



**NOTICE OF COMPETITION FOR ADMISSION TO THE DOCTORAL RESEARCH
COURSES - XXXIX CYCLE
ACADEMIC YEAR 2023/2024 - FOR THE ASSIGNMENT OF POSITIONS STILL
AVAILABLE**

1 - Establishment

The deadlines for submitting applications for the XXXIX cycle of three-year Research Doctorate courses at the University of Insubria have been reopened, which can be accessed through a public competition based on qualifications and exams.

Pursuant to the Ministerial Decree n. 226/2021, the Doctoral Courses are activated following accreditation or verification of maintenance of the accreditation requirements by the MUR.

The attached table, an integral part of the competition notice, indicates for each doctorate: the places available for competition, the number of scholarships available, the qualifications that can be assessed for access and the calendar of competition tests which is also valid as notification to candidates.

Candidates are required to check for any changes to the dates or times of the tests <https://www.uninsubria.it/formazione/offerta-formativa/dottorati>

The publication of changes to the test calendar replaces in all respects any personal communication.

The University, on the basis of Ministerial Decree n. 118 of 2 March 2023, with funding from the European Union and from the Next Generation EU initiative, announces doctoral scholarships relating to the action of Mission 4 component 1, Investment 3.4 of the PNRR. These grants will be awarded for projects with themes consistent with what is reported in the aforementioned decree and in particular "Awarding of new three-year doctorates in programs dedicated to digital and environmental transitions" (Investment 3.4).

The University, on the basis of Ministerial Decree n. 117 of 2 March 2023, with funding from the European Union and from the Next Generation EU initiative, announces doctoral scholarships relating respectively to the actions of Mission 4 component 2 and relating to Investment 3.3 of the PNRR relating to innovative doctorates which respond to the innovation needs of companies and promote the hiring of researchers by companies. The related grants will be co-financed by companies and will include a period of study and research in the company and will be awarded for projects with themes consistent with what is reported in the aforementioned decree.

2 - ADMISSION REQUIREMENTS

Those who hold a Master's Degree or a 4-year Degree, following the system previous to the Ministerial Decree no. 509/1999, obtained in Italy, or equivalent academic title (Master's Degree) obtained abroad, may access the Doctoral Programs, without age or citizenship restrictions.

The abovementioned qualifications must be coherent with the chosen Doctoral Program.

Graduands may conditionally access the selection procedure, provided that they obtain the required admission qualification by 31 October 2023, under penalty of exclusion in case of positive outcome of the selection procedure.

Graduand candidates, if Italian or EU citizens, are expected to communicate the date and degree mark by e-mail at scuola.dottorato@uninsubria.it attaching a self-certification by 4 november 2023.





The eligibility assessment of foreign qualifications falls on the Evaluating Committee of each Doctoral Program, in accordance with current regulations on the subject, both in Italy and in the country where the qualification itself was obtained, and with international treaties and agreements on the acknowledgment of qualifications in order to continue studying.

In such a case, participation in the selection will be with reservation and the candidate will have to submit, under penalty of exclusion, a self-certification pursuant to article no. 3 of the Decree of the President of the Republic no. 445/2000, before enrolling in the Doctoral Program.

EU and non-EU citizens residing abroad with a qualification obtained abroad must submit the following documents by uploading to the appropriate platform:

- original qualification, or certified copy or replacement certificate valid for all legal purposes, translated and accompanied by a CIMEA verification certificate or, alternatively to the latter, legalization by the Italian representation in the country of origin (for access to the first level of university studies requires 12 years of schooling and that the qualification allows access to the university in the country where it was obtained);
- certificate certifying the passing of academic suitability tests, possibly required for access to the university of the respective countries of origin;
- CIMEA comparability certificate or, alternatively, declaration of value issued by the Italian representation in the country of origin;
- scanning of the entry visa, with subsequent forwarding of the residence permit as soon as it is available (only for non-EU citizens residing abroad).

(Through the link <https://cimea.diplo-me.eu/uninsubria/#/auth/register> it is possible to register and access the CIMEA DIPLOME service, to obtain the issue of the above-mentioned Certificates with facilitated deadlines and a partial refund in case of subsequent enrollment for the 2023/2024 academic year).

The university reimburses, only to candidates who win the admissions competition and actually enrol, the cost of the CIMEA declarations incurred by the candidates.

The University reserves the right to request the "local declaration of value" in any case in which there are doubts about the validity of the qualification.

All candidates are admitted to the competition procedure with reservations.

The Administration may order at any time, with a reasoned provision, the exclusion for failure to meet the prescribed requirements

3 – ADMISSION APPLICATIONS

The deadline for submitting applications for admission to the competition is set, without fail, within 7 days from the date of publication of this notice, 12:00 (Italian time).

It is possible to enroll in the competition simultaneously for ordinary positions as well as for those financed according to DM 117 and DM 118 and on research projects but for a maximum of two positions, also referring to different courses.

If a candidate is eligible for two scholarships, he will be placed in the respective rankings on the basis of the score achieved.

The Commission also reserves the right to assign a suitable candidate who has not been awarded a scholarship not indicated during the registration phase, provided that it is within the same course, taking into account the candidate's overall assessment. The choice for one of the assigned positions must be communicated to scuola.dottorato@uninsubria.it before enrolment.



The winners of the scholarships referred to in the aforementioned DMs, under penalty of forfeiture of enrollment, undertake:

- to carry out the research periods foreseen in the company or institution and abroad as per the chosen project, and according to what is indicated in the DM 117 and DM 118 of 2 March 2023;
- to report on the activities carried out in accordance with the provisions of Ministerial Decrees 117 and Ministerial Decree 118 of 2 March 2023;
- to respect the principle of not causing significant damage to environmental objectives, pursuant to Article 17 of Regulation (EU) 2020/852 and ensure consistency with the PNRR positively evaluated with the Decision of the ECOFIN Council of 13 July 2021;

Registration to the selection procedure

Candidates will have to submit their application to the selection procedure following the electronic procedure available on the website of the University of Insubria (www.uninsubria.it) from any PC, **within the deadline of this call.**

After the abovementioned deadline, the link will be disabled and it will not be possible to fill in the application and register to the selection procedure.

In order to access the electronic registration system (*test di ammissione* [admission test]) candidates will have to select from the website www.uninsubria.it, the "Servizi Web – Segreterie Studenti" [Web Services - Students Support Service] entry.

Those who already hold a user ID and password may access the web services by clicking on "login" and selecting "*test di ammissione*" [admission test] and following the instructions.

Those who do not have access credentials must register by selecting "*Registrazione*" [Register], proceed to "login", select "*test di ammissione*" [admission test] and follow the instructions.

When completing the application, candidates must:

- enter your personal data, study data, as well as the details of a valid identity document; the same document must be attached via upload and presented for recognition during the exam;
- choose the course and the foreign language, among those foreseen in the announcement for each doctoral course, the knowledge of which will be verified during the oral exam;
- indicate if you are interested in paid university accommodation. When registering for the competition, you are asked whether or not you are interested in the assignment of beds at the university colleges in Varese or Como.

Places are reserved, one for each PhD course activated in the 2023/2024 academic year, for students enrolled in the first year of the course. The assignees of the accommodation places will be identified by the teaching staff of each doctoral course on the basis of the addresses and guidelines issued by the doctoral school.

Doctoral students who will be assigned accommodation in the University Colleges will be required to profitably participate in the extra-curricular path prepared by the Scientific Committee of the "University with a collegial vocation" project.

The assignment of the place includes the right to maintain it for the entire duration of the study course provided that: a) the doctoral student achieves the right to transfer to the following year of the course b) the doctoral student participates and profitably follows the "University with a vocation collegiate"

Further information on the Colleges and related fees are available at the following link: <https://www.uninsubria.it/servizi/alloggi-e-residenze-universitarie>

- if the attachment to this announcement provides that reference letters are included among the qualifications evaluated for admission to the chosen course, enter the name and e-mail address of the contact person(s) identified. Referents will receive further information on sending letters directly from the automated procedure;
- attach, via upload, the qualifications required in the file relating to each doctoral course (attached to this announcement) and the identity document whose details have already been entered;



- list of titles presented
- the admission fee to the competition is fixed at € 30.00 (thirty/00) and must be paid in a single solution using the payment notice attached to the online registration.

The qualifications and documents must be attached as PDF files and must not exceed 5 MB each. The file name must include the candidate's last name and the type of qualification (e.g. smith_CV) max 25 characters.

Only the specific qualifications provided for in each Doctoral Program, as described in Attachment 1, will be considered by the Evaluating Committee.

Foreign and Italian candidates who hold an academic degree obtained abroad, besides the qualifications indicated at the end of the present call, will have to attach via upload:

1. The academic degree, translated and certified by the Italian Representation (Embassy or Consulate) in the country where the qualification was obtained;
2. The Declaration of Equivalence by the Italian Representation (Embassy or Consulate) in the country where the qualification was obtained.
3. A Diploma Supplement (as an alternative to the documents described in points 1 and 2 above, only for those who obtained the qualification at a European university).

Until the expiration date of the admission procedure provided for in the call, each candidate may:

- add, delete or modify the attached documents (qualifications and ID card) by clicking on "inserisci/modifica titoli valutabili" [enter/modify qualifications];
- add, delete or modify the name or email address of the identified contact person, should letters of recommendation be considered among the qualifications evaluated for admission to the chosen selection procedure (see Attachment 1), as well as solicit the added contact person to submit the letter.

The letters will be accepted in the online procedure until the expiration date of the admission procedure provided for in the call.

All changes will be definitively saved by the system only by concluding the application.

Additions to the documents presented after the expiration date of the call will not be admitted.

Qualifications submitted following a different procedure from that indicated in the present call will not be considered by the Evaluating Committee.

Failure to submit the qualifications will not invalidate the admission application to the selection procedure, except for Doctoral Programs which require a qualifications minimum score in order to be admitted to the oral/written test.

Candidates must also attach a file with a list of the submitted qualifications.

Candidates do not have to be present during the qualifications evaluation.

Please remember that entering false or wrong data (which are not corrected by the indicated deadline), will result in the exclusion from the test and/or final ranking list.

Should you experience problems while registering to the admission procedure, please contact the Research and Internationalization Office (scuola.dottorato@uninsubria.it).

Failure to complete the application, following the abovementioned procedures, will entail inadmissibility to the selection procedure. The deadlines for the submission of admission applications to the selection procedure are peremptory.

Incomplete applications will be rejected. Applications received after the established deadlines will not be accepted.

By submitting the admission application for the test, candidates express their open acceptance of all regulations provided for in the present call.



Candidates are invited not to wait until the last days before the expiration date of the call in order to submit their admission application; the University is not liable for malfunctioning due to system overload. When registering for the competition, you are asked whether or not you are interested in a university accommodation in Varese or Como.

Places are reserved, one for each PhD program activated in the academic year 2022/2023 to students enrolled in the first year of the course. The assignees of the accommodation places will be identified by the "Collegio Docenti" of each doctoral course on the basis of the addresses and guidelines issued by the doctoral school.

More information and costs at the link:

<https://www.uninsubria.eu/international-relations/servicesfacilities>

List admitted to take the tests

Upon expiry of the registration deadline and after the appropriate administrative checks, the list of candidates who, having submitted an application for registration in the competition and the qualifications according to the methods indicated and within the established deadlines, are admitted to take the tests at this link <https://www.uninsubria.it/formazione/offerta-formativa/dottorati>.

Candidates with disabilities

In order to arrange for all necessary aids, as well as determine additional time to carry out the test with regard to the specific handicaps (pursuant to article. no. 20 of the Law no. 104/92, integrated and modified by the Law no. 17/1999), candidates with disabilities must submit to the Research and Internationalization Office an adequate certification by the relevant Local Health Authority (ASL), by the deadline for the submission of applications.

Please note that the University offers a Service for Students with disabilities, Valleggio, in Como. Both offices meet with students only on appointment. Further information at <https://www.uninsubria.it/servizi/servizi-studenti-con-disabilit%C3%A0-eo-dsa>.

4 – TESTS

Admission to Doctoral Programs is based on qualifications and exams. The Doctoral Program Committee will establish the suitable qualifications and the evaluation criteria of the same. The admission test consists in an evaluation of the candidates' qualifications, and in a written and/or oral test, which aims at verifying the preparation, abilities and predispositions of the candidates for scientific research. Admission tests for Doctoral Programs may be carried out in English if the candidate expressly requested so in the admission application. The oral or written test also includes a test of the foreign languages indicated by the candidates, which must nonetheless include English.

Tests will follow the schedule which will be published on the University's website. Candidates are expected to check any changes in the dates, places or times on the website or directly with the Office for phd and post-graduate training. Publication substitutes to all effects any personal communication.

Candidates will have to show up for admission tests, under penalty of exclusion, with a valid ID card.

Online interview

Online interviews will take place by using the platform made available by the University (Microsoft Teams). To do so, candidates will have to provide an email account which the Evaluating Committee will use for the videocall.

Candidates will have to be available at their personal address, which they previously communicated, on the day indicated for the interview, following the schedule in the Doctoral Program presentation form. The Committee may agree upon a specific time for the interview. For the identification, candidates must identify themselves, under penalty of exclusion, by showing an ID card before the interview starts.



Candidates may be excluded from the selection procedure if they did not provide a personal email address (account), there is no internet connection, the connection test is not passed, they are not reachable on the indicated day or at the established time, or in case they do not display a valid ID card. The University of Insubria is not liable should technical issues impede to regularly carry out the interview.

5 - EVALUATING COMMITTEE

The Committee in charge of the comparative evaluation of the candidates will be appointed with Rectoral Decree and is composed of at least three members among the University's tenured professors and researchers (two of which should be full- or assistant professors), to which may be added, on the proposal of each Doctoral Program Committee, no more than two external experts, even foreign ones, chosen from highly qualified public and private research institutions and structures.

The composition of the Committee must abide by the principles of equal opportunity and gender balance, by allocating to women at least one third of all available positions.

In case of doctoral programs established following international inter-university cooperation agreements, the Committee and admission procedures are defined according to the provisions of the agreements themselves.

With regard to the verified qualities, the Committee assigns each candidate a maximum of 60 points for each test (qualifications evaluation and oral or written test). In case of different evaluation on the part of the Committee members, each of them assigns the candidate a maximum of $60/n$, where n stands for the number of Committee members. The oral or written test is public and is considered passed if candidates obtain a score not lower than 40/60. At the end of the selection procedure, the Committee establishes a general ranking list on the basis of the scores obtained by the candidates in the tests.

The test results will be disclosed through official publication on the University's website. Publication substitutes to all effects any personal communication.

The candidates who, according to the final ranking list, figure among those admitted to the course, forfeit their role if they do not notify in writing their acceptance by the deadline indicated in the ranking list. In such a case, the position will be offered to the first eligible candidate according to the ranking list.

If the Committee compiled a ranking list for each curriculum, candidates will be admitted to each curriculum for the number of positions available for their curriculum. If a smaller number of candidates is admitted to positions with scholarship of one curriculum, the remaining scholarships are appointed to the candidates who participated in the selection procedure for other curricula, according to their ranking lists.

6 - RANKING LISTS AND ENROLLMENT IN THE PROGRAMS

Candidates will be admitted to the programs according to the order of the ranking list for the number of positions available for each Doctoral Program or curriculum.

Candidates that have been effectively placed in the ranking list who do not enroll by the established deadline will be considered forfeiters. The competent offices will provide to update the ranking list, by officially notifying the interested parties.

The ranking lists will be published on the University's website <https://www.uninsubria.it/formazione/offerta-formativa/dottorati>

Publication substitutes to all effects any personal communication. Candidates are expected to check the ranking list, any change in the same and the preemptory limits for enrollment, in the notices published on the website.

Please refer to the enrollment procedure copied at the end of the ranking lists which will be published at: <https://www.uninsubria.it/formazione/offerta-formativa/dottorati>



Candidates who have been placed in more than one merit ranking list must choose one Doctoral Program only.

Repechages

Any further subsequent scrolling in the ranking list will be communicated by direct notification to the candidates admitted to enrollment, by sending an email to the email address indicated when registering for the admission test.

Entitled candidates will be personally contacted via email, with a message sent to the email address indicated by each candidate when registering to the University's website. Only in this case will the enrollment admission notification be personal.

Entitled candidates who received the notification via email will have to apply for enrollment following the procedure described on the University's website, within the limits indicated in the text of the abovementioned notification.

In any case, the ranking lists and enrollment will close on 31 December 2023.

7 - INCOMPATIBILITY

As regards the possible simultaneous enrollment in two higher education courses, please refer to the relevant university provisions. Any assessments of merit will be remitted to the Academic Board of the PhD course concerned, which will verify the compatibility of compulsory attendance with the existence of the conditions for acquiring the knowledge and skills necessary to achieve the educational objectives of each course.

The scholarship (law 398/1989) cannot be combined with other scholarships conferred for any reason except with those granted by national or foreign institutions useful for integrating training or research activities with stays abroad of fellows.

Anyone who has already benefited from a scholarship for a PhD course cannot benefit from it a second time.

8 – ATTENDANCE

The beginning of doctoral programs coincides with that of the academic year.

Admission to a Doctoral Program entails an exclusive and full-time commitment. PhD students are expected to attend the activities provided for their educational curriculum on a regular basis and to totally dedicate themselves to the programs and to carrying out the assigned research activities. The Doctoral Program Committee regulates the attendance procedures for Doctoral Programs.

PhD students, as an integral part of the educational project, may carry out, prior to the approval of the Doctoral Program Committee and without any increase in the scholarship, some tutoring activities for the students of the Bachelor's and Master's degrees, as well as additional teaching activities, up to a maximum of forty hours per academic year.

PhD students are expected to follow the "Code of ethics, code of conduct and principles of research integrity of the university of Insubria", issued with Rectoral Decree Office no. 656/2020 and effective as of 16 October 2020.

The PhD qualification is obtained at the end of the Doctoral cycle, when passing the final examination, which is subject to the submission of a written dissertation (PhD thesis) that provides an account of an original research project that was carried out with methodological soundness and from which emerged results of an adequate scientific relevance.



The issue of the PhD certificate is subject to the submission by the candidates of the final thesis in the University's open access institutional repository, which will ensure its preservation and public consultation, in its entirety or in a partial manner, and even in the bibliographic data alone.

A B2 English language certificate constitutes a necessary requirement to obtain the PhD qualification (starting from PhD students of the XXXII cycle).

These must be attested by an officially recognized certifying body, in accordance with the provisions of the Common European Framework of Reference for Languages - CEFR.

For further information, please go to: <https://www.coe.int/en/web/common-european-framework-reference-languages/home>

9 – SCHOLARSHIPS

Each Doctoral Program is equipped with scholarships to attend the program, which are assigned to the candidates following the order of the ranking list and for the number of available scholarships.

The scholarships have an annual duration and are renewed on the condition that the PhD student completed the program of the previous year, as verified according to the procedures established in the Regulations, without prejudice to the obligation to correspond the scholarship after having passed the verification.

The amount of the scholarship is increased by 50% for a total period no longer than 12 months, if the PhD student is authorized by the Doctoral Program Committee to carry out research activities abroad, for a period of no less than thirty days.

The annual amount of the scholarship is of 16,243.00 €. The Doctoral Program Scholarship is subject to the payment of social security contributions through the “gestione separata INPS”, in accordance with current regulations on the subject.

10 – ACCESS AND ATTENDANCE FEES

All PhD students (both with and without scholarship) are expected to pay an annual fee of 156.00 €, in accordance with the provisions of the “Regulations on student fees for the academic year 2022/2023” available at www.uninsubria.it.

With regard to any insurance charges in accordance with current regulations on the matter, please refer to the enrollment forms.

11 – PROCESSING OF PERSONAL DATA

Pursuant to the legislative decree no. 196 of 30 June 2003 and following amendments and additions (“Personal data protection code”) and to the General Data Protection Regulation – EU Regulation no. 2016/679, the notice on the treatment of personal data is published on the University's website at: <https://www.uninsubria.it/formazione/offerta-formativa/dottorati>

12 – NOTICE ON THE APPLICATION OF THE REGULATIONS FOR THE PREVENTION OF CORRUPTION

The University, in implementing the regulations on the matter, has adopted its three-year Plan for the prevention of corruption and appointed a Committee for the Prevention of Corruption:

The three-year Plan is published on the institutional website at www.uninsubria.it/amministrazione-trasparente/disposizioni-general

Reports may be sent to: anticorruzione@uninsubria.it



13 – RECRUITMENT AND HRS4R

The recruitment of PhD students (or Early Stage Researchers, following the European definition) will conform to the European Charter for Researchers (ECR) and the Code of Conduct for the Recruitment of Researchers (CCRR), which provide the general framework for the guidelines and requisites for the roles, responsibilities and rights of these positions, guaranteeing that selections procedures are open, transparent and meritocratic.

The University of Insubria received the European Quality Award “HRS4R - Human Resources Strategy for Researchers” in February 2019: such certification recognizes organizations their efforts to implement the Charter and Code in their policies and practice, and identifies the universities and institutions which create and promote a stimulating and encouraging research environment.

14 - ADMINISTRATIVE PROCEEDINGS

Pursuant to Law no. 241 of 7 August 1990 and following amendments and additions, the person in charge for the administrative proceedings for the selection procedure is dr. Federico Raos, Doctoral and post-graduate training office. For information write an e-mail to: scuola.dottorato@uninsubria.it

15 – REFERENCE REGULATIONS

For any other matter not specifically covered by the present call, the University of Insubria abides by current regulations on the matter and by the University's Regulations on Doctoral Programs. For information on selections procedures, please write to: scuola.dottorato@uninsubria.it

Varese, *date of digital sign*

The Rector
Professor Angelo Tagliabue
Digitally signed



Attachment to the call for admission to the XXXIX cycle Research Doctorates

COMPUTER SCIENCE AND MATHEMATICS OF COMPUTATION	
Scientific field	01 - Mathematics and informatics; 09 - Industrial and information engineering; 13 – Economics and statistics
Academic disciplines	INF/01; ING-INF/05; MAT/01; MAT/03, MAT/05; MAT/07; MAT/08; SECS-S/01.
Coordinator	Professor Barbara Carminati – barbara.carminati@uninsubria.it
Duration	3 years
Administrative headquarters department	Theoretical and Applied Sciences
Scholarships	<p>2 pursuant to Ministerial Decree 118 of 02/03/2023:</p> <p>1 (PNRR research topic): IoT devices have become one of the main targets of cyber attacks. Networks of compromised devices, called BotNets, are being used to carry out DDoS attacks every day, resulting in major service disruptions and significant economic damage. The aim of the research is to investigate a pre-spread malware detection process that leverages blockchain to support collaboration between different parties for secure information sharing. This project aims to define decentralized techniques for IoT malware detection and leverage blockchain to ensure the correct and confidential execution of the detection process.</p> <p>1 (Cultural Heritage topic): The research project concerns the study of the deterioration of stone and/or marble surfaces and in general of monumental stones due to chemical or biological agents, through the use of mathematical models, calibrated with appropriate experimental tests in situ and in the laboratory. The main objective is to provide an innovative and technologically advanced tool for monitoring the state of degradation of monumental stones and its numerical simulation, capable of both optimizing protection and restoration interventions and predicting the rates of degradation based on to the evolution of pollution.</p>



Evaluation criteria	<p>Up to a maximum of 60 points.</p> <p>Qualifications</p> <ul style="list-style-type: none">- exam marks and, if candidates have already discussed their thesis, final mark (up to a maximum of 20 points);- scientific significance, degree of originality and relevance of the research project and thesis (if it has already been discussed) to the themes of the Doctoral Program (up to a maximum of 15 points; for the evaluation of the thesis candidates must submit at least a detailed abstract of the thesis itself; they may also submit the full version of the thesis);- conference presentations and publications pertinent to the themes of the Doctoral Program (up to a maximum of 5 points);- training activities and professional experience pertinent to the themes of the Doctoral Program (up to a maximum of 5 points);- other qualifications, including language certifications and no more than 2 letters of recommendation (up to a maximum of 15 points). <p>Only the candidates who have obtained at least 40 points in the qualification evaluations will be admitted to the oral test.</p>
Test type	<p>The candidates who have obtained at least 40 points in the qualifications evaluation will be tested on their scientific interests, on the reasons which persuaded them to register for this specific Doctoral Program and on a description of their own research project or, as an alternative to the latter, on an analysis of a research field which is pertinent to the specific themes of the Doctoral Program. Knowledge of the English language will also be assessed.</p> <p>The admission test may be taken in English upon the candidate's request.</p>
Test schedule	<p>The date of the interview will be communicated with a notice on the website at https://www.uninsubria.it/formazione/offerta-formativa/dottorati</p>
Qualifications	<p>(mandatory) CV with personal data, education (with courses length and marks), previous research experiences, theses and publications, candidates are required to present their Curriculum Vitae in .pdf format by using the appropriate template to be downloaded from this link: https://archivio.uninsubria.it/files/cvtemplate2021docx</p> <p>(mandatory) Self-certification of university qualifications, with data and handwritten signature, <u>according to the specimen available on the site</u>, reporting the list of exams taken with relative grade, the indication of the University that</p>



	<p>issued the qualification, the date of achievement and the final vote:</p> <ul style="list-style-type: none"> - the degree title (old system, specialist or master's degree); - (additional) any three-year degree qualification
	<p>(mandatory for non-graduates) For undergraduates: Self-certification, with data and handwritten signature, of the exams taken with indication of the grade; indicate the required data for the degree exam, according to the specimen available on the site</p>
	<p>(mandatory) Degree thesis or detailed summary of the thesis itself (in electronic form) (old system, specialist or master's degree)</p>
	<p>(mandatory) Research project relating to the definition of innovative tools and models for monitoring and simulating the state of degradation of monumental stones.</p>
	<p>(additional if available) Any publications (including conference communications)</p>
	<p>(additional if available) Letters of introduction (up to two) from university professors or researchers with whom the candidate has worked (candidates must enter, when registering online for the competition, the name and address e-mail of the identified contact person(s) and the letters will be inserted directly by the evaluators in the online procedure, so it is recommended to activate the procedure in good time before the deadline of the tender)</p>
	<p>(additional if available) Any other qualification deemed useful by the candidate for evaluation purposes, for example: specialization courses, doctorate courses, specialization courses, master's degrees, prizes received, scholarships; research grants and scholarships, teaching activities carried out (seminars, contracts, subject expert), collaborations in research activities; language certifications</p>

CHEMICAL AND ENVIRONMENTAL SCIENCES

Scientific fields:	Environmental Engineering; Industrial Engineering; Chemistry; Earth Sciences; Biology; Environmental and Occupational Hygiene;
Curricula	<ol style="list-style-type: none"> 1. Chemical Sciences 2. Environmental Sciences <p>Further information can be found at: https://dottorato.disca.uninsubria.it/</p>
Coordinator	Prof. Alessandro Maria Michetti - alessandro.michetti@uninsubria.it
Duration	3 years
Department, administration:	Scienze and High Technology
Scholarships	6 fully funded scholarships:



	<p>1 pursuant to Ministerial Decree 118 of 02.03.2023 on the subject of PNRR Research</p> <p>1 pursuant to Ministerial Decree 118 of 02.03.2023 on the subject of Cultural Heritage</p> <p>2 pursuant to Ministerial Decree 117 of 02.03.2023 co-financed by the ATS Città Metropolitana di Milano company</p> <p>1 pursuant to Ministerial Decree 117 of 02.03.2023 co-financed by the Vibram S.p.A. company</p> <p>1 pursuant to Ministerial Decree 117 of 02.03.2023 co-financed by the API Servizi Varese s.r.l. company</p>
Requirements for admission:	Any Master's Degree (second or single cycle)
Assessment criteria and assessable qualifications	<p>Up to a maximum of 60 points for the qualification assessment.</p> <p>Assessable qualifications:</p> <ul style="list-style-type: none">- graduation grade and full list of exams, including the marks obtained in the different examinations/activities; the average grade obtained during the degree will be considered;- project concerning the "Research Topics" as per specifications in the relevant section;- relevance of the degree to the subjects of the PhD program; submission of the dissertation title and abstract is mandatory;- publications relevant to the subjects of the PhD program;- further qualifications: presentations to congresses, participations to schools, job activities relevant to the subjects of the PhD program, further degrees, awards. <p>Applicants receiving at least 25 points for the qualification assessment will be admitted to the interview.</p>
Assessment: Interview	<p>Up to a maximum of 60 points will be awarded for the oral exam, divided as follows: 30 points for the proposed research program; 30 points for the oral interview, including knowledge of the foreign language (10 points).</p> <p>Applicants receiving at least 25 points for the qualification assessment will be interviewed about their scientific interests, the motivations leading them to apply to this PhD program, the definition of a research project, which must be included in the application as a .pdf file and must be focused to one of the "Research Topics" as per specifications in the relevant section below. The goals, methodologies, procedures and scheduling of the project will be assessed during the interview. The cultural background will be assessed, with particular emphasis to the topics of the PhD program. Moreover, the ability to discuss the most important discoveries of the last decades in the chemical and environmental fields, the methodological and research competencies (e.g. modelling, lab activities, field activities), the knowledge of English and additional EU languages will be assessed.</p>



	<p>The applicant may perform the interview in English. Further information can be found at the webpage https://dottorato.disca.uninsubria.it/</p>
Research Topics:	<p>For this call, the research topics available, the scientists in charge, and the involved companies are as follows:</p> <p>CV Chemical Sciences DM 118</p> <p>1- Sustainable technologies and guidelines for bio-cleaning systems for cultural heritage. The main objective of the research is the drafting of bio-cleaning protocols for works of art, involving products that are environmentally and economically sustainable and not harmful to restorers and surfaces. The main bio-technologies developed and successfully applied in recent years on stone and wall paintings will also be tested on other types of surfaces, such as writing materials, polychromes, metal, textiles, and mortars, to define the operating methods and biological and chemical analyses to evaluate their effectiveness. The results will be discussed to draft guidelines for restorers. Supervisor: Laura RAMPAZZI</p> <p>CV Environmental Sciences DM 118</p> <p>2- MITIGreen FOR LIFE. The project aims to develop new application tools for the mitigation of climate change based on the reduction of greenhouse gas emissions, in particular CO₂, as well as to promote water retention in the soil through innovative methods of management of plant ecosystems both in natural, urban and agricultural. To this end, experimental activities of the use of biochar in urban and agricultural areas will be carried out to verify its applicability with a multidisciplinary approach. Responsible teacher: Nicoletta CANNONE</p> <p>CV Environmental Sciences DM 117</p> <p>3- Development, optimization and implementation of analytical methods for the detection and quantification of hazardous chemicals in the context of public health protection. The project, to be carried out at the Prevention Laboratory of the of the Agency for Health Protection of Metropolitan Area of Milan (ATS), plans to develop, validate and obtain</p>



accreditation for analytical methods in X-ray powder diffractometry and scanning electron microscopy within a laboratory context operating in compliance with the EN ISO/IEC 17025:2018. Supervisor: Andrea CATTANEO; company: ATS Città Metropolitana di Milano

CV Environmental Sciences

DM 117

- 4- Development and implementation of new analytical methods aimed at the chemical safety of products, mixtures and articles available on the market (according to REACH and CLP Regulations). Starting from the analysis of the productive context of the territory, the project, to be carried out at the Prevention Laboratory of the Agency for Health Protection of Metropolitan Area of Milan, plans to develop and validate analytical methods also aimed at achieving official accreditation within the context of a laboratory operating in compliance with the EN ISO/IEC 17025:2018 standard. Supervisor: Andrea SPINAZZÉ; company: ATS Città Metropolitana di Milano

CV Chemical Sciences

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- 5- Study on the use of devulcanized waste materials and reversible vulcanization. The devulcanization of elastomers allows to extend the life cycle of the vulcanized rubbers guaranteeing their reuse with the consequent reduction of the environmental impact. The project will focus on two aspects. The first concerns the implementation of devulcanization processes and the study of the mechanical properties and wear resistance of the new compounds obtained by introducing devulcanized materials. The second approach involves the study of vulcanization processes through reversible chemical reactions. In the latter case, the crosslinking between the chains will be formed not through sulfur bridges but by linkers from renewable sources, e.g. fatty acids. The reversibility of the process will allow the recovery of the devulcanized polymer at the end of the material's life cycle. The collaboration with VIBRAM S.P.A, a leading company in the production of soles for footwear, will allow the characterization of the new materials using the advanced instrumentation of the



	<p>company's laboratories. Supervisor: Lorella IZZO; company: VIBRAM S.P.A.</p> <p>CV Environmental Sciences DM 117</p> <p>6- Api Servizi Varese s.r.l. 6- The objective of the doctoral project consists in the development of methods and tools for the efficient use of energy with particular focus on the reduction of consumption and the integration of renewable sources (e.g. photovoltaic production). The project involves the development of mathematical methods and analytical tools for estimating and managing the daily energy needs of companies using, for example, optimization algorithms and artificial intelligence (e.g., neural networks). Responsible teacher: Elisabetta SIENI / Sabrina COPELLI; API Servizi Varese s.r.l. company</p>
Calendar:	<p>The list of candidates admitted to the interview will be posted at the following address https://www.uninsubria.it/formazione/offerta-formativa/dottorati</p>
Assessable Qualifications:	<p>(mandatory) NOTE: Candidates are required to submit their Curriculum Vitae in pdf format using the appropriate template that can be filled in and downloaded at the following link: https://archivio.uninsubria.it/sites/default/files/Didattica/PostL/Dottorati/CV_sienze%20chimiche%20e%20ambientali.docx</p> <p>(mandatory) Self-certification of university qualifications, with date and handwritten signature, according to the specimen available on the site, reporting the list of exams taken with relative grade, the indication of the University that issued the qualification, the date of achievement and the final vote: - the degree title (old system, specialist or master's degree); - (additional) any three-year degree qualification</p> <p>(mandatory for non-graduates) For undergraduates: Self-certification, dated and signed, of the exams taken with indication of the grade; indicate the expected date of the degree exam, according to the specimen available on the site</p> <p>(mandatory) Degree thesis or detailed summary of the thesis itself (in electronic form) (old system, specialist or master's degree)</p> <p>(mandatory) Research project relating to the definition of innovative tools and models for monitoring and simulating the state of degradation of monumental stones.</p>



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	(additional if available) Any publications (including conference communications)
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