

Disclaimer: This document is a non-official version of the PhD programme selection notice meant to provide information in English – only the Italian version approved with Rectoral Decree n. 1991/2021, Prot. N. 187989 of 22/10/2021 shall be legally binding.

**Call for application for admission to PhD programmes, 37th cycle, academic year 2021/2022
Additional scholarships “PON” pursuant to DM 1061 of 10 August 2021**

THE RECTOR

Applicable Laws and Regulations (available only in the Italian official version of the notice)

DECREES

1. A public selection is called for admission to the doctoral program at the University of Siena for A.Y. 2021/2022 for 43 places with additional scholarship in accordance with DM 1061/2021 of 10 August 2021 on innovation issues (Action IV.4) and on green issues (Action IV.5).
2. The PhD courses involved with the number of scholarships are:

	<i>PhD course</i>	<i>N. of scholarships “Green”</i>	<i>N. of scholarships “Innovation”</i>
1	<i>Apprendimento e innovazione nei contesti sociali e di lavoro (Learning and innovation in social contexts and workplaces)</i>	3	
2	Biochemistry and Molecular Biology BiBiM 2.0	9	
3	<i>Biotechnologie Mediche (Medical Biotechnologies)</i>	4	
4	Chemical and Pharmaceutical Sciences	7	
5	Economics	5	
6	<i>Filologia e Critica (Philology and Criticism)</i>	3	
7	<i>Fisica Sperimentale (Experimental Physics)</i>		1
8	<i>Genetica, Oncologia e Medicina Clinica GenOMeC (Genetics, Oncology and Clinica Medicine)</i>		1
9	<i>Ingegneria e Scienza dell’Informazione (Information Engineering and Science)</i>	1	1
10	<i>Medicina Molecolare (Molecular Medicine)</i>	2	
11	Scienze della Vita – <i>Life Sciences</i>	5	
12	<i>Scienze e Tecnologie Ambientali, Geologie e Polari (Environmental, Geological and Polar Sciences and Technologies)</i>	1	

3. With regard to the above selection the following notice is authorized.

Selection notice for doctoral research courses – deadline for applications 8 November 2021

Art. 1 - Subject

1. The University of Siena announces that for all the doctoral courses listed above, positions with scholarship are activated in addition to those already established for the 37th cycle announced with Rectoral Decrees of 15 June 2021.

2. All information specific to the additional scholarships, including the specific research topic, and the selection procedures are indicated in the attached schedules (Annexes 1 - 12), integral part of the notice.
3. The duration of the PhD course is three years starting on 1 December 2021.
4. The successful activation of each of the positions with an additional scholarship referred to in the table above is conditioned by the verification of the assessment of eligibility for PON "Research and Innovation" 2014-2020 support undertaken by the Ministry of University and Research (*Direzione della Ricerca, Ufficio III*).

Art. 2 – Admission requirements

1. Applicants holding at least one of the following academic qualifications, obtained by 31 October 2021, may apply for admission, without age or citizenship restrictions:
 - *Diploma di Laurea* conferred by an Italian university before D.M. 509/1999
 - *Laurea Specialistica* conferred by an Italian university according to D.M. 509/199
 - *Laurea Magistrale* conferred by an Italian university according to D.M. 270/2004
 - academic degree conferred by a foreign University, comparable for level, nature, duration, content and academic rights (access to doctoral courses) to the Italian master's degree. In this case a "statement of comparability" (*dichiarazione di equipollenza*) by competent academic authorities, including the context of inter-university cooperation and mobility agreements, is required and in the application for admission the candidate must indicate the date of issue of the statement of comparability as date of the achievement of the title and the Italian university that has issued it. If no statement of comparability has been issued yet, the eligibility of the qualification is ascertained by the selection board, also on the basis of the indications of the competent office of the University in compliance with the law in force in Italy and in the country where the title was awarded and international treaties or agreements in the field of recognition and qualifications for the continuation of studies.
2. The attached schedules to this call for proposals indicate any specific master's degree required by individual PhD courses.
3. The academic qualification awarded abroad, lasting at least 4 years, must be qualified second level according to the university system of the country in which it was obtained and allow access to doctoral courses. Candidates with foreign academic qualifications must attach the following documentation to the online application: certificate of title with list of exams and grades (transcript) in Italian, English or French, or translated into Italian, English or French and a copy of any other document deemed useful for the assessment of eligibility of the qualification (*e.g.* Diploma supplement, curriculum, Declaration of value - *Dichiarazione di valore in loco*). The candidate may be asked at any time to integrate the submitted documentation in order to verify eligibility. Candidates with a foreign academic qualification are admitted to the selection under condition. If admitted for matriculation, they must deliver the documentation indicated in article 5, paragraph 9. If, after verification, the qualification does not comply with the requirements of this notice, the candidates will be excluded from the doctoral programme.
4. The University administration may, at any time, with a motivated decision, exclude candidates for a lack of the requirements indicated in this notice.

Art. 3 – Application

1. Applications must be submitted, from 25 October 2021 on, and **by the peremptory deadline of 10:00 hrs (Central European Summer Time - CEST) of 8 November 2021** through the online platform at <https://segreteriaonline.unisi.it>. Instructions for the online application procedure are available in the section "How to apply to PhD positions" on webpage "*Informazioni per dottorandi e dottori di ricerca*" on the website of the University of Siena (at the time of the notice <https://www.unisi.it/ricerca/dottorati-di-ricerca/informazioni-dottorandi-e-dottori-di-ricerca>).
2. The documents required for evaluation indicated in the annexes must be uploaded to the telematic system in PDF format.

3. The “Selection application reminder” (*Promemoria domanda di partecipazione selezione*) will be automatically issued to confirm that the application has been registered successfully. When closing the procedure on the online platform <https://segreteriaonline.unisi.it> the application is automatically forwarded to the University of Siena. Applicants are therefore not required to send or deliver any documentation to the University offices.
4. Candidates may apply for more than one position, following the on-line procedures as of paragraph 1. If in a useful placement in more than one ranking list, candidates must opt for only one position.

Art. 4 – Selection examinations and admission

1. The dates of the examination and the composition of the selection committee, responsible for the evaluation of the candidates, will be published on the reference pages of the related doctoral course on the website of the University of Siena (at the time of publication of this notice <https://www.unisi.it/ricerca/dottorati-di-ricerca/dottorati-di-ricerca-xxxvii-ciclo>) usually at least 15 days before the date of the exam. This publication is to be considered an official convocation. **Candidates will not receive any personal convocation nor communication related to the examinations.**
2. The composition of the selection committee responsible for the evaluation of candidates will be published on the reference pages of the relevant PhD course on the University of Siena website (at the time of publication of the notice <https://www.unisi.it/ricerca/dottorati-di-ricerca/dottorati-di-ricerca-xxxvii-ciclo>) at the deadline of the call.
3. The examinations, aimed at assessing the candidate's aptitude for scientific research, will take place as indicated in the attached annex. To take part in the examinations, candidates must present the valid identification document (ID card, passport, driver's license) uploaded during the application process. Considering the current health emergency, interviews may be conducted on an online platform. Details on the modality will be communicated on the reference pages of the doctoral course on the website of the University of Siena (at the time of publication of this notice [https://www.unisi.it/ricerca/dottorati-di-ricerca-xxxvii-ciclo](https://www.unisi.it/ricerca/dottorati-di-ricerca/dottorati-di-ricerca-xxxvii-ciclo)). In this case, the candidate must ensure the use of a webcam to allow his/her identification to the selection board, be available at the registered personal address during the registration on the day indicated for the oral exam. The selection board may agree with the candidates on a precise timetable for the start of the interview. For the purpose of identification each candidate shall be required, before the interview begins, to identify himself/herself, showing the same identity document submitted during the application procedure. Failure to communicate the personal address, failure to connect, the unavailability of the candidate on the date or time set or the failure to present a valid identification document, as indicated beforehand, constitute grounds for exclusion from the selection procedure. The University declines any responsibility for technical difficulties that may hinder a regular conduction of the interview. The oral examinations, including those conducted on online platforms, are public.
4. The selection committee, appointed by the Rector after consulting the PhD board, shall be composed of at least three tenured professors and may comprise up to two experts, also from foreign countries, selected from public or private research institutions and centres. The evaluation criteria of the examinations are established in advance by the selection board in plenary session.

Art. 5 – Ranking lists and enrolment

1. The Rector approves the selection acts and rankings and issues a decree regarding the admission of candidates. The ranking of eligible applicants and winners will be published on the reference pages of the doctoral course on the website of the University of Siena (at the time of publication of this notice <https://www.unisi.it/ricerca/dottorati-di-ricerca-0>) **by 22 November 2021**. The ranking is based on the candidate's total score in the evaluation of the curriculum vitae et studiorum, project and any tests.
2. In the event of equality of merit, the youngest candidate shall prevail.
3. The positions will be assigned on the basis of the ranking of merit. The publication of ranking lists has the value of official notification. **Winners will not receive any personal communication regarding their final ranking.** In case of useful placement in more than one ranking list the candidate must opt for only

one position.

4. Winners must enrol, under penalty of forfeiture, **by 10:00 hrs (CEST) of 25 November 2021**. Only if there are still positions available, due to non-enrolment or explicit waiver by entitled persons, the ranking list will be scrolled. The terms for scrolling are indicated in the following table:

	<i>Date of publication</i>	<i>Peremptory deadline for enrolment</i>
Ranking lists	By 22 November 2021	By 10:00 hrs (CEST) of 25 November 2021
Scrolling	26 November 2021	by 10:00 hrs (CEST) of 30 November 2021

The publication of the list of replacement candidates has the value of official notification. **Replacement candidates will not receive any personal communication regarding their scrolling.** Should the candidate renounce to his/her position or fail to enrol, the next candidate in the ranking list shall be assigned a position in accordance with the dates indicated above. After these deadlines, and in any case no later than 31 December 2021, replacements are possible only after approval by the academic board of the doctoral course.

5. Simultaneous enrolment in Degree programmes, Master's Degree programmes, Specialization schools, doctoral courses, and university Masters are prohibited. For other incompatibilities not mentioned herein, please refer to the current regulations.
6. Joint attendance is permitted only in the case of a medical specialization course and a doctoral research course. In case of joint attendance, the duration of the doctoral course is reduced to a minimum of two years (art. 19, Law n. 240/2010) in compliance with the following general criteria:
- The postgraduate student must have been awarded a place in the doctoral course at the same university in which he/she is attending postgraduate school.
 - Joint attendance may be arranged during the last year of the Specialization school and must be compatible with the activities and duties of the school, subject to approval by the school's council.
 - The academic board of the doctoral course may approve any request for reduction after assessing research activities already carried out during the medical specialization course, as attested by the school's council.
 - During the year of joint attendance, the specializing postgraduate student cannot receive a doctoral scholarship.
7. Winners must submit their request for enrolment, no later than the deadline indicated under paragraph 4, using the dedicated online enrolment procedure available at <https://segreteriaonline.unisi.it>, following the instructions in section "How to enrol in the first year" on internet page "Informazioni per Dottorandi e Dottori di ricerca" of the University of Siena (at the time of the notice <https://www.unisi.it/ricerca/dottorati-di-ricerca/informazioni-dottorandi-e-dottori-di-ricerca>).
8. Candidates who hold a foreign academic qualification, of at least four-year duration, which has not yet been declared equivalent (*equipollente*) by an Italian university, must also attach to the online application copy of the original degree awarded or certificate of the qualification issued by the awarding university in digital format. In the case of a qualification awarded outside the EU, candidates must also submit a copy of the Declaration of value issued by the appropriate Italian diplomatic offices abroad. The Declaration of value must clearly indicate that the academic qualification allows access to doctoral programmes in the country where it was awarded. Candidates who do not submit the documentation necessary for foreign qualification at the moment of enrolment will be admitted to the doctoral course "under condition" and will be excluded if they do not present the required documentation within six months from the official start of the PhD course. They shall also be excluded if, on assessment of the documentation, the qualification does not meet the requirements for admission to the programme.
9. Non-EU applicants who are eligible for enrolment will be admitted to the courses provided that they comply with the current provisions concerning entry and stay in Italy and are legally residing in Italy (art. 39, par. 5 of Legislative Decree no. 286 dated 25.07.1998, as modified by art. 26 of Law no. 189 dated 30 July 2002). They must submit a copy of their valid passport and residence permit issued by the competent authorities. If resident abroad, instead, they must provide a copy of the passport, of the entry visa and a copy of the residence permit for study purposes issued by the competent police authority (*Questura*).

10. Enrolment is confirmed upon payment of the fees through the PagoPA system (art. 5 of Code for Digital Administration and Legislative Decree 179/2012). An enrolment receipt may be printed out at the end of the online procedure.
11. Those admitted who do not comply with the above prescribed within the aforementioned peremptory deadlines shall be considered *ipso iure* renouncers.
12. The completion of enrolment is subject to verification of the possession of requirements for access to the course. Until such time enrolment is to be considered under condition.

Art 6 – Scholarship allocation

1. The academic board of the doctoral course allocates the scholarships in compliance with the ranking order.
2. In case of waiver or failure to enrol by the winner of a scholarship, the scholarship will be allocated by scrolling the ranking list.
3. The additional scholarships funded through the “Programma Operativo Nazionale PON” "Research and Innovation" 2014-2020 require the implementation of a specific research topic and bind the winners to carry out this topic and comply with the requirements.
4. Those who have already received, even partially, a scholarship for the attendance of doctoral courses or equivalent courses at the University of Siena or other Italian universities, cannot benefit from another doctoral scholarship.
5. Should a scholarship winner with a foreign academic qualification not submit the necessary documentation (as of art. 5, paragraph 8) or the submitted documentation not attest the validity of the qualification for an academic course similar to a PhD (*Dottorato di ricerca*) in the country of achievement, the candidate loses his/her position and must return any doctoral scholarship disbursements.
6. The annual amount of the scholarship is Euro 15.343,00, eligible for the INPS separately managed social security contribution. The duration of the scholarship is equal to the entire duration of the course and will be paid in deferred monthly instalments. If the doctoral student renounces to the scholarship or the continuation of the course, the University will interrupt payment of the scholarship.
7. The doctoral scholarship may not be combined with any other scholarship, except those awarded by national or foreign institutions to supplement training or research activity of the scholarship holder.
8. The payment of scholarships to successful candidates will be made from the moment of confirmation of eligibility for funding of the training course by the competent ministerial office responsible for managing the funds for these scholarships.

Art. 7 – Fees and contributions

1. Doctoral students benefitting from a scholarship must pay the annual DSU (Right to University Study) Tuscan regional tax of € 140 and the virtual stamp duty of € 16 at the moment of enrolment and the annual university fee of € 340,00 by 31 December 2021.
2. Students with certified disability greater than or equal to 66% are exempt from payment of university fees and the DSU Tuscan regional tax.

Art. 8 – Duties of doctoral students

1. The admission to the doctoral course entails exclusive, full-time commitment.
2. Students are required to perform activities related to the approved research project. At the end of each year, doctoral students must submit a report on the activities and research carried out to the Academic board for admission to the following year. In the presence of a valid reason, the Academic board has the right to exclude candidates from passing to the following academic year.
3. The training programs related to additional scholarships PON require:

- a. a mandatory period of study and research in an enterprise from a minimum of 6 (six) to a maximum of 12 (twelve) months (failure to meet the minimum enterprise period will result in the revocation of the scholarship);
 - b. an optional period of study and research abroad from a minimum of 6 (six) to a maximum of 12 (twelve) months.
4. At the end of the course, doctoral students submit their doctoral thesis with original contributions for admission to the final examination.
 5. Doctoral students agree to return the scholarship received for the current year, gross of tax withholdings, in the following cases:
 - a. failure to carry out the mandatory period in the enterprise;
 - b. failure to carry out the period abroad, if specified in the project;
 - c. modification of the project objectives and expected results without prior ministerial authorization;
 - d. negative judgment of the Academic board with consequent non-admission to the next year of the course;
 - e. renunciation of the PhD course;
 - f. failure to achieve the final degree.

Art. 9 – Awarding of the degree

1. The title of *Dottore di ricerca* (PhD) is awarded in compliance with the University Regulations governing doctoral courses (in Italian; see link in art. 10).
2. Doctoral dissertations must be up-loaded by the doctoral students in electronic format with a digital signature (compliant with Italian legislative decree n. 82 of 7 March 2005 and successive modifications) in the University repository USiena-Air (<http://usiena-air.unisi.it/>), to be filed in the national libraries.

Art. 10 – Relevant legislation

For any matter not explicitly covered by this selection notice, the University shall refer to the following Italian legislation:

- Art. 4 of Law no. 210 dated 3 July 1998;
- Ministerial Decree no. 45 dated 8 February 2013;
- University regulation governing doctoral courses (at the time of publication of this notice https://www.unisi.it/sites/default/files/allegatiparagrafo/REGOLAMENTO_DOTTORATO_2020%2004%2017.pdf).

Art. 11 – Processing of personal data

1. The processing of personal data of candidates is carried out by the University of Siena exclusively for institutional purposes and for managing this notice. The information on the processing of the student's personal data can be obtained in the Privacy section of the University Portal <https://www.unisi.it/ateneo/adempimenti/privacy>.
2. The University undertakes to respect the confidential nature of the data and information provided by the candidate, which will be treated in accordance with EU Regulation 2016/679 on the protection of personal data and Legislative Decree 196/2013 of the Privacy Code, for provisions not incompatible with the Regulation itself. The data controller is the University of Siena, legally represented by the pro-tempore Rector, Prof. Francesco Frati. The candidate can assert his/her rights (articles 15 and following of the EU Regulation) by contacting the Data Controller by writing to pec email rettore@pec.unisipec.it, or e-mail segreteria.rettore@unisi.it.
3. The provision of data is mandatory for the management of the relationship between the student and the University (eg. selection, admission, enrolment, university career management, etc.). Any refusal to process data implies the exclusion from the selection.

Art. 12 – Notice advertising

1. This selection notice shall be published on the reference pages of the doctoral course on the website of the University of Siena (at the time of publication of this notice <https://www.unisi.it/ricerca/dottorati-di-ricerca/dottorati-di-ricerca-xxxvii-ciclo>) and advertised online on the University of Siena, Euraxess, and Ministry of University and Research webpages.
2. Furthermore, this notice and the rankings of candidates will be published on the official University website at <http://albo.unisi.it>.

Art. 13 – Final provisions

1. The person in charge of the administrative procedure is Jacqueline Irene Muller, Head of the Office for doctoral courses (*Ufficio per il Dottorato di Ricerca*) at the University of Siena.
2. Any changes or additions to the contents of this notice will be published on the reference pages of the doctoral course on the website of the University of Siena (at the time of publication of this notice <https://www.unisi.it/ricerca/dottorati-di-ricerca/dottorati-di-ricerca-xxxvii-ciclo>).

Annexes:

- 1 – Schedule for the PhD in *Apprendimento e innovazione nei contesti sociali e di lavoro* (Learning and innovation in social contexts and workplaces)
- 2 - Schedule for the PhD in Biochemistry and Molecular Biology BiBiM 2.0
- 3 - Schedule for the PhD in *Bioteecnologie Mediche* (Medical Biotechnologies)
- 4 – Schedule for the PhD in Chemical and Pharmaceutical Sciences
- 5 – Schedule for the PhD in Economics
- 6 – Schedule for the PhD in *Filologia e Critica* (Philology and Critics)
- 7 – Schedule for the PhD in *Fisica Sperimentale* (Experimental Physics)
- 8 – Schedule for the PhD in *Genetica, Oncologia e Medicina Clinica GenOMeC* (Genetics, Oncology and Clinical Medicine)
- 9 – Schedule for the PhD in *Ingegneria e Scienza dell'Informazione* (Information and Engineering Science)
- 10 – Schedule for the PhD in *Medicina Molecolare* (Molecular Medicine)
- 11 – Schedule for the PhD in Scienze della Vita – *Life Sciences*
- 12 - Schedule for the PhD in *Scienze e tecnologie ambientali, geologiche e polari* (Environmental, Geological and Polar Sciences and Technologies)

Annex 1 – PhD in Biochemistry and Molecular Biology: number scholarships and selection modalities

PhD programme	Learning and innovation in social and organizational contexts
Coordinator	Claudio Melacarne
Department	Department of Social, Political and Cognitive Science (DISPOC)
N. scholarships Green	3
N. scholarships Innovation	

Thematic “Green”

Title	Abstract
Transformative vocational training models to support the green transition in corporations	This research project will focus on the study of transformative learning methodologies for environmental sustainability education. Specifically, the research project aims to: (a) study and analyze national and international literature on transformative methodologies for education in environmental sustainability; (b) develop a massive open course for the online training of dedicated organizational roles (eg sustainability manager) who can act as change agents within the organizations in which they work; (d) evaluate the results of the training and, where possible, the impact on the involved organization.
Social influence in pro-environmental social change	This research project aims to study the dynamics of social influence that can favor the emergence and spread of pro-environmental behaviors. Specifically, the research project will focus on the role played by positive models of sustainable and pro-environmental behavior in increasing the awareness and dissemination of such behaviors among population. Specifically, the research project aims to 1) carry out a systematic analysis of the national and international literature on pro-environmental behaviors and sources of social influence in support of such behaviors, 2) acquire knowledge and methodological skills in the field of social and personality psychology 3) develop knowledge to support the design and creation of effective communication campaigns that favor the spread of pro-environmental behavioral models, especially exploiting the channels offered by social platforms.
Industrial relations, reconversion of production and transition of workers in the metalworking sector	Through the analysis of contractual-collective practices and other forms of industrial relations intervention in one of the sectors most exposed to the consequences of the necessary reconversion with a view to environmental sustainability, this research project aims to frame how the social partners are reacting to this new area to protect the collective interest (also in terms of internal structures and competences) and to identify the conditions and dynamics that guarantee a management of the phenomenon in the name of social and economic sustainability. The results of this analysis, also through the circulation of the best practices collected, will provide important elements both for scientific reflection on the subject and for the actors of the economic system and the social partners for the management of the ecological transition inside and outside the sector of reference.

Type of rankings	Single ranking list for each scholarship
Documents required for evaluation (to be attached during online application online)	<ul style="list-style-type: none"> • Curriculum vitae et studiorum indicating qualification obtained (or to be obtained by 31 October 2021) with the issuing institution and a list of publications • Research project (max. 3 pages) • English language certification, if any. <p>Eligibility of foreign degrees (to be translated into Italian, English or French) is ascertained by the selection committee in accordance with relevant regulations and international agreements on the recognition of qualifications for further studies.</p> <p>Candidates who achieved (or will achieve by 31 October 2021) the diploma di laurea at an Italian university have to specify, in their curriculum, all the data on the university path and the title of admission, in particular:</p> <ol style="list-style-type: none"> 1. University issuing the title 2. type of <i>laurea – vecchio ordinamento/specialistica/magistrale</i>; 3. degree course name 4. date of obtaining the title and final vote or expected date of obtaining the title (by 31 October 2021).

	<p>Candidates who achieved (or will achieve by 31 October 2021) their degree at a foreign university (with a duration of at least four years) have to specify in their curriculum:</p> <ol style="list-style-type: none"> 1. University issuing the title 2. type of degree (min. duration four years) – <i>Bachelor's degree/ Master's degree</i> 3. date of obtaining the title and final vote or expected date of obtaining the title (by 31 October 2021). <p>Candidates with a foreign degree have to attach to the online presentation also the following documentation:</p> <ul style="list-style-type: none"> • transcript – certification of the title with the list of exams and votes – with a translation in Italian or English • Diploma supplement (if available).
Web site for further information	
Selection modalities	Evaluation of curriculum vitae et studiorum and research project Interview
Admission requirements	All master's degrees
Exam procedures	<p>The overall score is given by the sum of scores achieved in the evaluation of qualifications and curriculum and in the oral interview.</p> <p>Curriculum et studiorum evaluation and research project minimum curriculum vitae et studiorum - up to a maximum of 20/100 divided as follows:</p> <p>-10 points per degree grade: <100 = 5pt 100 to 105 = 7 pt From 106 to 110 cum laude = 10 pt</p> <p>The possession of degrees in psycho-pedagogical subjects is a preferential title</p> <p>- Up to 10 points for any publications in national and / or international scientific journals</p> <p>- Research project - up to a maximum of 60/100. In evaluating the research project, the commission will take into consideration:</p> <ul style="list-style-type: none"> - Relevance of the project with the themes of the announcement and Ministerial Decree 1061/2021 - Rigorous scientific analysis of the state of the art - Methodological rigor of the research procedures presented in the project <p>Oral interview: minimum score 20/100</p> <p>All candidates are admitted to the oral interview scheduled for Thursday 11 November at 8:30 at the Pionta Campus located in Arezzo in Viale Luigi Cittadini 33, room 30 in the Ex-RAM building.</p> <p>The purpose of the interview is to discuss the presented research project and evaluate the basic knowledge acquired, the ability and aptitude of the candidate for scientific research and general knowledge of issues relating to innovation or Green issues. The interview can be carried out remotely (i.e. g-meet), in justified and verifiable cases.</p> <p>The minimum score for eligibility for placement in the final ranking is 60/100 (CV evaluation + project + oral interview).</p> <p>The results of each test and the final ranking will be published on the PhD website.</p>
Dates of evaluation and exam(s)	Oral interview, Thursday, November 11, 2021 at 8:30 am at the Pionta Campus located in Arezzo, Viale Luigi Cittadini 33, room 30 Ex-RAM building.
Selection committee	The composition of the selection committee will be published after the deadline for application.

PhD programme	Biochemistry and Molecular Biology – BiBiM 2.0
Coordinator	Lorenza Trabalzini <lorenza.trabalzini@unisi.it>
Department	Biotechnology, Chemistry and Pharmacy
N. scholarships Green	9

Thematics of scholarships

N.	Title	Abstract
1	Enhancement of the agro-food chain of <i>Phaseolus vulgaris</i> L: production and biological and nutraceutical activities of native variants and recovery of industrial processing waste	Optimization of production and determination of the biological and nutraceutical properties of a native variety of <i>P.vulgaris</i> . Recovery of wastewater from bean processing to identify bioactive products useful in the pharmaceutical and nutraceutical field
2	Development of branched peptide-based smart materials to prevent biofouling	Novel branched peptide-based biocompatible, non-toxic, and eco-friendly materials will be developed to prevent biofouling for implant materials, food packaging and for antifouling painting
3	Development of devices conjugated with biological molecules aimed at the purification of water for domestic or irrigation use in disadvantaged environments	Development of a water purification method based on biomolecule conjugated to filters for the selective removal of biological contaminants from water extracted from wells or previously contaminated by wastewater
4	Phyto-monitoring and phyto-decontamination of heavy metals with plants, algae and lichens for environmental sustainability and green economy	Identification of plant species and development of phytotechnologies to monitor heavy metals in environmental matrices and their removal. Study of the involved biochemical mechanisms by metabolomic techniques focused on mass spectrometry
5	Identification of new therapeutic candidates for rare diseases through the optimization of the plasma resource from donations, studying and characterizing the waste fractions from the plasma processing	Identification of new therapeutic candidates for rare diseases through the study and characterization of the waste fractions obtained from industrial processing of plasma, with bioinformatics and <i>in vitro</i> methodologies
6	Analysis of microbial communities in aerobic and anaerobic degradation processes in civil and industrial wastewaters	The project aims at studying the biochemical processes during aerobic and anaerobic degradation of civil and industrial wasteproducts through molecular and biocomputational techniques investigating the microbial communities in degradation processes.
7	Multidisciplinary approach for the use of biological waste for the transformation of secondary and tertiary value-added products in nutraceutical and pharmaceutical sectors	Multidisciplinary approach for the use of biological waste for the transformation of secondary and tertiary value-added products like bioactive compounds for eco-sustainable cosmeceuticals, nutraceuticals, new drugs, phytostimulants
8	Identification of potential drugs for rare diseases by analyzing and characterizing waste fractions from industrial processing of human plasma	Analysis of the presence of proteins with potential therapeutic application for rare genetic diseases by quali-quantitative and functional assays and purification techniques on plasma fractions obtained during the production of plasma derivatives
9	Development of new fluorescent proteins as intracellular biosensors	The project aims at the rational development, based on structure-property relationships, of new fluorescent proteins as potential biosensors for the imaging of intracellular metabolites modulated by the extracellular environment

Type of rankings	Single ranking list for each scholarship
Documents required for evaluation (to be attached during online application online)	<ul style="list-style-type: none"> • Curriculum vitae et studiorum indicating qualification obtained (or to be obtained by 31 October 2021) with the issuing institution and a list of publications • Research project (max. 2 pages) • English language certification, if any.

	<p>Eligibility of foreign degrees (to be translated into Italian, English or French) is ascertained by the selection committee in accordance with relevant regulations and international agreements on the recognition of qualifications for further studies.</p> <p><u>Candidates who achieved (or will achieve by 31 October 2021) the diploma di laurea at an Italian university</u> have to specify, in their curriculum, all the data on the university path and the title of admission, in particular:</p> <ol style="list-style-type: none"> 5. University issuing the title 6. type of <i>laurea</i> – <i>vecchio ordinamento/specialistica/magistrale</i>; 7. degree course name 8. date of obtaining the title and final vote or expected date of obtaining the title (by 31 October 2021). <p><u>Candidates who achieved (or will achieve by 31 October 2021) their degree at a foreign university</u> (with a duration of at least four years) have to specify in their curriculum:</p> <ol style="list-style-type: none"> 4. University issuing the title 5. type of degree (min. duration four years) – <i>Bachelor's degree/ Master's degree</i> 6. date of obtaining the title and final vote or expected date of obtaining the title (by 31 October 2021). <p>Candidates with a foreign degree have to attach to the online presentation also the following documentation:</p> <ul style="list-style-type: none"> • transcript – certification of the title with the list of exams and votes – with a translation in Italian or English • Diploma supplement (if available).
Web site for further information	https://www.dbcf.unisi.it/it/didattica/post-laurea/dottorati-di-ricerca
Selection modalities	Evaluation of curriculum vitae et studiorum and research project Interview
Admission requirements	All master's degrees
Exam procedures	<p>The overall score is given by the sum of scores achieved in the single evaluations and exam(s). The minimum score for eligibility is 60/100.</p> <p>Evaluation of curriculum et studiorum and research project curriculum vitae et studiorum – up to 20/100 research project – up to 30/100 The minimum score for admission to the interview is 30/100; maximum score is 50/100</p> <p>Interview: minimum score 30/100 – maximum score 50/100</p> <p>The interview will consist in the discussion of the submitted research project (10-15 minutes presentation) The candidate's background, ability and aptitude for scientific research and general knowledge of Green issues will be evaluated. The interview will be conducted in English and telematically.</p> <p>The results of each test will be published on the PhD web site.</p>
Dates of evaluation and exam(s)	Interview: 16 November (modalities and time will be publish on the PhD web site).
Selection committee	The composition of the selection committee will be published after the deadline for application.

Annex 3 – PhD in Medical Biotechnologies: number scholarships and selection modalities

PhD programme	Medical Biotechnologies
Coordinator	Lorenzo Leoncini
Department	Medical Biotechnologies
N. scholarships Green	4
N. scholarships Innovation	

Thematic “Green”

N.	Title	Abstract
1	Impact of 3D printing on the production of dentures	he project aims to investigate in a comparative manner prostheses made with traditional methods compared to intraoral scanners and 3D printers to evaluate their effectiveness and 'green' impact (saving time, money, environmental pollution)
2	Characterization of the SOS response conferred by Φ1207.3 in <i>Streptococcus pneumoniae</i>	The aim of this project is to assess the effect of Φ 1207.3 presence on mutation rates and survival upon LED UV-C light exposure through fluctuation test, survival assay and genome-wide expression analysis to predict arise of mutations conferring resistance to antibiotics and disinfectants
3	Ecological approach to the disinfection of masks disposable and tissue	The research involves the comparison of ecological methods of disinfection for masks, using natural / artificial light sources (LED) and exogenous porphyrins, and analyzing the functional characteristics of the post-disinfection masks.
4	Development of mRNA vaccines	The aim of this project is to design a DNA template to be used for mRNA vaccine production against Sars-Cov2 infection. The expression of the antigen will be assessed by Facs and Western blot analysis. A mouse animal model will be set up to validate the efficacy of the vaccine.

Type of rankings	Single ranking list for each scholarship
Documents required for evaluation (to be attached during online application online)	<ul style="list-style-type: none"> • Curriculum vitae et studiorum indicating qualification obtained (or to be obtained by 31 October 2021) with the issuing institution and a list of publications • Research project (max. 2 pages) • English language certification, if any. <p>Eligibility of foreign degrees (to be translated into Italian, English or French) is ascertained by the selection committee in accordance with relevant regulations and international agreements on the recognition of qualifications for further studies.</p> <p><u>Candidates who achieved (or will achieve by 31 October 2021) the diploma di laurea at an Italian university</u> have to specify, in their curriculum, all the data on the university path and the title of admission, in particular:</p> <ol style="list-style-type: none"> 9. University issuing the title 10. type of <i>laurea – vecchio ordinamento/specialistica/magistrale</i>; 11. degree course name 12. date of obtaining the title and final vote or expected date of obtaining the title (by 31 October 2021). <p><u>Candidates who achieved (or will achieve by 31 October 2021) their degree at a foreign university</u> (with a duration of at least four years) have to specify in their curriculum:</p> <ol style="list-style-type: none"> 7. University issuing the title 8. type of degree (min. duration four years) – <i>Bachelor’s degree/ Master’s degree</i> 9. date of obtaining the title and final vote or expected date of obtaining the title (by 31 October 2021). <p>Candidates with a foreign degree have to attach to the online presentation also the following documentation:</p> <ul style="list-style-type: none"> • transcript – certification of the title with the list of exams and votes – with a translation in Italian or English • Diploma supplement (if available).

Web site for further information	https://www.dbm.unisi.it/it/didattica/post-laurea/dottorati
Selection modalities	Evaluation of curriculum vitae et studiorum and research project Oral exam
Admission requirements	All master's degrees
Exam procedures	<p>The overall score is given by the sum of scores achieved in the single evaluations and exam(s). The minimum score for eligibility is 60/100.</p> <p>The candidates that will gained a minimum score of 20/40 points (curriculum vitae et studiorum and research project evaluation) will be admitted to the oral exam.</p> <p>Oral exam (the knowledge of English language will be checked): the candidate will present the research project in English language (7 min, max 10 min), minimum score 40/60 points.</p> <p>The results of each test will be published on the PhD web site.</p>
Dates of evaluation and exam(s)	<p>Evaluation of CV and research project 16 November 2021 at 08:30, the list of the candidates admitted to the interview will published within the 09:30 on website https://sites.google.com/a/dbm.unisi.it/medicalbiotechnologies/</p> <p>Interview, 16 November 2021, 09:30 in telematic mode at meet.google.com/zts-gpst-zoi</p>
Selection committee	The composition of the selection committee will be published after the deadline for application on the web site.

PhD programme	Chemical and Pharmaceutical Sciences
Coordinator	Maurizio Taddei <maurizio.taddei@unisi.it>
Department	Biotechnologie, Chimica e Farmacia
N. scholarships Green	7
N. scholarships Innovation	-

N.	Research topic	Abstract
1	Smart Artificial Cells for Remediation of Environmental Pollutants	In this project we aim to manipulate the membrane and functionalities of a synthetic cell to create a smart soft robot able to accomplish "sensing & degradation" tasks. These artificial cells will be used to detect target pollutants in wastewater (e.g. antibiotics, urea) and selectively degrade them to safe products. The project will involve organic synthesis of the components of the artificial cell, formation of vesicular containers and the study of sensing and release phenomenon using UV and fluorescence spectroscopy. This project will begin with lab-scale experiments and lead to field experiments with real wastewater samples. The student will spend at least 6 months at Acquedotto del Fiora S.P.A. where this technology will be trialed in real wastewater treatment plants. Principal investigator (PI): Prof. Jack Chen
2	Design of bacteriochlorophyll inspired antenna systems for artificial light harvesting devices	This project aims at designing artificial systems (using advanced computational chemistry tools) to capture and exploit sunlight, based on basic building 'bricks' connected together, inspired by (bacterio)chlorophylls. The added value of these 'bricks' is that they would be based on materials with low environmental footprint for both production and after-use disposal, since based on, mostly, organic materials. The proposed <i>in silico</i> design process would apply also to the connecting matrix holding together the 'bricks', hence devising a "light-harvesting device" capable of collecting sunlight and transferring the corresponding energy for further use. The student will spend at least 6 months at Aligned Bio AB, Lund (S) for the development of novel simulation tools applied to optical sensors. PI: Prof. Luca De Vico
3	A green approach to the design and synthesis of new antimicrobial and antiviral agents.	This research project aims to the implementation of a green workflow for the design and synthesis of sustainable anti-infective flavones and chalcones as potential clinical candidates active as antibacterial and antiviral molecules. The planned workflow will consider both the sustainability of the chemical approaches used in the drug discovery pipeline during the hit discovery, H2L transition and lead optimization phases, and the safety for patients and for the environment of the new molecular entities identified, through appropriate chemical approaches coupled the use and application of innovative computational techniques. The student will spend at least 6 months at S-IN SOLUZIONI INFORMATICHE a company for science services applied to chemical, toxicological, ecotoxicological and environmental information. PI: Prof.ssa Sandra Gemma
4	Advanced chemical and optical sensors to reduce diffuse pollution in urban waters	The present study will focus on the development of low cost optical and chemical sensors to map diffuse pollution sources. This will be combined with modelling based on machine learning approaches to predict sinks, sources and transport of dissolved and solid pollutants. Modelling will also be used to evaluate mitigation opportunities under present conditions and considering impacts of climate change to 2050. The doctorate candidate will be provided the opportunity to develop her/his capacity while working directly and virtually in partner institutes of ongoing international projects (Chinese Academy Sciences, UN GEMS (IE)) and will collaborate with European sensor/model developers (DOSCON (NO), PoliMilano (IT)) and Italian waste management partners (Ambienta s.r.l.). There are 9 months of research experience in collaborating institutes (3 months) and business partners (6 months). PI: Prof. Steven A. Loiselle

5	<p>From tanneries solid waste to catalysis</p>	<p>Waste from tannery industries are usually used to produce fertilizers, gelatin, biogas and other products that actually found a limited practical application In this very innovative ongoing project, we are focusing our attention on solid wastes from vegetal tanned leather with a particular attention to split offcut, shaving and leather dust materials with the idea to use them for the production of high valuable products and catalysts with no further waste production. We decide to focus our attention to vegetable tanned leather as it's the most sustainable one avoiding the use of impacting Cr based protocols: Activities within the project are: Life Cycle Assessment (LCA) analysis of the vegetable tanning leather process with application to specific final products (i.e. bags sell by specific brands). Active principles extraction from Vegetable Tanned leather Solid Waste materials. Application of the residual biomass in catalysis and LCA analysis of the new zero-waste process. The PhD student will spend 6 months in La Bretagna Conceria s.r.l. to develop the selected process and to study its impact and the possible further improvements. PI: Prof.ssa Elena Petricci</p>
6	<p>Production, characterization and optimization of engineered enzymes for application in artificial photosynthetic systems</p>	<p>This project is mainly focused on the development and optimization of biological catalysts for their application in artificial photosynthesis (AP). On this purpose, specific enzymes, such as Ni-Fe and Fe-Fe hydrogenase, Ir-substituted carbonic anhydrase, and Ni-Fe carbon monoxide dehydrogenase, will be selected, investigated and modified to improve their chemical and physical properties, to make them suitable for integration in AP systems. To develop this project, the synthetic genes encoding for the proteins of interest will be cloned in selected plasmid vectors and the enzymes will be produced in <i>E. coli</i> bacteria cells as recombinant proteins. Specific mutations will be generated by site-directed mutagenesis with PCR and verified by DNA sequencing. The purification of the target enzymes will be performed by combining different chromatographic techniques. The enzymes will be characterized and investigated by combining various techniques and structural studies will be performed by X-ray crystallography. The enzymes of interests will be developed and investigated in collaboration with Diamond Light Source Ltd (Didcot, UK) where the student will spend at least 6 months. PI: Prof.ssa Cecilia Pozzi</p>
7	<p>New photosensitive materials for photovoltaic cells operating in low-light conditions and IoT devices</p>	<p>The aim of the project is to produce innovative photovoltaic devices that, through the recovery of artificial light and sunlight diffused in indoor environments, are able to make energy self-sufficient sensors integrated into IoT networks. The photovoltaic technology selected for this purpose is the Dye-Sensitized Solar Cells (DSSC). Our goal is to optimize the materials components of DSSC devices in order to achieve maximum efficiency precisely in the lighting conditions available in indoor environments. The Phd student will deal with the synthesis of photosensitizers specially designed to maximize the yield in low lighting conditions, with particular attention to the class of organic photosensitizers. The PhD student will spent at least 6 months at the start-up company Cicciresearch srl for the analysis of the optimized DSSC using tools previously patented by the start-up. PI: Prof. Maurizio Taddei/ Dr.ssa Gianna Reginato</p>

Ranking	Single ranking for each project
<p>Documents required for evaluation (to be attached during online application)</p> <p>(da allegare alla domanda online)</p>	<ul style="list-style-type: none"> • Curriculum vitae et studiorum indicating qualification obtained (or to be obtained by 31 October 2021) with the issuing institution and a list of publications • Research project (max. 3 pages, in English) • English language certification, if any. <p>Eligibility of foreign degrees (to be translated into Italian, English or French) is ascertained by the selection committee in accordance with relevant regulations and international agreements on the recognition of qualifications for further studies.</p> <p>Candidates who achieved (or will achieve by 31 October 2021) the diploma di laurea at an Italian university have to specify, in their curriculum, all the data on the university path and the title of admission, in particular:</p>

	<p>13. University issuing the title 14. type of <i>laurea – vecchio ordinamento/specialistica/magistrale</i>; 15. degree course name 16. date of obtaining the title and final vote or expected date of obtaining the title (by 31 October 2021).</p> <p><u>Candidates who achieved (or will achieve by 31 October 2021) their degree at a foreign university</u> (with a duration of at least four years) have to specify in their curriculum:</p> <p>10. University issuing the title 11. type of degree (min. duration four years) – <i>Bachelor’s degree/ Master’s degree</i> 12. date of obtaining the title and final vote or expected date of obtaining the title (by 31 October 2021).</p> <p>Candidates with a foreign degree have to attach to the online presentation also the following documentation:</p> <ul style="list-style-type: none"> • transcript – certification of the title with the list of exams and votes – with a translation in Italian or English • Diploma supplement (if available).
Web site for further information	https://www.dbcf.unisi.it/it/didattica/post-laurea/dottorati-di-ricerca/dottorato-di-ricerca-chemical-and-pharmaceutical-scienc-0
Selection modalities	Title evaluation Oral interview
Admission requirements	All master degrees
Exam procedures	<p>The overall score is given by the sum of the scores obtained in the evaluation of titles and curriculum and in the oral interview. The minimum score for eligibility is 60/100.</p> <p>Evaluation of curriculum vitae et studiorum and research project curriculum vitae et studiorum - up to a maximum of 35/50 research project - up to a maximum of 15/50 The minimum score for admission to the interview is 25/50.</p> <p>Oral interview: minimum score 35/50.</p> <p>The interview is aimed at assessing the basic knowledge acquired, the ability and aptitude of the candidate for scientific research in subjects related to the themes of the projects. Knowledge of Green topics is also will be also evaluated related to chemistry and the knowledge and skills. The interview may be done on-line, in justified and verifiable cases.</p>
Dates of evaluation and exam(s)	Published on the web-pages of the Doctorate in Chemical and Pharmaceutical Sciences.
Selection committee	The composition of the selection committee will be published after the deadline for application.

Annex 5 – PhD in Economics: number scholarships and selection modalities

Doctoral Programme	Economics
Coordinator	Simone D’Alessandro <simone.dalessandro@unipi.it>
Department	Dipartimento di Economia Politica e Statistica
N. scholarship Green	5
N. borse Innovazione	0

Green Theme

N.	Research topic	Abstract
1	Social Cohesion in the Ecological Transition (Ecohesion)	Environmental policies have widespread social impacts that can become barriers to ecological transition. The project aims to explore the relationship between these policies, behavioral change, innovation, and redistributive mechanisms.
2	Innovation, Environmental Productivity and Sustainability (IPAS)	Technological transition plans (such as PNRR in Italy) place environmental innovation at the center of economic policy. The project aims at identifying solutions capable of integrating environmental regulation and innovation policies.
3	Make it fun, make it green! Nudging and gamification for the Environment (Green_Fun)	The project aims to develop forms of intervention that promote awareness of the environmental crisis and the adoption of responsible behavior through the use of tools related to nudging and gamification (choice architecture and games).
4	Assessing the impact of the ecological transition on production and employment levels in national economic sectors (Green_Job)	The green deal and the NRP will have a strong impact on productive activities. The project aims to analyze the impact of these interventions on productivity and employment of the different sectors of the economy to assess their socio-economic effects.
5	Circular Economy Networks and Renewable Energy Development (RECOVER)	The project aims to analyze the relationships between decarbonization strategies and those for the development of the circular economy, and identify national and regional policies that promote technological and organizational solutions.

Tipologia graduatorie	Graduatoria singola per ciascuna borsa
Documents required for evaluation (to be attached during online application)	<ul style="list-style-type: none"> • Curriculum vitae et studiorum indicating qualification obtained (by 31 October 2021) with the issuing institution and a list of publications • Research project (max. 3 pages, in English) • English language certification, if any <p>Eligibility of foreign degrees (to be translated into Italian, English or French) is ascertained by the selection committee in accordance with relevant regulations and international agreements on the recognition of qualifications for further studies.</p> <p><u>Candidates who achieved (or will achieve by 31 October 2021) the diploma di laurea at an Italian university have to specify, in their curriculum, all the data on the university path and the title of admission, in particular:</u></p> <ol style="list-style-type: none"> 1. University issuing the title 2. type of <i>laurea – vecchio ordinamento/specialistica/magistrale</i>; 3. degree course name 4. date of obtaining the title and final vote or expected date of obtaining the title (by 31 October 2021). <p>Candidates with a foreign degree have to attach to the online presentation also the following documentation:</p> <ul style="list-style-type: none"> • transcript – certification of the title with the list of exams and votes – with a translation in Italian or English • Diploma supplement (if available).
Web site for further information	https://phdeconomics.unipi.it/
Selection modalities	Evaluation of curriculum vitae et studiorum and project

	Oral interview
Admission requirements	All master's degree
Exam procedures	<p>The overall score is given by the sum of scores achieved in the single evaluations and exam(s). The minimum score for eligibility is 60/100.</p> <p>The evaluation of the curriculum vitae et studiorum and research project will assign:</p> <ul style="list-style-type: none"> - Curriculum vitae et studiorum: maximum of 30/50 - Research project: maximum of 20/50 <p>For admission to the oral interview: a minimum of 30/50 is required.</p> <p>Interview: minimum score is 30/50</p> <p>The purpose of the interview is to discuss the presented research project and to evaluate the basic preparation acquired, the ability and the aptitude of the candidate to scientific research and the general knowledge of innovativeness or Green issues. The interview may be conducted electronically, in justified and verifiable cases.</p> <p>The results of the selection procedure will be published at: https://www.unisi.it/didattica/post-laurea/dottorati-ricerca/economics</p>
Dates of evaluation and exam(s)	Interview: Friday 12 November 14:00 hrs.
Selection Committee	The composition of the selection committee will be published after the deadline for application on the web site.

Annex 6 – PhD in Philology and Criticism: number scholarships and selection modalities

PhD programme	Philology and criticism
Coordinator	Anne Schoysman, anne.schoysman@unisi.it
Department	Filologia e critica delle letterature antiche e moderne (DCFLAM)
N. scholarships Green	3
N. scholarships Innovation	0

Thematic “Green”

<i>Title</i>	<i>Abstract</i>
<p>Medieval garden plants between therapeutic applications and symbolic enhancement. Edition and commentary of Walahfrid's <i>Hortulus</i></p> <p>(SSD: L-FIL-LET/08 - Letteratura latina medievale e umanistica)</p>	<p>The research concerns the therapeutic use and cultural enhancements of plants in the poetic and legislative literature of the late Middle Ages through the philological restoration of representative texts such as the <i>Hortulus</i> of Walahfrid as well as the practical experimentation of applications</p>
<p>Literature and the Antropocene</p> <p>(SSD: L-FIL-LET/14 - Critica letteraria e letteratura comparate)</p>	<p>The PhD candidate will carry on a research work according to one of the following themes:</p> <ul style="list-style-type: none"> - Literary imagination of the End - Genres and forms of Climate Fiction - The relationship between humans and the other living species; the critique to the anthropocentric perspective - The debate on Posthumanism and its influence on literary discourse - Representations of the Anthropocene
<p>Literature and Ecology in Contemporary Italy</p> <p>(SSD: L-FIL-LET/11 - Letteratura italiana contemporanea)</p>	<p>The PhD candidate will carry on a research work according to one of the following themes:</p> <ul style="list-style-type: none"> - The convergence of literary and scientific discourses - Literary history and environmental history - The transformations of landscape through the lens of writers' perspective - Ecological risk and dystopian representations of Italy - Animality and the overcoming of anthropocentrism - Waste as a literary theme

Type of rankings	Single ranking list for each scholarship
Documents required for evaluation (to be attached during online application online)	<ul style="list-style-type: none"> • Curriculum vitae et studiorum indicating qualification obtained (or to be obtained by 31 October 2021) with the issuing institution and a list of publications • Research project (max. 3 pages) • English language certification, level B2, if any. <p>Eligibility of foreign degrees (to be translated into Italian, English or French) is ascertained by the selection committee in accordance with relevant regulations and international agreements on the recognition of qualifications for further studies.</p> <p>Candidates who achieved (or will achieve by October 31, 2021) the <u>diploma di laurea at an Italian university</u> have to specify, in their curriculum, all the data on the university path and the title of admission, in particular:</p> <ol style="list-style-type: none"> 1. University issuing the title 2. Type of <i>laurea – vecchio ordinamento/specialistica/magistrale</i>; 3. degree course name 4. date of graduation and final vote or expected date of graduation (by 31 October 2021). <p>Candidates who achieved (or will achieve by 31 October 2021) their <u>degree at a foreign university</u> (with a duration of at least four years) have to specify in their curriculum:</p> <ol style="list-style-type: none"> 1. University issuing the title

	<p>2. type of degree (min. duration four years) – <i>Bachelor's degree/ Master's degree</i></p> <p>3. date of graduation and final vote or expected date of graduation (by 31 October 2021).</p> <p>Candidates with a foreign degree have to attach to the online presentation also the following documentation:</p> <ul style="list-style-type: none"> • transcript – certification of the title with the list of exams and votes – with a translation in Italian or English • Diploma supplement (if available).
Web site for further information	<p>https://www.dfclam.unisi.it/it/ricerca/dottorati-di-ricerca/filologia-e-critica</p> <p>https://www.unisi.it/ricerca/dottorati-di-ricerca-0</p>
Selection modalities	Evaluation of curriculum vitae et studiorum and research project; Interview.
Admission requirements	All master's degrees
Exam procedures	<p>The overall score is given by the sum of scores achieved in the single evaluations and exam(s). The minimum score for eligibility is 60/100.</p> <p>Evaluation of curriculum et studiorum and research project curriculum vitae et studiorum – up to 20 research project – up to 30 The minimum score for admission to the interview is 30; maximum score is 50.</p> <p>Interview: minimum score 30 – maximum score 50</p> <p>The purpose of the interview is to discuss the submitted research project and to assess the candidate's background, ability and aptitude for scientific research and general knowledge of Innovation or Green issues. The interview will be conducted by telematic means, from remote.</p> <p>The results of each test will be published on the PhD web site.</p>
Dates of evaluation and exam(s)	<p>The interviews will be held on Wednesday, 17 November, beginning at 11 a.m. (remotely). The list of candidates admitted to the interview and the link will be published on the PhD website: https://www.dfclam.unisi.it/it/ricerca/dottorati-di-ricerca/filologia-e-critica/ammissione</p>
Selection committee	The composition of the selection committee will be published after the deadline for application.

Annex 7 – PhD in Philology and Criticism: number of scholarships and selection modalities

PhD programme	Experimental Physics
Coordinator	Riccardo Paoletti
Department	Physical, Earth and Environmental Sciences
N. positions Green	0
N. positions Innovation	1

Innovation

<i>Project title</i>	<i>Abstract</i>
Development of innovative technologies in the field of space propulsion	Development of advanced vacuum systems, thermo-cooling and laser imaging systems for testing new propulsion schemes for use in long-term missions in the exploration of the Solar System and for Earth observation.

Type or ranking(s)	Single ranking list for the position with a specific research topic
Documenti richiesti ai fini della valutazione (da allegare alla domanda online)	<ul style="list-style-type: none"> ● Curriculum vitae et studiorum indicating qualification obtained (or to be obtained by 31 October 2021) with the issuing institution and a list of publications ● Research project (max. 3 pages) ● English language certification, level B2, if any. <p>Eligibility of foreign degrees (to be translated into Italian, English or French is ascertained by the selection committee in accordance with relevant regulations and international agreements on the recognition of qualifications for further studies.</p> <p><u>Candidates who achieved (or will achieve by 31 October 2021) the diploma di laurea at an Italian university</u> have to specify, in their curriculum, all the data on the university path and the title of admission, in particular:</p> <ul style="list-style-type: none"> ● University issuing the title ● type of laurea – vecchio ordinamento/specialistica/magistrale; ● degree course name ● date of obtaining the title and final vote or expected date of obtaining the title (by 31 October 2021). <p><u>Candidates who achieved (or will achieve by 31 October 2021) their degree at a foreign university</u> (with a duration of at least four years) have to specify in their curriculum:</p> <ul style="list-style-type: none"> ● University issuing the title ● type of degree (min. duration four years) – Bachelor’s degree/ Master’s degree ● date of obtaining the title and final vote or expected date of obtaining the title (by 31 October 2021). <p>Candidates with a foreign degree have to attach to the online presentation also the following documentation:</p> <ul style="list-style-type: none"> ● transcript – certification of the title with the list of exams and votes – with a translation in Italian or English ● Diploma supplement (if available).
Web site for further information	https://www.dsfta.unisi.it/it/didattica/post-laurea/dottorati/dottorato-fisica-sperimentale
Selection modalities	Evaluation of qualifications, curriculum vitae and research project Oral interview
Admission requirements	LM-17 Fisica or equivalent
Exam procedures	The overall score is given by the sum of scores achieved in the single evaluations and exam(s). The minimum score for eligibility is 60/100. Evaluation of curriculum et studiorum and research project curriculum vitae et studiorum – up to 20

	<p>research project – up to 30 The minimum score for admission to the interview is 30; maximum score is 50.</p> <p>Interview: minimum score 30 – maximum score 50</p> <p>The purpose of the interview is to discuss the submitted research project and to assess the candidate's background, ability and aptitude for scientific research and general knowledge of Innovation or Green issues. The interview will be conducted by telematic means, from remote.</p> <p>The results of each test will be published on the PhD web site.</p>
Dates of evaluation and exam(s)	Interviews: 9 November 2021, 10:30 a.m. (the list of candidates admitted to the interview will be published on the PhD website by 9.30 a.m. of 9 November)
Selection committee	The composition of the selection committee will be published after the deadline for applications.

Annex 8 – PhD in Genetics, Oncology and Clinical Medicine: number scholarships and selection modalities

PhD programme	Genetics, Oncology and Clinical Medicine (GenOMeC)
Coordinator	Francesca Ariani, francesca.ariani@unisi.it
Department	Medical Biotechnologies DBM
N. scholarships Green	0
N. scholarships Innovation	1

Thematic “Innovation”

<i>Research topic</i>	<i>Abstract</i>
Machine Learning and new diagnostic approaches	The main goal of the project is the development of new machine learning models that combine genetic information and clinical data, capable of predicting the clinical trajectory of complex diseases such as COVID-19.

Type of rankings	Single ranking list for each scholarship
Documents required for evaluation (to be attached during online application)	<ul style="list-style-type: none"> • Curriculum vitae et studiorum indicating qualification obtained (or to be obtained by 31 October 2021), with indication of the obtained mark or average held, with the issuing institution and a list of publications • Research project (max. 2-3 pages) • English language certification, if any. <p>Eligibility of foreign degrees (to be translated into Italian, English or French) is ascertained by the selection committee in accordance with relevant regulations and international agreements on the recognition of qualifications for further studies.</p> <p>Candidates who achieved (or will achieve by 31 October 2021) the diploma di laurea at an Italian university have to specify, in their curriculum, all the data on the university path and the title of admission, in particular:</p> <ol style="list-style-type: none"> 5. University issuing the title 6. type of <i>laurea – vecchio ordinamento/specialistica/magistrale</i>; 7. degree course name 8. date of obtaining the title and final vote or expected date of obtaining the title (by 31 October 2021). <p>Candidates who achieved (or will achieve by 31 October 2021) their degree at a foreign university (with a duration of at least four years) have to specify in their curriculum:</p> <ol style="list-style-type: none"> 13. University issuing the title 14. type of degree (min. duration four years) – <i>Bachelor’s degree/ Master’s degree</i> 15. date of obtaining the title and final vote or expected date of obtaining the title (by 31 October 2021). <p>Candidates with a foreign degree have to attach to the online presentation also the following documentation:</p> <ul style="list-style-type: none"> • transcript – certification of the title with the list of exams and votes – with a translation in Italian or English • Diploma supplement (if available).
Web site for further information	http://genomec.dbm.unisi.it/ https://www.medrxiv.org/content/10.1101/2021.01.27.21250593v1 https://www.medrxiv.org/content/10.1101/2021.09.03.21262611v1
Selection modalities	Evaluation of curriculum vitae et studiorum and research project Interview
Admission requirements	All master's degrees. Preferential degrees are those in Computer Engineering, Automatic Engineering, Biomedical Engineering, Bioinformatics, Applied Mathematics, Physics.
Exam procedures	The overall score is given by the sum of scores achieved in the single evaluations and exam(s). The minimum score for eligibility is 60/100 . Evaluation of curriculum et studiorum and research project curriculum vitae et studiorum – up to 20

	<p>research project – up to 30 The minimum score for admission to the interview is 30; maximum score is 50.</p> <p>Interview: minimum score 30 – maximum score 50</p> <p>The purpose of the interview is to discuss the submitted research project and to assess the candidate's background, ability and aptitude for scientific research and general knowledge of Innovation or Green issues. The interview may be conducted telematically in justified and verifiable cases.</p> <p>The results of each test will be published on the PhD web site.</p>
Dates of evaluation and exam(s)	Interviews: 9 November, 14:00 (if necessary to be continued on 11 November, 14:00)
Selection committee	The composition of the selection committee will be published after the deadline for application.

Annex 9 – PhD in Information Engineering and Science: number of scholarships and selection modalities

PhD course	Ingegneria e Scienza dell'Informazione – Information Engineering and Science
Coordinator	Mauro Barni barni@dii.unisi.it
Department	Information Engineering and Mathematics
N. of scholarships Green	1
N. of scholarships Innovation	1

Green

Title	Abstract
Integrated HW-SW technologies enabling the development and use of highly energy-efficient accelerator-based systems for innovative applications	The research will focus on the study and development of Integrated HW-SW technologies enabling the development and use of highly energy-efficient accelerator-based systems, and their deployment in innovative applications.

Innovation

Titolo progetto	Abstract
Innovative, hardware/firmware architectures for body-power automotive applications	The research will focus on the study, the development and testing of hardware/firmware innovative architectures, and their applications to body-power automotive systems.

Type of rankings	Single ranking list for each scholarship
Documents required for evaluation (to be attached during online application online)	<ul style="list-style-type: none"> • Curriculum vitae et studiorum indicating qualification obtained (or to be obtained by 31 October 2021) with the issuing institution and a list of publications • Research project (max. 4 pages) • English language certification, if any. <p>Eligibility of foreign degrees (to be translated into Italian, English or French) is ascertained by the selection committee in accordance with relevant regulations and international agreements on the recognition of qualifications for further studies.</p> <p>Candidates who achieved (or will achieve by 31 October 2021) the diploma di laurea at an Italian university have to specify, in their curriculum, all the data on the university path and the title of admission, in particular:</p> <ol style="list-style-type: none"> 9. University issuing the title 10. type of <i>laurea – vecchio ordinamento/specialistica/magistrale</i>; 11. degree course name 12. date of obtaining the title and final vote or expected date of obtaining the title (by 31 October 2021). <p>Candidates who achieved (or will achieve by 31 October 2021) their degree at a foreign university (with a duration of at least four years) have to specify in their curriculum:</p> <ol style="list-style-type: none"> 16. University issuing the title 17. type of degree (min. duration four years) – <i>Bachelor's degree/ Master's degree</i> 18. date of obtaining the title and final vote or expected date of obtaining the title (by 31 October 2021). <p>Candidates with a foreign degree have to attach to the online presentation also the following documentation:</p> <ul style="list-style-type: none"> • transcript – certification of the title with the list of exams and votes – with a translation in Italian or English • Diploma supplement (if available).
Sito web di approfondimento	https://phdies.diism.unisi.it/
Selection modalities	Evaluation of curriculum vitae et studiorum and research project Interview
Admission requirements	All master's degrees

Exam procedures	<p>The overall score is given by the sum of scores achieved in the single evaluations and exam(s). The minimum score for eligibility is 60/100.</p> <p>Evaluation of curriculum et studiorum and research project curriculum vitae et studiorum – up to 70 research project – up to 30</p> <p>The results will be published on the PhD web site.</p>
Dates of evaluation and exam(s)	//
Selection committee	The composition of the selection committee will be published after the deadline for application.

Annex 10 – PhD in Molecular Medicine: number of scholarships and selection modalities

PhD programme	Molecular Medicine
Coordinator	Prof. Vincenzo Sorrentino
Department	Molecular and Developmental Medicine
N. scholarships Green	2
N. scholarships Innovation	0

Thematic “Green”

<i>Title</i>	<i>Abstract</i>
Crocus sativus L. –Evaluation of the antidepressant and anxiolytic effects of standardized formulations of saffron from Tuscany in the context of the promotion of a sustainable economic development of the territory	<p>In the context of the strategic plan for the preservation of ecosystems and biodiversity, and for the promotion of a sustainable economy, we propose the study of the antidepressant and anxiolytic effects of herbal extracts, in particular of standardized formulations of saffron (<i>Crocus sativus L.</i>), and of the mechanisms underlying these effects.</p> <p>The aim of the project is to provide a scientific basis for the use of this plant in the treatment of mild depression or anxiety, as the use of herbal extract for these mild forms often does not have solid scientific grounds. To this end, we will examine the effects of long-term saffron administration in validated animal models of depression and anxiety symptoms. The behavioral studies will be followed by the analysis of the possible underlying mechanisms, with pharmacological challenges and assays of neurochemical markers, by immunoblotting and RT-qPCR methods. We plan to extend this study to other herbal extracts that could be useful for the objective of the project. For the development of the project, part of the research activity of the Ph.D. student will be carried out in the laboratories of Innbiotec Pharma SRL (Arezzo).</p>
Green fertility": female fertility as a biosensor of ecosystem pollution	<p>Environmental pollution and global warming are consequences of human activity that cause harm to reproductive health and fitness. Due to environmental pollution, the incidence of infertility is progressively increasing; in particular, endocrine disruptors (EDCs), compounds that alter the homeostasis of sex and thyroid hormones, are capable of damaging fertility. The project aims to evaluate the presence of EDCs and micro/nanoplastics in different matrices in patients with fertility problems, in order to propose an innovative and complementary approach to the treatment of infertility. In some biological matrices, key molecules of the free and/or exosomal fraction will be characterized in order to elucidate the interference mechanism of pollutants. This represents an innovative approach that, by providing scientifically measurable data, will shed light on the mechanism of pollutant interference, thereby promoting the development of strategies to reduce environmental impacts and prevent infertility. The research activity will be partly performed by the PhD student at HansaBioMed Life Sciences (Tallinn, Estonia).</p>

Type of rankings	Single ranking list for each scholarship
Documents required for evaluation (to be attached during online application online)	<ul style="list-style-type: none"> • Curriculum vitae et studiorum indicating qualification obtained (or to be obtained by 31 October 2021) with the issuing institution and a list of publications • Research project (max. 2 pages) • English language certification, if any. <p>Eligibility of foreign degrees (to be translated into Italian, English or French) is ascertained by the selection committee in accordance with relevant regulations and international agreements on the recognition of qualifications for further studies.</p> <p>Candidates who achieved (or will achieve by 31 October 2021) the diploma di laurea at an Italian university have to specify, in their curriculum, all the data on the university path and the title of admission, in particular:</p> <ol style="list-style-type: none"> 1. University issuing the title 2. type of <i>laurea – vecchio ordinamento/specialistica/magistrale</i>; 3. degree course name

	<p>4. date of obtaining the title and final vote or expected date of obtaining the title (by 31 October 2021).</p> <p><u>Candidates who achieved (or will achieve by 31 October 2021) their degree at a foreign university (with a duration of at least four years) have to specify in their curriculum:</u></p> <ol style="list-style-type: none"> 1. University issuing the title 2. type of degree (min. duration four years) – <i>Bachelor's degree/ Master's degree</i> 3. date of obtaining the title and final vote or expected date of obtaining the title (by 31 October 2021). <p>Candidates with a foreign degree have to attach to the online presentation also the following documentation:</p> <ul style="list-style-type: none"> • transcript – certification of the title with the list of exams and votes – with a translation in Italian or English • Diploma supplement (if available).
Web site for further information	https://www.dmms.unisi.it/it/didattica/post-laurea/dottorati-di-ricerca/dottorato-medicina-molecolare/ammissione-37degiclo
Selection modalities	Evaluation of curriculum vitae et studiorum and research project Interview
Admission requirements	All master's degrees
Exam procedures	<p>The overall score is given by the sum of scores achieved in the single evaluations and exam(s). The minimum score for eligibility is 60/100.</p> <p>Evaluation of curriculum et studiorum and research project curriculum vitae et studiorum – up to 20/50 research project – up to 30/50 The minimum score for admission to the interview is 30; maximum score is 50.</p> <p>Interview: minimum score 30 – maximum score 50</p> <p>The purpose of the interview is to discuss the submitted research project and to assess the candidate's background, ability and aptitude for scientific research and general knowledge of Innovation or Green issues. The interview may be conducted telematically in justified and verifiable cases.</p> <p>The results of each test will be published on the PhD web site.</p>
Dates of evaluation and exam(s)	Interviews: 15 November, 10:00 (online)
Selection committee	The composition of the selection committee will be published after the deadline for application.

PhD programme	SCIENZE DELLA VITA-LIFE SCIENCES
Coordinator	Massimo Valoti , massimo.valoti@unisi.it
Department	SCIENZE DELLA VITA (DSV)
N. scholarships Green	5
N. scholarships Innovation	0

Thematic “Green”

Title	Abstract
Biochar from slaughtered bone waste: circular economy and sustainable agriculture (BIOSCAM)	The aim of the project is to investigate the possibility of transforming animal bones from slaughtering waste into biochar to be used as a soil improver in agriculture, testing its possible applications and verifying the ecotoxicological risk.
Quantitative analysis of plant biodiversity for the assessment of environmental sustainability in the Chianti Classico production area (BIOVALCHIANTI)	Quantitative analysis of plant diversity for the assessment of environmental sustainability in the Chianti Classico production area with a focus on vineyards to evaluate the effect of different agricultural practices and landscape contexts on biodiversity.
Genetic makeup and morphology: combined tools applied for the biodiversity of Antarctic springtails and mites endangered by climate changes (BLAAST)	The biodiversity of Antarctic mites and springtails is particularly threatened by recent climate change. In this project the systematics, taxonomy and evolutionary history of the two groups will be studied through morphological investigation and molecular biology techniques.
The Beetle’s gut microbiome and its power to ecologically decompose polystyrene waste (BeGutPower)	Serious concerns about plastic waste disposal are pressing and impacting modern society on a global scale. This project aims at understanding if polystyrene degradation could be performed, through a sustainable and eco-friendly method, by the gut microbiome of selected insect larvae
Agri-food by-products as sources of nutraceutical compounds: evaluation of their potential pharmacological activity (GREENER)	The agro-food industry generates high amounts of by-products that represent an interesting source of nutraceuticals. The aim of the present project will be the chemical characterization of these compounds and the evaluation of their cardiovascular activities.

Type of rankings	Single ranking list for each scholarship
Documents required for evaluation (to be attached during online application online)	<ul style="list-style-type: none"> • Curriculum vitae et studiorum indicating qualification obtained (or to be obtained by 31 October 2021) with the issuing institution and a list of publications • Research project (max 1 page) • English language certification, if any. <p>Eligibility of foreign degrees (to be translated into Italian, English or French) is ascertained by the selection committee in accordance with relevant regulations and international agreements on the recognition of qualifications for further studies.</p> <p><u>Candidates who achieved (or will achieve by 31 October 2021) the diploma di laurea at an Italian university have to specify, in their curriculum, all the data on the university path and the title of admission, in particular:</u></p> <ol style="list-style-type: none"> 13. University issuing the title 14. type of <i>laurea – vecchio ordinamento/specialistica/magistrale</i>; 15. degree course name 16. date of obtaining the title and final vote or expected date of obtaining the title (by 31 October 2021). <p><u>Candidates who achieved (or will achieve by 31 October 2021) their degree at a foreign university (with a duration of at least four years) have to specify in their curriculum:</u></p> <ol style="list-style-type: none"> 4. University issuing the title 5. type of degree (min. duration four years) – <i>Bachelor’s degree/ Master’s degree</i> 6. date of obtaining the title and final vote or expected date of obtaining the title (by 31 October 2021). <p>Candidates with a foreign degree have to attach to the online presentation also the following</p>

	<p>documentation:</p> <ul style="list-style-type: none"> • transcript – certification of the title with the list of exams and votes – with a translation in Italian or English • Diploma supplement (if available).
Web site for further information	https://www.dsv.unisi.it/it/didattica/post-laurea/dottorati
Selection modalities	Evaluation of curriculum vitae et studiorum and research project Interview
Admission requirements	All master's degrees
Exam procedures	<p>The overall score is given by the sum of scores achieved in the single evaluations and exam(s). The minimum score for eligibility is 60/100.</p> <p>Evaluation of curriculum et studiorum and research project curriculum vitae et studiorum – up to 30/100 research project – up to 20/100 The minimum score for admission to the interview is 30/100</p> <p>Interview: minimum score 30/100</p> <p>The purpose of the interview is to discuss the submitted research project and to assess the candidate's background, ability and aptitude for scientific research and general knowledge of Innovation or Green issues. The interview may be conducted telematically in justified and verifiable cases.</p> <p>The results of each test will be published on the PhD web site. https://www.dsv.unisi.it/it/didattica/post-laurea/dottorati</p>
Dates of evaluation and exam(s)	
Selection committee	The composition of the selection committee will be published after the deadline for application.

Annex 12 – PhD in Environmental, Geological and Polar Sciences and Technologies: number scholarships and selection modalities

PhD programme	Environmental, Geological and Polar Sciences and Technologies
Coordinator	Simone Bastianoni <simone.bastianoni@unisi.it>
Department	Scienze Fisiche, della Terra e dell’Ambiente
N. scholarships Green	1
N. scholarships Innovation	0

Thematic “Green”

Research topic	Assessment of climate and micropollutant impacts on Polar marine species: effects on bioaccumulation process and nutritional value
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Type of rankings	Single ranking list for each scholarship
Documents required for evaluation (to be attached during online application online)	<ul style="list-style-type: none"> • Curriculum vitae et studiorum indicating qualification obtained (or to be obtained by 31 October 2021) with the issuing institution and a list of publications • Research project (max. 3 pages) • English language certification, if any. <p>Eligibility of foreign degrees (to be translated into Italian, English or French) is ascertained by the selection committee in accordance with relevant regulations and international agreements on the recognition of qualifications for further studies.</p> <p>Candidates who achieved (or will achieve by 31 October 2021) the diploma di laurea at an Italian university have to specify, in their curriculum, all the data on the university path and the title of admission, in particular:</p> <ol style="list-style-type: none"> 17. University issuing the title 18. type of laurea – vecchio ordinamento/specialistica/magistrale; 19. degree course name 20. date of obtaining the title and final vote or expected date of obtaining the title (by 31 October 2021). <p>Candidates who achieved (or will achieve by 31 October 2021) their degree at a foreign university (with a duration of at least four years) have to specify in their curriculum:</p> <ol style="list-style-type: none"> 7. University issuing the title 8. type of degree (min. duration four years) – Bachelor’s degree/ Master’s degree 9. date of obtaining the title and final vote or expected date of obtaining the title (by 31 October 2021). <p>Candidates with a foreign degree have to attach to the online presentation also the following documentation:</p> <ul style="list-style-type: none"> • transcript – certification of the title with the list of exams and votes – with a translation in Italian or English • Diploma supplement (if available).
Web site for further information	https://www.unisi.it/didattica/post-laurea/dottorati-ricerca/scienze-e-tecnologie-ambientali-geologiche-e-polari-0
Selection modalities	Evaluation of curriculum vitae et studiorum and research project Interview
Admission requirements	All master's degrees
Exam procedures	<p>The overall score is given by the sum of scores achieved in the single evaluations and exam(s). The minimum score for eligibility is 60 out of 100.</p> <p>Evaluation of curriculum et studiorum and research project (up to 40 points) curriculum vitae et studiorum – up to 20 research project – up to 20 The minimum score for admission to the interview is 20.</p> <p>Interview: minimum score 40 – maximum score 60</p>

	<p>The purpose of the interview is to discuss the submitted research project and to assess the candidate's background, ability and aptitude for scientific research and general knowledge of Innovation or Green issues.</p> <p>The interview may be conducted telematically in justified and verifiable cases.</p> <p>The results of each test will be published on the PhD web site.</p>
Dates of evaluation and exam(s)	16 November 2021 at 10 a.m. Italian time.
Selection committee	The composition of the selection committee will be published after the deadline for application.