral program.

6. The selection committee shall post the detailed criteria upon which the evaluation of qualifications, the written examination (where appropriate) and the oral examination will be based well ahead of the selection procedure.

Each Ph.D. selection committee is the sole responsible for the prompt publication of the results of the selection procedure.

7. Written and oral examinations will be held in the dates, hours and places indicated each Ph.D. course information sheets annexed to this call. No written notice will be sent to candidates. Any variation of the date, hour or place will be notified well in advance on www.unict.it (section “Bandi, gare e concorsi”>”Studenti e post laurea”>”Dottorati di ricerca”). The aforementioned publication on the website, where appropriate, represents effective notification to candidates. No written notice will be sent to candidates. Candidates admitted to written and oral examinations must bring with them an identity document.

8. Candidates admitted to the written and oral examinations must bring with them an identity document. This administration reserves the right to cancel the written examination, where applicable, in case it cannot be held in presence because of the development of the epidemiologic emergency. This circumstance will immediately and properly be communicated to the concerned candidates. The cancellation of the written examination, where appropriate, means that the selection procedure will be rescheduled according to paragraph 4 of this article.

Considering the epidemiologic emergency, the oral examination will be held in the form of videoconference, without prejudice to the possibility to hold this examination in presence in accordance to the rules aimed at the containment of the epidemiologic emergency.

9. The candidate is full and sole responsible for the correct indication of the video conference address to be used by the selection committee for the oral interview. The candidate must be available in the date of the oral interview indicated in the related Ph.D. information sheet. The selection committee is entitled to arrange the time of the oral interview with the candidate. Before the oral examination, the candidate is required to exhibit his/her identity document.

Failure to indicate the video conference address or the incorrect indication of the video conference address, the unavailability of the candidate on the day and hour established by the selection committee and the failure to exhibit the identity document represent causes of exclusion from the selection procedure.

The University of Catania declines all responsibility for any unpredicted technical problem impeding the oral exam in the form of video conference interview.

10. The selection procedure must be completed by no later than September 30 2021.

Art. 6 – Designation and tasks of the Selection Committee

1. Each Selection Committee is composed according to art. 13 of the current Regulation of the University of Catania concerning Ph.D. courses.

2. Prior to the evaluation of qualifications, selection committees must establish the criteria of evaluation and assignment of points to each document to be assessed (curriculum vitae et studiorum, certificates attesting
the knowledge of the foreign language reported in the information sheet of the Ph.D. course chosen by the candidate, publications and research project).
In case of candidates who do not already hold the degree required to access a Ph.D. course, the selection committee must take into account the average grade related to exams passed by the candidate at the moment of the application in order to assess his/her academic career properly.

3. Prior to written examinations or oral examinations, when included, selection committees must establish the criteria of arrangement and evaluation of these exams.

4. Upon completion of the selection procedure, each selection committee draws up the list of successful candidates, ranked in descending order of score. Scores being equal, the younger candidate prevails (law 16.6.1998, n. 191). The list is signed by both the President and the Secretary of the Selection committee and is affixed to the Notice board of the University's Department where the selection takes place and posted on the same Department’s website.

5. In case of places reserved to graduates from foreign universities, the selection committee draws a separate list of successful candidates ranked in descending order of score. Scores being equal, the younger candidate prevails (law 16.6.1998, n. 191). The list is signed by both the President and the Secretary of the Selection committee and is affixed to the Notice board of the University's Department where the selection takes place and posted on the same Department’s website.

Any reserved place remained vacant after the selection procedure can be made available for candidates in the list concerning ordinary places as in the previous paragraph 4.

**Art. 7 – Lists of successful candidates**

1. The list of successful candidates eligible for Ph.D. places are issued through decree of the Rector of the University of Catania. The Rector’s Decrees will be posted on www.unict.it (section “Bandi, gare e concorsi”>“Studenti e post laurea”>“Formazione post laurea”>“Dottorati di ricerca”).

**Art. 8 – Admission to Ph.D. courses**

1. Candidates are admitted to Ph.D. programs according to the descending order on the list of selected candidates until all the places available within each course are allocated. Successful candidates eligible for a place in two or more Ph.D. course are requested to choose the Ph.D. course in which they intend to enroll.

2. Candidates are excluded if they do not comply with enrolment procedures (see art. 9) within the deadline indicated in a further notice. In this case the next candidate in the list in descending order of score becomes eligible to fill the vacant place.

3. Any places remained vacant due to renunciation of candidates preceding on the list can be allocated within three months from the beginning of course activities. This term of three months can be extended in case of availability of scholarships - even after the beginning of course activities - within the framework of EU, ministerial or regional programs expressly concerning Ph.D. courses of Cycle XXXVI (academic year 2020/2021) according to the modalities established in the programs. Incoming candidates, either for places with scholarships or for places without scholarships, will be informed by email on enrolment procedures as defined in art. 9. Failure to comply with enrolment procedures will lead to the exclusion from the course.

4. Top candidates on the list are admitted to a place with scholarship to the extent of the availability of places with scholarship; on completion of the allocation of the places with scholarship, incoming candidates on the list in descending order of score are admitted to a place without scholarship to the extent of the availability of the places without scholarship.

5. The list of selected candidates shall report the candidate’s eligibility for places with scholarship connected to a specific research project for which they have applied for, where appropriate, and the assigned curriculum, in case the Ph.D. course is divided into curricula. The scholarships will be assigned according to the merit ranking. Whenever a candidate is eligible for a scholarship connected to a specific topic, this scholarship shall be primarily assigned. Whenever more than one candidate is eligible for the same scholarship

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connected to a specific topic, the selection committee shall assign the scholarship according to the merit ranking. In case the call for application includes more than one scholarship connected to a specific topic, the selection committee shall decide the assignation of each of these scholarships.

6. Candidates admitted to Ph.D. courses are required to pay enrolment fees as stated in the following article 9.

7. Candidates who have already attended a Ph.D. course in a place with scholarship can only be enrolled as Ph.D. student in places without scholarship.

8. Candidates with disability corresponding to 66% are admitted to the programme in supernumerary places without scholarship, even if their position on the list is below the corresponding number of places in the Ph.D. program. Supernumerary places without scholarship reserved to candidates with disability can be up to half of the ordinary places. Candidates with disabilities are exempted from the payment of enrolment fees (Regulation of the University of Catania on Ph.D. Courses, art. 12, paragraph 6).

Art. 9 – Enrolment procedures

1. Candidates admitted to Ph.D. courses are officially appointed in a Rector's decree posted on the university’s website www.unict.it (section “Bandi, gare e concorsi”->“Studenti e post laurea”->“Dottorati di ricerca”) from October 14 2021 to October 22 2021 at the latest.

2. Candidates in the ranking list must submit the enrolment form and pay the enrolment fee (as in paragraph 4, letter e)) according to the procedure indicated in paragraphs 3) and 4), within the deadline reported in the Rector’s decree issuing the ranking list. The publication of this Rector’s decree represents the only official form of information. No personal notice will be sent to selected candidates.

3. In the enrolment form the candidate shall enter:
   a) name and surname, fiscal code, date and place of birth (including post code), telephone number and e-mail address;
   b) disability with indication of its percentage, where appropriate;
   c) declaration to commit himself/herself to attend the Ph.D. course full time according to the provisions of the Academic board.

4. To complete the enrolment procedure candidates must:
   a) go to https://www.unict.it>servizi>portale studenti-NUOVO;
   b) log in to their account with the same credentials as those used during the application procedure;
   c) once in their account in the box Iscrizione click the heading “Dottorati” and subsequently “Domanda di immatricolazione”;
   d) enter all the required details in the specific spaces and confirm them;
   e) proceed with the payment of the enrolment fee according to the directory in the online system for an amount of:
      • € 356,00 in case of enrolment in a place with scholarship;
      • € 156,00 in case of enrolment in a place without scholarship;
      • € 16,00 for candidates with disabilities corresponding to 66% or more, whatever the type of place.

5. Enrolment forms submitted with modalities other than those indicated in this article or submitted after the deadline reported in the Rector's Decree mentioned in the previous paragraph 2 will not be considered. Enrolment forms without the payment of the due enrolment fee will not be considered either. The University of Catania declines all responsibility for failure to complete the enrolment procedure due to either facts not imputable to its administration or fortuitous event or force majeure.

6. Candidates’ failure to comply with the aforementioned provisions is considered equivalent to formal renunciation to the place in the Ph.D. course. Vacant places can be made available for other candidates on the ranking according to the descending order and until all vacant places are allocated. These candidates will be
informed on enrolment procedures and deadline by means of an email sent to the email address indicated in the application form.

7. The renunciation to a place in a Ph.D. program does not give the right to a refund of the enrolment fee even when the candidate has not attended any course activities.

8. In order to allow a rapid allocation of the places to the candidates in the ranking list, selected candidates who intend to renounce a Ph.D. place must send immediate written notice to dottorati@unict.it. A copy of the identity card in PDF format must be attached to the notice of renunciation.

9. Within the deadline reported in paragraph 2 of this article, selected candidates admitted to places with scholarship must upload onto the online system and send to dottorati@unict.it the following documents in PDF format:
   a) Document from the Italian National Institute for Social Security attesting the candidate's contributory role;
   b) Declaration concerning the candidate's registration or non-registration with other forms of social security;
   c) Copy of the fiscal code or health insurance card;
   d) Copy of a valid identity document;
   e) Form including bank details necessary for the payment of the scholarship;
   f) Declaration of acknowledgement that scholarships are exempted from income tax imposed on physical persons and that under no circumstances can they give assessments for the purpose of the career;
   g) any further documents required by specific calls concerning the funding of the scholarship, where appropriate.

10. Any variation of the enrolment procedure shall be duly communicated to the selected candidates in the same Rector's Decree reported in paragraph 2 of this article.

11. By no later than November 15 of each year Ph.D. students must enroll in the following year. The enrolment is subject to the decision of the academic board according to art. 15, par. 4 of the Regulation of the University of Catania governing Ph.D. courses. Failure to renew the enrolment leads to the exclusion from the Ph.D. course.

Art. 10 - Scholarship

1. Entitled candidates are granted a scholarship according to the law in force.

2. The scholarships, whose maximum duration corresponds to the duration of the Ph.D. course, are assigned to candidates in the ranking list, provided a comparative evaluation in terms of merit and according to the order of the list, and are confirmed with the candidate’s admission the following year of the Ph.D. course.

3. Each scholarship amounts to € 15,343.28 per year, before taxes charged on the scholarship holder. This amount is adjusted according to increases established by the law. Unless there is an increase in the scholarship amount, which is not available at the moment, the net amount of each monthly salary of the scholarship (after tax deductions charged to the doctoral student) is € 1,132.57.

4. The amount of the scholarship is increased up to 50% in correspondence and proportionally to study periods at foreign universities or research centres for no more than 18 months. Unless there is an increase in the scholarship amount, which is not available at the moment, the net amount of the 50% monthly increase (after tax deductions charged to the doctoral student) is € 566.29.

5. Each doctoral student, either in a place with or without scholarship, is granted a research budget from the second year of Ph.D. course. Within the financial resources of the funding institution as in article 4, paragraph 3. Unless there is an increase provided by the pertinent legislation, this research budget amounts to € 1,884.57. This budget can be used by the doctoral student to cover any costs concerning his/her research in Italy and abroad.
The budget is transferred every year to the Department offering the Ph.D. course indicated in the information sheet. To access and use this budget, each doctoral student will need to refer to the financial division of the Department offering the Ph.D. course.

6. The payment of the scholarship is conditioned to the effective attendance to course activities and to the effective development of the research project assigned by the Academic Board and approved by the funding institution where appropriate. Any remains of the scholarship or fraction of it will be deposited in the administration coffers to be used in subsequent cycles of Ph.D. course.

7. The payment of the scholarship consists in a two-month salary for November and December for the first year and in monthly salaries for the remaining months.
   In case of doctoral students whose research activity begins after October 31 2021, the payment of the scholarship may consist in monthly salary from the beginning.
   Either way, payments are deferred to the month following the month of reference.

8. The provisions concerning tax benefit included in art. 4, Law 476/1984 apply to doctoral scholarships.

9. Scholarships cannot be cumulated with other financial contributions unless these latter are granted by national or international institutions and destined to research work abroad.
   To benefit from the contributions in the above paragraph additional conditions might be required which are expressly indicated in the program financing the contributions.

10. Candidates who have already benefited from a doctoral scholarship or even portion of it cannot be granted a scholarship for a second time.

Art. 11 – Rights and duties of Ph.D. Students

1. With reference to further rights and duties of Ph.D. students, candidates are required to refer to articles 15, 16, 16-bis, 17 and 18 of the Regulation of the University of Catania for Ph.D. courses.

Art. 12 –Treatment of personal data

1. With regard to the information about the treatment of the candidates’ personal data, according to articles 12, 13 and 14 of the EU regulations on the treatment of personal data 2016/679 (GDPR) and article 13 of the legislative decree n. 196/2003 – candidates shall refer to annex 22 which constitutes integral part of the Call and to the informative webpage on the treatment of students personal data available at https://www.unict.it/sites/default/files/files/Informativa%20studenti_aprile%202021-DEF.pdf.

Art. 13 – Officials in charge of procedure

1. According to art.5, subparagraph 1, of Law 241/90, the official in charge of the procedure is:
   - the chairperson of the selection committee with reference to the selection procedure, from the appointment of the committee members to the publication of the selection results;
   - Mr Paolo Moscato, with reference to the procedures connected to the present call;
   - Mr Salvatore Libertini, with reference to the procedures connected to foreign candidates.

Art. 14 – Final measures

1. The administration reserves the right to modify, update or integrate the present call - to be exclusively advertised through www.unict.it (section “Bandi, gare e concorsi” > “Studenti e Post laurea” > “Dottorati di ricerca”) - in case the number of places with scholarships or equivalent type of grants, and consequently the number of places without scholarships, increases due to further funds made available after the issuing of this call provided the respect of the terms of assignation of places to candidates on the pass list.
2. Any aspect related to Ph.D. course and not expressly covered in the present call is governed by Ministerial Decree 45/2013, the Ph.D. regulations in force at the University of Catania, International cooperation agreements, other legislation in force governing Ph.D. courses and the legislation in force.

3. For any information and/or explanations it is possible to contact the Ph.D. Students Office at the following contact details: dottorati@unict.it; +39 095/7300721-257-260-261-263.

CATANIA, ..................
<table>
<thead>
<tr>
<th><strong>Ph.D. course</strong></th>
<th><strong>AGRICULTURAL, FOOD AND ENVIRONMENTAL SCIENCE (INTERNATIONAL)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cycle</strong></td>
<td>XXXVII</td>
</tr>
<tr>
<td><strong>Scientific area</strong></td>
<td>Agricultural science</td>
</tr>
<tr>
<td><strong>Duration</strong></td>
<td>3 years</td>
</tr>
<tr>
<td><strong>Department</strong></td>
<td>Department of Agriculture, Food and Environment</td>
</tr>
<tr>
<td><strong>Department website</strong></td>
<td><a href="http://www.di3a.unict.it/">http://www.di3a.unict.it/</a></td>
</tr>
<tr>
<td><strong>Ph.D. Course Coordinator</strong></td>
<td>Prof. Alessandro Priolo</td>
</tr>
<tr>
<td><strong>Partner Institution(s)</strong></td>
<td>Technical University of Lisbon (Portugal)</td>
</tr>
</tbody>
</table>

**Research theme(s)**

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:

- 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: **6**
2) Places without scholarship: **1**

**TOTAL: 7**

**Selection procedures**

1) Evaluation of qualifications;
2) Oral examination (also in the form of videoconference interview)

**Date, place, format and language of the oral examination**

Date: September 30 2021, h. 9:00 (9,00 a.m. Italian time)
Place: Aula Jannaccone, Via Valdisavoia n.5 , 1st floor, Catania
Format:
- Dissertation on the research project
- Assessment of the general knowledge of the themes of the candidate’s degree and/or the themes related to the Ph.D. course

Language: English
<table>
<thead>
<tr>
<th>Ph.D. Course</th>
<th>BASIC AND APPLIED BIOMEDICAL SCIENCES (INTERNATIONAL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cycle</td>
<td>XXXVII</td>
</tr>
<tr>
<td>Scientific area</td>
<td>Medicine and surgery</td>
</tr>
<tr>
<td>Duration</td>
<td>3 years</td>
</tr>
<tr>
<td>Department</td>
<td>Department of Biomedical and Biotechnological Science</td>
</tr>
<tr>
<td>Department website</td>
<td><a href="http://biometec.unict.it/">http://biometec.unict.it/</a></td>
</tr>
<tr>
<td>Ph. D. Course Coordinator</td>
<td>Prof. Stefania Stefani</td>
</tr>
<tr>
<td>Partner Institution(s)</td>
<td>University of Barcelona (Spain)</td>
</tr>
<tr>
<td>Research themes</td>
<td>1) Translational oncology, immunology and aging; 2) Experimental surgery and anatomy; 3) Molecular Biomedicine and Biotechnology; 4) Molecular Genetics, Microbiology and Virology</td>
</tr>
<tr>
<td>Available places</td>
<td>1) Places with scholarship financed by the University of Catania: 4 2) Places without scholarship: 1  TOTAL: 5</td>
</tr>
<tr>
<td>Selection Procedure</td>
<td>1) Evaluation of qualifications (all candidates are required to submit a letter of reference in addition to the qualification listed in art. 3, paragraph 4 of the call for application; 2) The research project must be coherent with the Ph.D. research themes 3) Oral examination (also in the form of video-conference)</td>
</tr>
</tbody>
</table>
| Date, place, format and language of the oral examination | Date: September 24 2021, h. 9,00 (9 pm Italian time)  
Format:  
- Dissertation on the research project  
- General knowledge of the themes of the candidate’s degree and/or the themes related to the Ph.D. course
Language: English |
<table>
<thead>
<tr>
<th>Ph.D. Course</th>
<th>TRASLATIONAL BIOMEDICINE (INTERNATIONAL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cycle</td>
<td>XXXVII</td>
</tr>
<tr>
<td>Scientific area</td>
<td>Medicine and Surgery</td>
</tr>
<tr>
<td>Duration</td>
<td>3 years</td>
</tr>
<tr>
<td>Department</td>
<td>Department of Clinical and Experimental Medicine</td>
</tr>
<tr>
<td>Department website</td>
<td><a href="http://www.medclin.unict.it">http://www.medclin.unict.it</a></td>
</tr>
<tr>
<td>Ph.D. Course Coordinator</td>
<td>Prof. Carlo Vancheri</td>
</tr>
<tr>
<td>Partner Institution(s)</td>
<td>University of Granada (Spain)</td>
</tr>
<tr>
<td></td>
<td>University of Copenhagen (Denmark)</td>
</tr>
<tr>
<td>Research themes</td>
<td>Physiopathology of complex diseases: from clinical observation to molecular mechanisms</td>
</tr>
</tbody>
</table>
| 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 examination (also in the form of videoconference interview) |
| Date, place, format and language of the oral examination | Date: September 21 2021, h. 9,00 (9,00 pm Italian time)  
Place: Torre Biologica F. Latteri – lato nord p.9 – via Santa Sofia n. 89 – 95123 - Catania  
Format:  
- Dissertation on the research project  
- General knowledge of the themes of the candidate’s degree and/or the themes related to the Ph.D. course  
Language: English |
The interdisciplinary Ph.D. course in Biotechnologies of the University of Catania encompasses the biotechnological competences of the University thanks to the presence 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 defined as follows: Molecular biotechnologies, biomedical and preclinical biotechnologies, agri-food biotechnologies and pharmaceutical biotechnologies. The common domain is life technology regarding to which the molecular application of genetic engineering is prevalent. This application introduces to the use of living cells and organisms to obtain goods and services. Research fields 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 of biological and natural molecules; genetic and food improvement in the agri-food sector, the use of biotechnologies for the sustainable production of energy. Here follow, to be illustrative but not limiting, some of the research themes carried out in the laboratories, to which the projects of doctoral students might be associated.

**Research themes**

**Molecular Biotechnologies**
1) Novel mechanisms of cell-to-cell communication: exosomes and 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 and proteomic analysis of membrane proteins and their post-translational modifications;
4) Role of metal-chaperone and research of new targets in neovascular disorders;
5) Biomedical engineering: artificial intelligence and machine learning for medicine;
6) Synthetic Biology: design of integrated biological systems capable of autonomously performing useful tasks, elucidate the design principles underlying complex phenotypes;
7) Systems Biology: programming and analysis of selected cells and organelles (e.g., E. coli, S. cervisiae, mitochondrion).

**Biomedical and preclinical biotechnologies**
1) Innovative Cell Strategies with Stem/neuroprogenitors and Astrocytes to Boost Neurepair/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 therapeutic interventions;
4) Biomarkers in disorders associated to autism;
5) Biotechnological approaches and preclinical imaging in animal modelling of neurodegenerative diseases.
6) Musculoskeletal disorders and tissue engineering, mechanobiology, health sports technology and movement analysis.

**Agri-food biotechnologies**
1) New breeding techniques for the genetic improvement of cultivated plants;
2) Study of the diversity of cultivated plants through genome sequencing, identification of markers associated to loci of interest and application to genetic improvement;
3) -omic sciences and analysis of host-pathogen interaction for the purpose of resistance;
4) Bio-synthesis of carotenoid and anthocyanin pigments and plasticity in the process of DNA methylation in blood orange during the ripening of the fruit and in abiotic
stress;
5) Influence of agro-climatic conditions on the gene expression in vine for the production of red wine;
6) Herbaceous crops and biotechnology for the production of sustainable energy;
7) Genomics, transcriptomics and proteomics of animal production;
8) Zootechnical biodiversity e mechanisms of adaptation to hot climate;
9) Agricultural, food and environmental microbiology: biotechnological and functional implications of yeasts and lactic bacteria for the implementation of functional foodstuff;
10) Microbiome and health of the plants, selection of microorganisms for the biocontrol and analysis of action mechanisms.

Pharmaceutical Biotechnologies
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, cycloextrins);
4) Development of inhibitors and inductors in the enzim Heme Oxygenasis – 1 (HO-1);
5) Rational design through computational methods, synthesis and biologic evaluation of ligands for treatment of cancer and pain;
6) Development and production of radiopharmaceuticals or stimulants for anti-cancer treatment associated to radiotherapy.

<table>
<thead>
<tr>
<th>Master degrees required for the admission</th>
</tr>
</thead>
<tbody>
<tr>
<td>LM-6 Biologia (Biology)</td>
</tr>
<tr>
<td>LM-7 Biotecnologie agrarie (Agricultural biotechnology)</td>
</tr>
<tr>
<td>LM-8 Biotecnologie industriali (Industrial biotechnology)</td>
</tr>
<tr>
<td>LM-9 Biotecnologie mediche, veterinarie e farmaceutiche (Medical, Veterinary and Pharmaceutical Biotechnology)</td>
</tr>
<tr>
<td>LM-13 Farmacia e farmacia industriale (Pharmacy and Industrial Pharmacy)</td>
</tr>
<tr>
<td>LM-17 Fisica (Physics)</td>
</tr>
<tr>
<td>LM-18 Informatica (Computer Science)</td>
</tr>
<tr>
<td>LM-21 Ingegneria biomedica (Biomedical Engineering)</td>
</tr>
<tr>
<td>LM-41 Medicina e chirurgia (Medicine and Surgery)</td>
</tr>
<tr>
<td>LM-42 Medicina veterinaria (Veterinary Medicine)</td>
</tr>
<tr>
<td>LM-54 Scienze chimiche (Chemical science)</td>
</tr>
<tr>
<td>LM-67 Scienze e Tecniche delle Attività Motorie Preventive e Adattate (Sciences and Techniques of Preventive and Adapted Physical Activities);</td>
</tr>
<tr>
<td>LM-69 Scienze e tecnologie agrarie (Agricultural Science and Technology)</td>
</tr>
<tr>
<td>LM-70 Scienze e tecnologie alimentari (Food Science and Technology)</td>
</tr>
<tr>
<td>LM-71 Scienze e tecnologie della chimica industriale (Industrial chemical science and technology)</td>
</tr>
<tr>
<td>LM-86 Scienze zootecniche e tecnologie animali (Zootchnical Science and Animal Technology)</td>
</tr>
<tr>
<td>6/S (specialistiche in biologia) (Biology)</td>
</tr>
<tr>
<td>7/S (specialistiche in biotecnologie agrarie) (Agricultural Biotechnology)</td>
</tr>
<tr>
<td>8/S (specialistiche in biotecnologie industriali) (Industrial Biotechnology)</td>
</tr>
<tr>
<td>9/S (specialistiche in biotecnologie mediche, veterinarie e farmaceutiche) (Medical, Veterinary and Pharmaceutical Biotechnology)</td>
</tr>
<tr>
<td>14/S (specialistiche in farmacia e farmacia industriale) (Pharmacy and Industrial Pharmacy)</td>
</tr>
<tr>
<td>46/S (specialistiche in medicina e chirurgia) (Medicine and Surgery)</td>
</tr>
<tr>
<td>47/S (specialistiche in medicina veterinaria) (Veterinary Medicine)</td>
</tr>
<tr>
<td>62/S (specialistiche in scienze chimiche) (Chemical Science)</td>
</tr>
<tr>
<td>77/S (specialistiche in scienze e tecnologie agrarie) (Agricultural Science and Technology)</td>
</tr>
<tr>
<td>78/S (specialistiche in scienze e tecnologie agroalimentari) (Food Science and Technology)</td>
</tr>
<tr>
<td>79/S (specialistiche in scienze e tecnologie agrozootecniche) (Agro-Zootecnical Science and Technology)</td>
</tr>
<tr>
<td>81/S (specialistiche in scienze e tecnologie della chimica industriale) (Industrial Chemical Science and Tecnology)</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Available places</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Places with scholarship financed by the University of Catania: 4</td>
</tr>
<tr>
<td>2) Research theme: Innovative Doctorates “Industry 4.0”</td>
</tr>
<tr>
<td>3) Places without scholarship: 1</td>
</tr>
<tr>
<td><strong>TOTAL:</strong> 5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Selection procedures</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Evaluation of qualifications (foreign candidates are required an English language certification in addition to the qualifications listed in art. 3, paragraph 4, of the call</td>
</tr>
</tbody>
</table>
| Date, place, format and language of the oral interview | Date: September 27 2021, h. 9,30 (9,30 am Italian time)  
Place: Torre Biologica “F. Latteri” – via Santa Sofia n. 89 – Catania  
Format:  
- Dissertation on the research project  
- General knowledge of the themes of the candidate’s degree and/or the themes related to the Ph.D. course  
Language: English |
<table>
<thead>
<tr>
<th><strong>Ph.D. Course</strong></th>
<th>ECONOMICS, MANAGEMENT AND DECISION MAKING</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cycle</strong></td>
<td>XXXVII</td>
</tr>
<tr>
<td><strong>Scientific area</strong></td>
<td>Economics</td>
</tr>
<tr>
<td><strong>Duration</strong></td>
<td>4 years</td>
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<tr>
<td><strong>Department</strong></td>
<td>Department of Economics and Business</td>
</tr>
<tr>
<td><strong>Department website</strong></td>
<td><a href="http://www.dei.unict.it/">http://www.dei.unict.it/</a></td>
</tr>
<tr>
<td><strong>Ph.D. Course Coordinator</strong></td>
<td>Prof. Salvatore Greco</td>
</tr>
<tr>
<td><strong>Partner Institutions</strong></td>
<td>None</td>
</tr>
<tr>
<td><strong>Research themes</strong></td>
<td>Innovation and sustainability; institutions, markets and economic development; decision analysis, decision theory and data science</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Available places</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1)</td>
<td>Places with scholarship financed by the University of Catania: 6</td>
</tr>
<tr>
<td>2)</td>
<td>Places with scholarship financed by Ambiens S.r.l.: 1</td>
</tr>
<tr>
<td></td>
<td><strong>Research theme:</strong> Economic and managerial analysis and choice of decisions applied to the market of energies from renewable energy sources</td>
</tr>
<tr>
<td>3)</td>
<td>Places with scholarship financed by GE.S.P.I. S.r.l.: 1</td>
</tr>
<tr>
<td></td>
<td><strong>Research theme:</strong> Technical and economic analysis of innovation in the field of thermovalorization and special waste management</td>
</tr>
<tr>
<td>4)</td>
<td>Place with scholarship financed by Sybil S.r.l.: 1</td>
</tr>
<tr>
<td></td>
<td><strong>Research theme:</strong> Strategic policies of monitoring of the systemic risk associated to the investment portfolio management in derivative financial instruments held by financial institutions</td>
</tr>
<tr>
<td>5)</td>
<td>Place without scholarship 1</td>
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<tr>
<td><strong>TOTAL:</strong></td>
<td>10</td>
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| **Selection procedure** | 1) Evaluation of qualifications; 2) Oral examination (also in the form of video-conference interview) |

<table>
<thead>
<tr>
<th><strong>Date, place, format and language of the oral examination</strong></th>
<th>Data: September 27 2021, h. 10.00 (10 am Italian time)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Luogo: Department of Economics and Business, Corso Italia 55, Catania</td>
</tr>
<tr>
<td></td>
<td>Format:</td>
</tr>
<tr>
<td></td>
<td>- Dissertation on the research project</td>
</tr>
<tr>
<td></td>
<td>- Assessment of the general knowledge of the themes of the candidate’s degree and the themes related to the Ph.D. course</td>
</tr>
<tr>
<td></td>
<td>Language: English</td>
</tr>
<tr>
<td><strong>Ph.D. course</strong></td>
<td>PHYSICS</td>
</tr>
<tr>
<td>------------------</td>
<td>---------</td>
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<tr>
<td><strong>Cycle</strong></td>
<td>XXXVII</td>
</tr>
<tr>
<td><strong>Scientific field</strong></td>
<td>Mathematics, physics and natural sciences</td>
</tr>
<tr>
<td><strong>Duration</strong></td>
<td>3 years</td>
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<tr>
<td><strong>Department</strong></td>
<td>Department of Physics and Astronomy “Ettore Majorana”</td>
</tr>
<tr>
<td><strong>Department website</strong></td>
<td><a href="http://www.dfa.unict.it/">http://www.dfa.unict.it/</a></td>
</tr>
<tr>
<td><strong>Ph.D. course Coordinator</strong></td>
<td>Prof. Sebastiano Albergo</td>
</tr>
<tr>
<td><strong>Partner Institution(s)</strong></td>
<td>National Institute for Nuclear Physics (INFN)</td>
</tr>
</tbody>
</table>

**Research Themes**

Ordinary places:
1. Nuclear and sub-nuclear Physics;  
2. Matter Physics and Quantum Technology;  
3. Astrophysics;  

Places reserved to graduates from foreign universities:
1. Places with scholarship financed by the University of Catania: 1

**Available places**

- 1) Places with scholarship financed by the National Institute for Nuclear Physics-Laboratori Nazionali del Sud: 2
- 2) Places with scholarship financed by National Institute for Nuclear Physics – Division of Catania: 1
- 3) Places with scholarship financed by the University of Catania: 5
- 4) Places with scholarship financed by E.N.I. S.p.A.: 2  
  Research theme 1: Analysis of the radiation damage of superconducting ferrous-based thin film through transmission electron microscopy  
  Research theme 2: Multiscale stability stimulation and damage of first wall materials.
  Research theme: Quantum Phases of Ultracold Matter
- 6) Places without scholarship: 1

**TOTAL: 12**

**Selection procedures**

Ordinary places:
1) Evaluation of qualifications;  
2) Written examination;  
3) Oral examination (also in the form of video-conference interview).

Places reserved to graduates from foreign universities:
1) Evaluation of qualifications;  
2) Oral examination (also in the form of video-conference interview).

**Date, place, format, duration and language of the written examination**

Date: September 14 2020, h. 9:30 (9,30 am Italian time)  
Place: Department of Physics and Astronomy “Ettore Majorana”, via S. Sofia, n. 64 - Catania  
Format: Solving of physics problems  
Duration: three hours  
Language: Italian or English
| **Date, place, format and language of the oral examination** | Date: September 23 2021, h. 9:00 (9.00 am Italian time)  
Place: Department of Physics and Astronomy “Ettore Majorana”, via S.Sofia, n. 64 - Catania  
Format: Interview on the knowledge of the themes of the themes related to the Ph.D. course  
Language: Italian or English |
<table>
<thead>
<tr>
<th>Ph.D. course</th>
<th>LAW (INTERNATIONAL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cycle</td>
<td>XXXV</td>
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<tr>
<td>Scientific field</td>
<td>Law</td>
</tr>
<tr>
<td>Duration</td>
<td>3 years</td>
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<tr>
<td>Department</td>
<td>Department of Law</td>
</tr>
<tr>
<td>Department website</td>
<td><a href="http://www.lex.unict.it/">http://www.lex.unict.it/</a></td>
</tr>
<tr>
<td>Ph.D. Course Coordinator</td>
<td>Prof. Anna Maria Maugeri</td>
</tr>
<tr>
<td>Partner Institution(s)</td>
<td>University of Castilla – La Mancha (Spain)</td>
</tr>
</tbody>
</table>

**Research themes**
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. Listed below are the 13 curricula 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.

**Available places**

<table>
<thead>
<tr>
<th>Ordinary Places</th>
<th>Places with scholarship reserved to graduates from foreign universities</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Places with scholarship financed by the University of Catania: 3; 2) Places without scholarship: 1</td>
<td>1) Places with scholarship financed by the University of Catania: 1</td>
</tr>
</tbody>
</table>

Each candidate shall indicate for which curriculum he/she is applying among those connected to the International Ph.D. course in Law

**TOTAL:** 4

**TOTAL:** 1

**Selection procedures**

<table>
<thead>
<tr>
<th>Ordinary places</th>
<th>Places with scholarship reserved to graduates from foreign universities</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Evaluation of qualifications 2) Written examination 3) Oral examination (also in the form of video-conference interview)</td>
<td>1) Evaluation of qualifications 2) Oral examination (also in the form of video-conference interview)</td>
</tr>
</tbody>
</table>

**Date, place, format, duration and language of the written examination**

**Date:** September 21 2021 h. 9.30 (9.30 am Italian time)

**Place:** Department of Law, Via Gallo 24 – 95124 Catania

**Format:** written paper on a topic related to the research themes of the Ph.D. curricula (several topics will be provided in order to take into account of the fundamental themes included in the curricula)

**Duration:** 6 hours
<table>
<thead>
<tr>
<th>Date, place, format and language of the oral examination</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date: <strong>September 29 2021 h. 9.30 (9.30 am Italian time)</strong></td>
</tr>
<tr>
<td>Place: Department of Law, Via Gallo 24 – 95124 Catania</td>
</tr>
<tr>
<td>Format:</td>
</tr>
<tr>
<td>- Dissertation on the research project</td>
</tr>
<tr>
<td>- General knowledge of the themes of the candidate’s degree and/or the themes related to the selected curriculum.</td>
</tr>
<tr>
<td>Language: Italian (foreign candidates can choose from one of the following languages: Italian, English or Spanish)</td>
</tr>
<tr>
<td><strong>Title of the Ph.D. course</strong></td>
</tr>
<tr>
<td>-------------------------------</td>
</tr>
<tr>
<td><strong>Cycle</strong></td>
</tr>
<tr>
<td><strong>Scientific area</strong></td>
</tr>
<tr>
<td><strong>Duration</strong></td>
</tr>
<tr>
<td><strong>Department</strong></td>
</tr>
<tr>
<td><strong>Department website</strong></td>
</tr>
<tr>
<td><strong>Ph.D. course Coordinator</strong></td>
</tr>
<tr>
<td><strong>Partner Institution(s)</strong></td>
</tr>
</tbody>
</table>

**Research themes**
- 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**
1) Places with scholarship financed by the University of Catania:
2) Places with scholarship financed by the Italian Association for Assistance to people with disabilities – Division of Acireale (Catania).
- Research theme: Assistive Wearable Technologies for Rehabilitation
3) Places without scholarship:

**TOTAL:** 7

**Selection procedures**
1) Evaluation of qualifications;
2) Oral examination (also in the form of videoconference interview)

**Date, place, format and language of the oral examination**
- Date: September 16, 2021, h. 09:30 (09.30 a.m. Italian time)
- Place: Department of Mathematics and Computer Science, via Santa Sofia n. 62, Catania
- Format:
  - Dissertation on the research project
  - General knowledge of the themes of the candidate's degree and/or the themes related to the Ph.D. course
- Language: English
<table>
<thead>
<tr>
<th>Ph.D. Course</th>
<th>SYSTEMS, ENERGY, COMPUTER AND TELECOMMUNICATION ENGINEERING</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cycle</td>
<td>XXXIV</td>
</tr>
<tr>
<td>Scientific area</td>
<td>Industrial and Information Engineering</td>
</tr>
<tr>
<td>Duration</td>
<td>3 years</td>
</tr>
<tr>
<td>Department</td>
<td>Department of Electric, Electronic and Computer Engineering</td>
</tr>
<tr>
<td>Department website</td>
<td><a href="http://www.dieei.unict.it/">http://www.dieei.unict.it/</a></td>
</tr>
<tr>
<td>Ph.D. Course Coordinator</td>
<td>Prof. Paolo Arena</td>
</tr>
<tr>
<td>Partner Institution(s)</td>
<td>None</td>
</tr>
</tbody>
</table>

### Research themes

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. 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.

### Available places

1) Places with scholarship financed by the University of Catania: **6**
2) Places with scholarship financed by T.I.M. S.p.A.: **1**
   - Research theme: Cloud-native and edge-powered verticals in a 5G ecosystem
3) Places with scholarship co-financed by the Department of Electric, Electronic and Computer Engineering of the University of Catania, Cisma Ambiente S.p.A. and ENEA: **1**
   - Research theme: Processes and methodologies for the management and enhancement of industrial waste in business circular transition
4) Places without scholarship: **1**

**TOTAL: 9**

### Selection procedures

1) Evaluation of qualifications
2) Oral examination (also in the form of video-conference interview)

### Date, place, format and language of the oral examination

- **Date:** September 13, 2021 h. 9,00 (9,00 am Italian time)
- **Place:** Department of Electric, Electronic and Computer Engineering, viale Andrea Doria, n. 6, Catania
- **Format:**
  1. Dissertation on the research project
  2. General knowledge of the themes of the candidate’s degree and/or the themes related to the Ph.D. course
- **Language:** Italian or English
<table>
<thead>
<tr>
<th>Ph.D. course</th>
<th>NEUROSCIENCES (INTERNATIONAL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cycle</td>
<td>XXXVII</td>
</tr>
<tr>
<td>Scientific area</td>
<td>Medicine and surgery</td>
</tr>
<tr>
<td>Duration</td>
<td>3 years</td>
</tr>
<tr>
<td>Department</td>
<td>Department of Biomedical and Biotechnological Science</td>
</tr>
<tr>
<td>Department website</td>
<td><a href="http://biometec.unict.it/">http://biometec.unict.it/</a></td>
</tr>
<tr>
<td>Ph.D. Course Coordinator</td>
<td>Prof. Claudio Bucolo</td>
</tr>
<tr>
<td>Partner Institution(s)</td>
<td>University of Bordeaux (France)</td>
</tr>
</tbody>
</table>

**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: 6
2) Places without scholarship: 1
**TOTAL:** 7

**Selection procedure**
1) Evaluation of qualifications;
2) Oral examination (also in the form of video-conference interview)

**Date, place, format and language of the oral interview**
Date: September 23 2021, h. 10,00 (10,00 am Italian Time)
Place: Torre Biologica, Via S. Sofia 97, Catania
Format:
- Dissertation on the research project
- General knowledge of the themes of the candidate’s degree and/or the themes related to the Ph.D. course
Language: English
### Ph.D. Course

<table>
<thead>
<tr>
<th>Ph.D. Course</th>
<th>Educational processes, theoretical-transformative models and research methods applied to the territory</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cycle</td>
<td>XXXVII</td>
</tr>
<tr>
<td>Scientific area</td>
<td>Educational sciences</td>
</tr>
<tr>
<td>Duration</td>
<td>3 years</td>
</tr>
<tr>
<td>Department</td>
<td>Department of Educational Sciences</td>
</tr>
<tr>
<td>Department website</td>
<td><a href="http://www.dfa.unict.it/">http://www.dfa.unict.it/</a></td>
</tr>
<tr>
<td>Ph.D. Course Coordinator</td>
<td>Prof. Maria Tomarchio</td>
</tr>
<tr>
<td>Partner Institution(s)</td>
<td>None</td>
</tr>
</tbody>
</table>

### Research themes

The course is characterized by its interdisciplinary approach to the research applied to the territory and by its research of methodologies aimed at implementing this applicable dimension. The course aims at building of those skills necessary to develop research paths, both theoretical and applicative oriented to the analysis and implementation of integrated learning processes referred to the inclusive, sustainable, human and environmental development. The course also aims at creating, projecting and experimenting practices supported by innovative models, both interpretational and operational, in the field of education and the operations connected to it. Fields of analysis:

- 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 examination (also in the form of video-conference interview)

### Date, place, format and language of the oral interview

- **Date**: September 14 2021, h. 9,00 (9,00 am Italian time)
- **Place**: Department of Education, 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
## Ph.D. Course: MATERIALS SCIENCE AND NANOTECHNOLOGIES

<table>
<thead>
<tr>
<th><strong>Ph.D. Course</strong></th>
<th><strong>MATERIALS SCIENCE AND NANOTECHNOLOGIES</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cycle</strong></td>
<td>XXXVII</td>
</tr>
<tr>
<td><strong>Scientific area</strong></td>
<td>Mathematics, Physics and Natural Science</td>
</tr>
<tr>
<td><strong>Duration</strong></td>
<td>3 years</td>
</tr>
<tr>
<td><strong>Department</strong></td>
<td>Department of Physics and Astronomy</td>
</tr>
<tr>
<td><strong>Department website</strong></td>
<td><a href="http://www.dsc.unict.it/it/dottorato-scienza-dei-materiali-e-nanotecnologie">http://www.dsc.unict.it/it/dottorato-scienza-dei-materiali-e-nanotecnologie</a></td>
</tr>
<tr>
<td><strong>Ph.D. Course Coordinator</strong></td>
<td>Prof. Giuseppe Compagnini</td>
</tr>
<tr>
<td><strong>Partner Institution(s)</strong></td>
<td>None</td>
</tr>
<tr>
<td><strong>Research themes</strong></td>
<td>Materials and nanotechnologies for the environment, energy, health, electronics and photonics</td>
</tr>
</tbody>
</table>

### Available places

1) Places with scholarship financed by the University of Catania: 6
2) Places with scholarship financed by the Institute for Microelectronics and Microsystems of the National Council for Research: 1
   - **Research theme:** Nanostructured heterogeneous catalysts for the electrochemical reduction of nitrogen and for the green ammonia synthesis
3) Places without scholarship: 1

**TOTAL: 8**

### Selection procedures

1) Evaluation of qualifications;
2) Oral examination.
   - Candidates living abroad can take the oral interview in the form of video-conference interview

### Date, place, format and language of the oral examination

- **Date:** September 22, 2021, h. 9,00 (9 am Italian time)
- **Place:** Dipartimento di Scienze Chimiche (Aula A), viale Andrea Doria n. 6, Catania

**Format:**
- Dissertation on the research project
- General knowledge of the themes of the candidate’s degree and/or the themes related to the Ph.D. course

**Language:** Italian and English
<table>
<thead>
<tr>
<th><strong>Ph.D. Course</strong></th>
<th><strong>CHEMICAL SCIENCES (INTERNATIONAL)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cycle</strong></td>
<td>XXXVII</td>
</tr>
<tr>
<td><strong>Scientific area</strong></td>
<td>Mathematics, physics and natural science</td>
</tr>
<tr>
<td><strong>Duration</strong></td>
<td>3 years</td>
</tr>
<tr>
<td><strong>Department</strong></td>
<td>Department of Chemical Science</td>
</tr>
<tr>
<td><strong>Department website</strong></td>
<td><a href="http://www.dipchi.unict.it/">http://www.dipchi.unict.it/</a></td>
</tr>
<tr>
<td><strong>Ph.D. Course Coordinator</strong></td>
<td>Prof. Salvatore Sortino</td>
</tr>
<tr>
<td><strong>Partner Institution(s)</strong></td>
<td>University of Gothenburg (Sweden) University of West Brittany (France)</td>
</tr>
<tr>
<td><strong>Research themes</strong></td>
<td>Nanomedicine, Energy conversion and Environment protection, Supramolecular Chemistry, Chemistry of Natural compounds</td>
</tr>
</tbody>
</table>
| **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 examination (also in the form of videoconference interview) |
| **Date, place, format and language of the oral examination** | Date: September 27 2021, h. 9,00 (9,00 am Italian time)  
Place: Dipartimento di Scienze Chimiche, Viale Andrea Doria 6, Catania  
Format:  
- Dissertation on the research project  
- General knowledge of the themes of the candidate’s degree and/or the themes related to the Ph.D. course  
Language: English |
<table>
<thead>
<tr>
<th><strong>Ph.D. course</strong></th>
<th><strong>SCIENCE OF INTERPRETATION</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cycle</strong></td>
<td>XXXVII</td>
</tr>
<tr>
<td><strong>Scientific area</strong></td>
<td>Humanities</td>
</tr>
<tr>
<td><strong>Duration</strong></td>
<td>3 years</td>
</tr>
<tr>
<td><strong>Department</strong></td>
<td>Department of Humanities</td>
</tr>
<tr>
<td><strong>Department website</strong></td>
<td><a href="http://www.disum.unict.it/">http://www.disum.unict.it/</a></td>
</tr>
<tr>
<td><strong>Ph.D. course Coordinator</strong></td>
<td>Prof. Antonino Sichera</td>
</tr>
<tr>
<td><strong>Partner Institution(s)</strong></td>
<td>None</td>
</tr>
<tr>
<td><strong>Research themes</strong></td>
<td>Philosophical hermeneutics; Literary hermeneutics; Linguistics and translation; Philology of texts and critical editions; Linguistic analysis and hermeneutics of texts; Digital humanities</td>
</tr>
</tbody>
</table>
| **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 examination (also in the form of video-conference interview) |
| **Date, place, format and language of the oral interview** | Date: September 27 2021, h. 9.30 (9.30 am Italian time)  
Place: Dipartimento di Scienze Umanistiche, Sala Rotonda del Coro di Notte, Piazza Dante 32, Catania  
Format:  
- Dissertation on the research project  
- General knowledge of the themes of the candidate’s degree and the themes related to the Ph.D. course  
- Knowledge of English  
Language: Italian (English for foreign candidates) |
# ANNEX n. 15

| Ph.D. Course | EARTH AND ENVIRONMENTAL SCIENCES  
(Curriculum 1 : GEOSCIENCE  
Curriculum 2 : ENVIRONMENTAL BIOLOGY AND BIOTECHNOLOGIES) |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Cycle</td>
<td>XXXVII</td>
</tr>
<tr>
<td>Scientific area</td>
<td>Mathematics, Physics and Natural Science</td>
</tr>
<tr>
<td>Duration</td>
<td>3 years</td>
</tr>
<tr>
<td>Department</td>
<td>Department of Biological, Geological and Environmental Science</td>
</tr>
<tr>
<td>Department website</td>
<td><a href="http://www.dipbiogeo.unict.it/">http://www.dipbiogeo.unict.it/</a></td>
</tr>
<tr>
<td>Ph.D. Course Coordinator</td>
<td>Prof. Agata Di Stefano</td>
</tr>
<tr>
<td>Partner Institution(s)</td>
<td>None</td>
</tr>
</tbody>
</table>

## Available places and Research themes

- **Places for the Curriculum 1 “Geoscience”: TOTAL 6, of which:**
  - 3 places with scholarship financed by the University of Catania – one (1) scholarship for each of the following research themes:
    1) Geodynamics;
    2) Geophysics applied to the analysis of cultural and natural heritage;
    3) Any topic connected to Geoscience.
  - 1 place without scholarship on any topic connected to Geoscience
  - 2 places with scholarship financed by the Institute for Geophysics and Volcanology
    1) Research theme 1
       Integrated stratigraphy for paleo-climatic and paleo-environmental reconstructions;
    2) Research theme 2
       Analysis of Etna volcanic processes through the integration and study of degassing and seismicity.

- **Places for the Curriculum 2 “Environmental biology and biotechnologies”**
  - 3 places with scholarship financed by the University of Catania – one (1) scholarship for each of the following research themes:
    1) Botany (any topic connected to Plant Biology);
    2) Evolutionary biology of marine organisms;
    3) Ecology and climate change.

**Total: 9 places**

## Selection procedures

1) Evaluation of qualifications
2) Oral examination (also in the form of video-conference interview)

## Date, place, format and language of the oral examination

**Date:** September 27 2021, h. 9.00 (9.00 am Italian time)

**Place:** Dipartimento di Scienze Biologiche, Geologiche e Ambientali, Sezione di Scienze della Terra, corso Italia, 57 -95129 CATANIA (room to be defined) – (the oral examination might be arranged differently according to the development of the covid-19 epidemic)

**Format:**
- Dissertation on the research project
- General knowledge of the themes of the candidate's degree and/or the themes related to the Ph.D. course

**Language:** Italian
<table>
<thead>
<tr>
<th>Foreign language of which the candidate will have to demonstrate his/her command: English</th>
</tr>
</thead>
</table>

Candidates shall clearly indicate the curriculum for which they intend to apply (“GEO” or “BIO”) or whether they intend to apply for any of the places financed by the National Institute for Geophysics and Volcanology. In case candidates wish to apply for any of the places financed by the National Institute for Geophysics and Volcanology, they will need to mention it on the research project title page.

Regarding the allocation of the places with scholarship, it will be based on the results of the top ranked for the curriculum GEO and the results of the top ranked for the curriculum BIO independently from the position occupied by each candidate in the ranking list.
<table>
<thead>
<tr>
<th>Ph.D. Course</th>
<th>SCIENCES OF CULTURAL HERITAGE AND PRODUCTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cycle</td>
<td>XXXVI</td>
</tr>
<tr>
<td>Scientific area</td>
<td>Humanities</td>
</tr>
<tr>
<td>Department</td>
<td>Department of Humanities</td>
</tr>
<tr>
<td>Department website</td>
<td><a href="http://www.disum.unict.it/">http://www.disum.unict.it/</a></td>
</tr>
<tr>
<td>Ph.D. Course Coordinator</td>
<td>Prof. Pietro Militello</td>
</tr>
<tr>
<td>Partner Institution(s)</td>
<td>None</td>
</tr>
</tbody>
</table>

**Research themes**


**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 (also in the form of video-conference interview)

**Date, place, format and language of the oral examination**

Date: September 27, 2021, h. 9,30 (9,30 am Italian time)
Place: Dipartimento di Scienze Umanistiche, Monastero dei Benedittini, Piazza Dante 32, CATANIA
Format:
- Dissertation on the research project
- General knowledge of the themes of the candidate’s degree in relation to the themes of the Ph.D. course
- Knowledge of English

Language: Italian (English for foreign candidates)
<table>
<thead>
<tr>
<th><strong>Ph.D. course</strong></th>
<th><strong>POLITICAL SCIENCE</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cycle</strong></td>
<td>XXXVII</td>
</tr>
<tr>
<td><strong>Scientific area</strong></td>
<td>Political science</td>
</tr>
<tr>
<td><strong>Department</strong></td>
<td>Department of Political and Social Science</td>
</tr>
<tr>
<td><strong>Department website</strong></td>
<td><a href="http://www.dsp.unict.it/">http://www.dsp.unict.it/</a></td>
</tr>
<tr>
<td><strong>Ph.D. course Coordinator</strong></td>
<td>Prof. Fabrizio Sciacca</td>
</tr>
<tr>
<td><strong>Partner Institution(s)</strong></td>
<td>None</td>
</tr>
<tr>
<td><strong>Research Themes</strong></td>
<td>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.</td>
</tr>
<tr>
<td><strong>Available places</strong></td>
<td>1) Places with scholarship financed by the University of Catania: 6; 2) Places without scholarship: 1. <strong>TOTAL:</strong> 7</td>
</tr>
<tr>
<td><strong>Selection procedures</strong></td>
<td>1) Evaluation of qualifications; 2) Oral examination (also in the form of video conference interview).</td>
</tr>
<tr>
<td><strong>Date, place, format and language of the oral interview</strong></td>
<td>Date: September 23 2021 ore 8,30 (8,30 am Italian time). Place: Dipartimento di Scienze Politiche e Sociali (Department of Political and Social Science), Polo Didattico “Gravina”, via Gravina 12, Catania Format: - Dissertation on the research project - General knowledge of the themes of the candidate’s degree and/or the themes related to the Ph.D. course Language: Italian</td>
</tr>
</tbody>
</table>
**Ph.D. course** | COMPLEX SYSTEMS FOR PHYSICAL, SOCIO-ECONOMIC AND LIFE SCIENCE  
--- | ---  
**Cycle** | XXXVI  
**Scientific field** | Interdisciplinary  
**Duration** | 3 years  
**Department** | Department of Physics and Astronomy  
**Department website** | [http://www.dfa.unict.it/](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** | 1) Places with scholarship financed by the University of Catania: 6  
2) Places without scholarship: 1  
**TOTAL:** 7  
**Selection procedures** | Ordinary places:  
1) Evaluation of qualifications;  
2) Oral examination (In the form of video-conference interview)  
**Date, place, format and language of the oral examination** | Date: September 21, h. 9.30 (9.30 am Italian time)  
Format:  
- Dissertation on the research project  
- General knowledge of the themes of the candidate's degree and/or the themes related to the Ph.D. course  
- Two reference letters are also required  
Language: Italian – English for foreign candidates
### Ph.D. course

<table>
<thead>
<tr>
<th><strong>Ph.D. course</strong></th>
<th><strong>EVALUATION AND MITIGATION OF URBAN AND TERRITORIAL RISKS</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cycle</strong></td>
<td>XXXVII</td>
</tr>
<tr>
<td><strong>Scientific field</strong></td>
<td>Engineering and Architecture</td>
</tr>
<tr>
<td><strong>Duration</strong></td>
<td>3 years</td>
</tr>
<tr>
<td><strong>Department</strong></td>
<td>Department of Civil Engineering and Architecture</td>
</tr>
<tr>
<td><strong>Department website</strong></td>
<td><a href="http://www.dicar.unict.it/">http://www.dicar.unict.it/</a></td>
</tr>
<tr>
<td><strong>Ph.D. Course Coordinator</strong></td>
<td>Prof. Massimo Cuomo</td>
</tr>
<tr>
<td><strong>Partner Institution(s)</strong></td>
<td>None</td>
</tr>
</tbody>
</table>

### Research themes

The Doctoral Programme includes 3 curricula:
- Engineering for Hydraulic, 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. They pertain to the safety assessment of urban and territorial infrastructures subjected to various hazards, to the development of new 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.

### 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 Examination (in video-conference form).

### Date, place, format and language of the oral examination

Date: September 27 2021, h. 9.00 (9,00 am Italian time)

Format:
- Dissertation on the research project
- General knowledge of the themes of the candidate’s degree and/or the themes related to the Ph.D. course

Language: Italian or English
REQUEST OF EQUIVALENCE

The undersigned……………………………………………………………………………………………………………(name and surname)
born in ………………………………………………………………………………………………………………………………….(place of birth)
on…………………………………………………………………………………………………………………………………………..(date of birth)
nationality …………………………………………………………………………………………………………………………………………………..
requests to the selection committee for the Ph.D. course in
………………………………………………………………………………………………………………………………………………....
…………………………………………………………………………………………………………………………………………………………….. cycle
the recognition of equivalence to Laurea Magistrale of the following diploma:

Name of the master degree:  

Awarding university:  

Country:  

Date of awarded diploma  

Place and date,  
………………………………………………

Signature  
……………………………………
Declaration concerning the type of place
(for candidates applying for Ph.D. courses offering reserved places only)

I, the undersigned

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**DECLARE (Please tick one of the following)**

- for ordinary places [ ]
- for reserved places [ ]

Ph.D. course in:

__________________________________________________________

______________________        ______/______/____
(PLACE)                    (DATE)                                                      (APPLICANT'S SIGNATURE)
INFORMAZIONE E ACCESSO AI DATI PERSONALI

La presente informativa è resa ai sensi degli artt. 12,13,14 del Regolamento generale sulla protezione dei dati UE 2016/679 (GDPR) e dell’art. 13 del D.lgs.196/2003 in relazione ai dati personali di cui l’Università di Catania entra in possesso per lo svolgimento delle attività istituzionali.
Secondo la normativa di cui sopra, il trattamento è improntato ai principi di correttezza, liceità e trasparenza e di tutela della riservatezza e dei diritti dell’interessato.

INFORMATION AND ACCESS TO PERSONAL DATA

This information is provided in compliance with articles 12, 13 and 14 of the general Regulation on the protection of personal data (EU 2016/679) (GDPR) and art 13 of the Legislative Decree n. 196/2003 with reference to the personal data of which the University of Catania gets hold in the implantation of institutional activities.
According to the abovementioned legislation, the processing of personal data is based on the principles of correctness, lawfullness and transparency as well as of protection of the privacy and rights of the interested person.

1) IDENTITA’ E DATI DI CONTATTO DEL TITOLARE DEL TRATTAMENTO

Il titolare del trattamento dei dati personali è l’Università degli studi di Catania con sede in piazzza Università, 2 - 95131 CATANIA di cui il Magnifico Rettore prof. Francesco Priolo è il legale rappresentante:
e-mail: rettorato@unict.it

1) IDENTITY AND CONTACT DETAILS OF THE DATA PROCESSOR

The data processor is the University of Catania, located in Piazza Università n.2, 95131, CATANIA, whose Rector, Prof. Francesco Priolo, is the legal representative:
e-mail: rettorato@unict.it

2) DATI DI CONTATTO DEL RESPONSABILE DELLA PROTEZIONE DEI DATI

e-mail: rpd@unict.it
PEC: rpd@pec.unict.it

2) CONTACT DETAILS OF THE DATA PROTECTION MANAGER

e-mail: rdp@unict.it
certified e-mail: rpd@pec.unict.it
3) BASE GIURIDICA DEL TRATTAMENTO E FINALITÀ

Nel rispetto dei principi di liceità, correttezza, trasparenza, adeguatezza, pertinenza, necessità ed esattezza di cui all’art. 5 del GDPR, l’Università degli studi di Catania, in qualità di Titolare del trattamento, provvederà al trattamento dei dati personali forniti volontariamente dall’interessato all’atto della partecipazione, dell’iscrizione e durante il percorso formativo, e relativi all’interessato e/o ai suoi familiari, o raccolti da terzi (INPS) o formati dall’Ateneo relativamente alla carriera dell’interessato stesso per le finalità connesse allo svolgimento dei compiti istituzionali di pubblico interesse di cui è investito il titolare del trattamento.

In particolare, i dati di cui sopra saranno raccolti e trattati, con modalità manuale, cartacea e informatizzata, mediante il loro inserimento in archivi informatici e/o cartacei per la gestione amministrativa e didattica della carriera per il perseguimento delle seguenti finalità:

a) partecipazione al bando di ammissione Dottorati di ricerca – ciclo XXXVII
b) iscrizione al corso di dottorato di ricerca afferente al ciclo XXXVII
c) gestione della carriera
d) calcolo degli importi per le tasse dovute
e) consegimento dell’attestato di frequenza
f) utilizzo dei servizi telematici e di posta elettronica
g) invio e comunicazioni inerenti il percorso formativo
h) accesso alle strutture di pertinenza del corso
i) procedimenti di natura disciplinare
l) archiviazione e conservazione dei dati inerenti il percorso frequentato
m) fruizione di contributi, agevolazioni e servizi
n) statistiche senza possibilità di identificare l’utente.

3) LEGAL BASIS OF DATA PROTECTION AND INTENTION

In compliance with the principles of lawfulness, correctness, transparency, adequacy, pertinence, necessity and exactness referred to in art. 5 of the GDPR, the University of Catania, as Data Processor, shall process the personal data provided by the interested person on a voluntary basis at the moment of the application for, enrolment for or during the study course and related to the interested person and/or his/her relative as well as the personal data collected by third parties (for examples, the National Institute for Social Security) or produced by the University with reference to the learning path of the interested person for the purposes connected to the institutional duties of public interest assigned to the data controller, in particular, the abovementioned data will be collected and processed, in manual, paper and digital form, by means their filing with digital and paper archives for the administrative and didactical management of the study plan in order to pursue the following:

a) participation in the Call for application for places in Ph.D. programs – XXXVII Cycle
b) enrolment in the Ph.D. course related to XXXVII cycle
c) management of the study plan
d) calculation of the required tuition fees
e) attainment of the attendance certificate
f) use of online services and e-mail account
g) conveyance and communication concerning the study plan
h) access to course facilities
i) disciplinary procedures

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4) **PARTICOLARI CATEGORIE DI DATI**

Per le finalità istituzionali di cui sopra, in situazioni specifiche potranno essere raccolte e trattate, su istanza dell’interessato, particolari categorie di dati quali:

a) origine razziale ed etnica (per cittadini extracomunitari e per lo status di rifugiato)

b) stato di salute (in caso di gravidanza o per studenti diversamente abili)

c) dati giudiziari (per utenti e studenti detenuti)

d) vita sessuale (per eventuali rettificazioni di attribuzioni di sesso).

4) **SPECIFIC DATA CATEGORIES**

For the abovementioned institutional purposes, in specific situations the following data can be collected and processed upon request of the interested person:

a) racial and ethnic origins (for extra-EU citizens and for the refugee status)

b) state of health (in case of pregnancy and for disabled students)

c) judicial data (for sentenced users or students)

d) sex (for rectification of sex, when appropriate)

5) **AMBITO DI COMUNICAZIONE E CATEGORIE DI SOGGETTI DESTINATARI**

L’Università consente il trattamento dei dati personali, per le finalità di cui al punto 3), al personale e ai collaboratori dell’Ateneo autorizzati al trattamento in relazione alle loro funzioni e competenze ed adeguatamente istruiti dal Titolare.

Il Titolare potrà comunicare i dati personali all’esterno a soggetti terzi, la cui attività risulta necessaria al conseguimento delle finalità indicate al punto 3) della presente informativa o nel caso in cui la comunicazione a soggetti terzi sia prevista da disposizioni comunitarie, norme di legge o regolamento.

I dati conferiti all’Università potranno essere comunicati agli enti pubblici, nazionali, regionali e locali, con i quali l’Università ha rapporti di scambio di informazioni al fine di adempiere ai propri compiti istituzionali.

I dati potranno essere diffusi in relazione ad adempimenti di obblighi di legge o dietro specifiche richieste da parte dell’interessato prima della conclusione del rapporto.

5) **SCOPE OF COMMUNICATION AND CATEGORIES OF ADDRESSEES**

The University allows its personnel and collaborators, properly authorized to data processing with reference to their duties and competences and duly instructed by the Data controller, to process personal data for the purposes listed in point 3).

The Data Controller can communicate personal data to thirds whose activity is necessary for the purposes listed in point 3) of this information sheet or in case this communication to thirds is imparted by EU legislation, laws or regulations.

The data delivered to the University might be subject to communication to public institutions, either national, regional or local, with which the University exchanges information in order to comply with its own institutional duties.
The data might be disclosed with reference to the fulfillment of law provisions or upon specific request of the interested person before the termination of his/her own relationship with the University.

6) TRASFERIMENTO DATI ALL’ESTERO

Il Titolare potrà trasferire i dati personali verso un paese con sede al di fuori dell’Unione europea qualora l’attività risulti necessaria al conseguimento delle finalità istituzionali indicate al punto 3) della presente informativa.

Il Titolare accoglie fin d’ora che qualora si renda necessario il trasferimento dei dati per le finalità di cui all’art. 3), a Paesi extra UE o ad organizzazioni internazionali, esso potrà avvenire solo verso Paesi terzi rispetto ai quali esiste una decisione di adeguatezza della Commissione Europea (art.45 GDPR) oppure verso Paesi terzi che forniscono una delle garanzie indicate come adeguate dall’art.46 del GDPR.

6) TRANSFER OF THE DATA ABROAD

The Data Controller can disseminate personal data to an extra-EU country if the this activity is necessary to the fulfillment of the institutional purposes listed in point 3) of this information sheet. The Data Controller guarantees from this moment on that, whereas the transfer of the data to extra-EU countries or to International Organizations is necessary for the purposes listed in point 3), it will be possible to third countries for which and adequacy decision of the European Commission has been issued (article 45 of GDPR) or to third countries ensuring one the safeguards referred to as appropriate in article 46 of the GDPR.

7) PERIODO DI CONSERVAZIONE DEI DATI

I dati personali saranno trattati secondo i principi previsti dall’art. 5, comma 1 lettera e) del Regolamento UE 2016/679.

I dati personali inerenti la carriera universitaria del corsista saranno conservati illimitatamente, in base agli obblighi di archiviazione imposti dalla normativa vigente.

I dati raccolti, non sottoposti a conservazione illimitata, saranno conservati per il tempo stabilito dalla normativa vigente o da Regolamento d’Ateneo o comunque per il tempo strettamente necessario a conseguire gli scopi per cui sono stati raccolti.

I dati relativi a eventuali procedimenti disciplinari saranno conservati illimitatamente relativamente al provvedimento finale definitivo e per 5 anni in caso di revoca o annullamento del provvedimento finale.

I dati personali saranno trattati con l’impiego di misure di sicurezza idonee ad impedire l’accesso ai dati da parte di personale non autorizzato ed a garantire la riservatezza e l’integrità degli stessi.

7) PERIOD OF CONSERVATION OF THE DATA

The data will be processed according to the principles provided for in art.5, paragraph 1, letter e) of the Regulation EU 2016/679.

Personal data concerning the learning path of the student will be kept unlimitedly, on the basis of the obligations of filing provided for by the legislation in force.
The collected data, which are not subject to unlimited conservation, will be kept for the period defined by the legislation in force or for the Regulation of the University or, in any case, for the time strictly necessary to fulfill the purposes for which they have been collected.

The data concerning disciplinary proceedings will be unlimitedly kept with reference to the definitive sentence or for five years in case of discharge or cancellation of the sentence.

Personal data are processed by means of security measures able to prevent non-authorized personnel from accessing the data and to guarantee the confidentiality and integrity of the data themselves.

8) **CONFERIMENTO DEI DATI**

Il conferimento dei dati personali relativi ai servizi di cui al punto 3) è da ritenersi obbligatorio. L’eventuale rifiuto comporta l’impossibilità di svolgere le operazioni necessarie all’instaurazione del rapporto e all’erogazione dei servizi richiesti.

8) **PROVISION OF THE DATA**

The provision of personal data related to the services listed in point 3) is deemed mandatory. Any refusal leads to the impossibility to perform the duties necessary to the establishment of the relationship with the administration and the provision of the required services.

9) **DIRITTI DELL’INTERESSATO E MODALITA’ DI ESERCIZIO DEI DIRITTI**

L’interessato, ha diritto di richiedere all’Università degli Studi di Catania, quale Titolare del trattamento, ai sensi degli artt.15, 16, 17, 18, 19 e 21 del GDPR:

- l’accesso ai propri dati personali ed a tutte le informazioni di cui all’art.15 del GDPR;
- la rettifica dei propri dati personali inesatti e l’integrazione di quelli incompleti;
- la cancellazione dei propri dati, fatta eccezione per quelli contenuti in atti che devono essere obbligatoriamente conservati dall’Università e salvo che sussista un motivo legittimo prevalente per procedere al trattamento;
- la limitazione del trattamento nelle ipotesi di cui all’art.18 del GDPR.

Ha inoltre il diritto:

- di opporsi al trattamento dei propri dati personali, fermo quanto previsto con riguardo alla necessità e obbligatorietà del trattamento dati per poter fruire dei servizi offerti;
- di revocare il consenso eventualmente prestato per i trattamenti non obbligatori dei dati, senza con ciò pregiudicare la liceità del trattamento basata sul consenso prestato prima della revoca.

Per l’esercizio dei diritti è possibile rivolgersi al Titolare all’indirizzo di posta rettorato@unict.it o PEC protocollo@pec.unict.it

Il Titolare è tenuto a rispondere entro un mese dalla data di ricezione della richiesta, termine che può essere esteso fino a tre mesi nel caso di particolare complessità dell’istanza.
9) RIGHTS OF THE INTERESTED PERSON AND MODES OF EXERCISE OF THE RIGHTS

According to articles 15,16,17, 18, 19 and 21 of the GDPR, the interested person has the right to request to the University of Catania as Data Controller:

- the access to his/her own personal data and all the information reported in article 15 of the GDPR;
- the rectification of his/her own personal data, when incorrect, and the integration of those that are incomplete;
- the erasure of his/her own data, with the exception to those that are reported in documents that must be mandatorily kept by the University and unless there is a prevailing legal reason to proceed with the processing of the data;
- the restriction of the processing in the cases reported in article 18 of the GDPR.

He/she also has the right

- to oppose to the processing of his/her own personal data, without prejudice to the provisions concerning the necessity and obligation of data processing in order to benefit from the offered services;
- to revoke the permission, previously agreed, to the non-mandatory processing of data, without prejudice to the lawfulness of the processing based on the permission agreed before the revocation.

For the exercise of these rights it is possible to refer to the Data Controller e-mail rettorato@unict.it o legally certified e-mail protocollo@pec.unict.it

The Data Controller shall reply within a month from the receipt of the request, a deadline which can be extended up to three months in case of particular complexity of the request.

10) RECLAMO

L’interessato ha il diritto di proporre reclamo a un’autorità di controllo (Autorità Garante per la protezione dei dati personali - www.garanteprivacy.it).

10) COMPLAINT

The interested person has the right to complain to a Control Authority (Authority for the Guarantee of Data Protection - www.garanteprivacy.it)

11) MODIFICHE ALL’INFORMATIVA

La presente informativa può subire variazioni e aggiornamenti.

11) MODIFICATION TO THE INFORMATION

The information provided in this information sheet might be subject to modification