Call for Applications for additional positions in the Ph.D. Programs of Scuola Superiore San'Anna, XL Cycle, A.Y. 2024/2025, funded by the European Union - NextGenerationEU with resources from the PNRR, Mission 4, Component 1, Investment 3.4 " Advanced university education and skills" and Investment 4.1 " Expansion of the number of research and innovative doctorates for public administration and cultural heritage" referred to in Ministerial Decree No. 629 of April 24, 2024, and with resources from the PNRR, Mission 4, Component 2, Investment 3.3 "Introduction of innovative doctorates responding to the innovation needs of companies and promotion of recruiting researchers from businesses" referred to in Ministerial Decree No. 630 of April 24, 2024 and additional positions funded by the National Cybersecurity Agency for the implementation of Ph.D. programs on cybersecurity.

Art. 1

(Public Selection Announcement)

In accordance with Ministerial Decrees No. 629 and No. 630 of April 24, 2024, which allocate new resources from the National Recovery and Resilience Plan (from now on "PNRR") for Ph.D. programs dedicated to digital and environmental transitions, i.e., dedicated to increasing the pool of human capital committed to research-oriented activities, in Public Administrations, cultural heritage, and for innovative doctorates related to the needs of companies, a public selection is announced at the Scuola Superiore Sant'Anna di Pisa (hereafter referred to as "Scuola") for admission to **seven (7) additional Ph.D. positions** for the academic year 2024/2025 - Cycle XL, as follows:

Ph.D. Program	No. of positions	Scholarship Type and PNRR action
Agrobiosciences	1	"Digital and environmental transitions" (M4C1, Inv. 3.4) ex DM 629/2024
Law	1	"Cultural heritage" (M4C1, Inv. 4.1) ex DM 629/2024
Economics	1	"PNRR Research" (M4C1, Inv. 4.1) ex DM 629/2024
Emerging Digital Technologies	1	"Innovative doctorates responding to the innovation needs of companies" (M4C2, Inv. 3.3) ex DM 630/2024
Health Science, Technology and Management	1	"Public administration" (M4C1, Inv. 4.1) ex DM 629/2024
Human Rights, Global Politics, and Sustainability: Legal and Philosophical Perspectives	1	"Public administration" (M4C1, Inv. 4.1) ex DM 629/2024
Management Innovation, Sustainability, and Healthcare	1	"Innovative doctorates responding to the innovation needs of companies" (M4C2, Inv. 3.3) ex DM 630/2024

As a result of the resources assigned to the School by the National Cybersecurity Agency under the Call for Expressions of Interest for the signing of collaboration agreements under Article 15, Law No. 241 of August 7, 1990, for the implementation of Ph.D. programs in the field of cybersecurity - XL Doctoral Cycle, **two (2) additional positions** funded by the National Cybersecurity Agency will be awarded through this call for applications in the Ph.D. Program in Emerging Digital Technologies.

The selection and assignment of the additional scholarships will be based on restricted topics. Please refer to the **Annex "Scholarship Descriptions"**, an integral part of this Call, for the full description of those topics.

The research projects related to the individual scholarships funded by the European Union - NextGenerationEU with resources from the PNRR should also be:

   a) consistent with the goals and objectives of Regulation (EU) 2021/241, the overall strategy, and the Component Detail Sheet of the PNRR;
   b) geared towards the achievement of the results measured by reference to milestones and targets possibly assigned to the Investment within the timeframe established by the Plan;
   c) compliant with the principle of "Do No Significant Harm" (DNSH) under Article 17 of Regulation (EU) 2020/852 in accordance with the technical guidelines prepared by the European Commission (European Commission Communication 2021/C58/01);
   d) suitable for addressing and bridging gender inequalities;
   e) in support of the participation of women and young people, also consistent with the provisions of Decree-Law No. 77 of May 31, 2021 (so-called Simplification Decree), as amended by Conversion Law No. 108 of July 29, 2021, regarding the management of the PNRR.

Art. 2

(Application Requirements)

Applicants with at least one of the following qualifications may participate in the selection, without citizenship restrictions:

   -   *Laurea Vecchio Ordinamento* (Italian University degree obtained before 1999);
   -   *Laurea magistrale, magistrale a ciclo unico* or *specialistica* (Italian University second-level degree);
   -   A non-Italian MSc degree recognised as equivalent to the above-mentioned second-level academic degrees for the sole purpose of participating in the Call for admission to the Ph.D. Programs.

Candidates holding a qualification obtained in Italy

All candidates holding an academic qualification obtained at an Italian University, are required to self-certify their qualification.

Candidates holding a qualification obtained abroad (EU and NON-EU Countries)

The application for admission to the competition of candidates holding a foreign qualification is subject to the evaluation of the suitability of the qualification, for the sole purpose of enrolment in the Ph.D. Program, by the Selection Committee. This evaluation will be carried out in compliance with the relevant regulations in force in Italy and in the country where the degree was awarded and with international treaties or agreements on the recognition of degrees for the pursuit of studies.

Candidates with foreign degrees must therefore present all documents deemed useful for the evaluation of the degree (e.g. translation, legalizations, declaration of value, Diploma Supplement, attestations from ENIC-NARIC centers, etc.). The absence of these documents may preclude the evaluation of the foreign qualification as an entry requirement if the Selection Committee cannot deliberate on the necessary and aforementioned eligibility.

Applicants who, as of the deadline for participation in the competition, have not obtained the degree and will obtain it by September 30, 2024, may also participate in the selection; failure to do so will result in forfeiture of admission to the Ph.D. Program.

Participation in the selection is not open to candidates who have already received a Ph.D. scholarship to attend a Ph.D. program in Italy, even if only for one instalment, or have renounced PNRR-funded Ph.D. scholarships in the XXXVIII or XXXIX Cycles (this latter requirement applies

only for positions funded by the European Union - NextGenerationEU with resources from the PNRR).

It is not possible to submit more than one application. In case of multiple applications submitted by the same applicant, only the last one in chronological order will be evaluated.

Art. 3

(Application Submission)

The application for participation in the selection must be submitted, under penalty of exclusion, **by 12:00 p.m. (**noon**, Italian local time) on July 11, 2024,** through the online system available at https://sssup.esse3.cineca.it/Home.do.
Prior to submitting the application, candidates must:
1. Register, by entering the requested data;
2. Save the login and password provided, which must be changed after the first log-in;
3. Re-enter the system with the new password, select the Ph.D. Program;
4. Complete the application following the instructions indicated on each page.

The School accepts no liability for system malfunctions or connection problems.

In the application, candidates are required to declare, under their own responsibility, the following details:
a) Surname, forename, place and date of birth, citizenship;
b) Type of secondary school diploma, graduation date, and issuing School or Institute;
c) Possession of the academic qualification referred to in Article 2;
d) E-mail address for communications related to the Call.

Applicants will also be required to complete the "Additional Information" section as part of the application, in which the following statements, among other information, will be requested:
1. not having renounced to a PNRR-funded Ph.D. scholarship in the XXXVIII or XXXIX Cycles;
2. not having received a scholarship to attend a Ph.D. program in Italy, even if only for one instalment;

The following mandatory documents, in 'PDF' format, must be attached to the application:
1. Copy of an identity document (passport is preferable for non-EU applicants);
2. <u>For degrees obtained in Italy</u>: statement in lieu of certification containing the list of all completed courses indicating the ECTS (or equivalent) and the grade achieved for each course, and graduation mark (M.Sc. or equivalent) if already obtained;
3. <u>For degrees obtained abroad</u>: certification of the university degree held and the list of all completed courses indicating the ECTS (or equivalent) and the grade achieved for each course, and graduation mark (MSc); if the degree has not yet been earned, it is sufficient to submit a certificate of exams (transcript) with corresponding grade and university credits (ECTS or equivalent),
4. *Curriculum Vitae et Studiorum*,;
5. Research project, related to the constrained topics indicated in the **Annex "Scholarship Descriptions"** part of this announcement and the lines of research of the Ph.D. Program of interest, aimed at evaluation for admission.
6. Motivational letter;

Additional documents deemed useful for application purposes may be attached to the application (copy of dissertation/master's thesis or abstract if not obtained, any publications, letters of reference, etc.)

All attached documents, both mandatory and optional, must be in Italian or English or, if in other languages, accompanied by a translation into **Italian or English**.

Applicants with a disability or specific learning disorders must attach the medical documentation attesting to their disability or specific learning disorders along with a note requesting any assistance needed for the selection procedure and any additional time required for the application. If the disability does not permit the use of the online application system, the applicant may request to use an alternative method.

At the end of the procedure, please ensure that you have received the e-mail confirming that your application has been submitted.

The application can be modified and supplemented until the deadline for submission of the application with the exception of the "Additional Information" section. After the deadline, **it will not be possible to supplement** the documents attached to the application in any way

The School may, at any time during the procedure, even after the beginning of the Programs, perform checks on the truthfulness of the declarations and documents submitted and may request the presentation of the original documents. In the event of false declarations, the School may, at any time, by motivated decision of the Rector, order the exclusion of candidates from the selection procedure or the Ph.D. Program, without prejudice to any criminal liability deriving from the same.

According to Art. 7, par. 4 of the School's Code of Ethics, should an applicant taking part in the selection procedure be up to a 4th-degree relative or 2nd-degree relative-in-law of a member of the Faculty, technical-administrative, or research staff of the School, he/she must give written notice of their kinship prior to the beginning of the selection procedures.

Art. 4
(Selection Committee and Assessment)

The Selection Committee for admission to the Ph.D. Programs is appointed by the Rector's decree and their members can be found on the School's website.
To ensure the efficiency and rapidity of the selection procedure the Selection Committee will be divided into sub-committees.
The relevant activities of the Committee may also be carried out remotely, while guaranteeing the security and traceability of communications, according to current legislation.

The selection will be carried out by the sub-committees through the evaluation of the submitted research project, the qualifications, and the curriculum vitae, based on the criteria established by the Committee, and an online interview, in Italian or English; as part of the interview, among other things, the motivation of the candidate to participate in the Ph.D. Program will be evaluated.

The Selection Committee has 100 points available, to be assigned as follows:
- max 70 points for evaluation of the research project, qualifications, and curriculum vitae;
- max 30 points for interview.

Candidates obtaining a score of at least 49/70 in the assessment of the research project, qualifications, and curriculum vitae will be admitted to the interview.

The Committee, in view of the binding research themes outlined in **the Annex "Scholarship Descriptions"** an integral part of this call, under the provisions of Ministerial Decree 629/2024 and Ministerial Decree 630/2024, shall have the right to proceed to the exclusion, without any evaluation of the qualifications, of applicants who have submitted a research project inconsistent with the aforementioned disciplinary and thematic areas.

The list of those admitted to the interview and the interview schedules will be published on the School's website. Applicants must be available for the entire day set for the interview.

During the interview, the candidate must present a **valid identity document** for identification purposes before the start of the test. It is in any case the candidate's responsibility to ensure the availability of the required hardware (PC, webcam) and software and a reliable Internet connection.

The interview is considered passed with a score of 21/30 or higher.

The minimum score required to be included in the final ranking list is 70/100.

All information concerning the selection will be published on the School's website. This publication will have the value of a final notification for all purposes. **No personal communications will be sent to the individual candidates,** except for the communication sent to the successful candidates admitted to the Program at the e-mail address provided at the time of application.

Art. 5

(Ph.D. Program Admission and Enrolment)

The final ranking lists, approved by the Rector's decree, will be published on the School's website. In case of an equal ranking position, preference will be given to the younger candidate.
Successful candidates will be admitted to the Ph.D. Program according to the ranking list order and up to the number of available positions. According to Ministerial Decree No. 226 of 14 December 2021, the School will be able to enrol successful candidates only upon successful completion of the accreditation process for the XL Cycle.

Subject to compliance with the reservation of positions under Article 8, par. 2 and 4, of Ministerial Decree 226/2021, the School reserves the right to assign any positions which become available as a result of candidates renouncing or withdrawing, to eligible candidates on the ranking list before the beginning of the Program or after that date - and in any case in compliance with the timelines indicated in Article 11 of DM 629/2024 and Article 8 of DM 630/2024, respectively - subject to the approval of the Ph.D. Program Faculty Board.

Successful candidates must confirm their acceptance within 7 days of receiving the notification, otherwise, they will be excluded, and the position will be assigned to the first eligible candidate on the ranking list. In the event of renunciation of the position or the scholarship, these will be re-assigned to the first eligible candidate on the ranking list, subject to compliance with the aforementioned Ministerial Decrees.

The start date of all Ph.D. Programs is October 1, 2024.

To enter Italy, students who are citizens of non-EU countries must apply for a visa for study purposes, issued by the Italian embassies or consulates with jurisdiction over the country of origin. Upon arrival in Italy, students are required to apply for a residence permit for study purposes within eight (8) days. More information can be found at: http://www.santannapisa.it/it/internazionale/welcome-and-support

In special and justified cases related to the procedures for obtaining a visa to enter Italy, the arrival of the students may be postponed, normally no later than 30 days from the official start of the Ph.D. Program.

To finalise their enrolment, students must provide the following documents
- **valid identity document**;
- for those who have obtained the degree after the application deadline: **self-declaration** (for university degrees obtained in Italy) **or certification** of the university degree obtained as specified in Article 3 (for university degrees obtained abroad);
- for those who obtained their degree abroad: **Diploma Supplement** or **certificates of comparability and verification** issued by ENIC-NARIC centers;

- **Regional Tax for the Right to University Study payment receipt** (under Art. 18, par. 8, of Legislative Decree no. 68 of 29 March 2012) the amount of which, for the academic year 2024/2025, is set at € 140.00.

  The following individuals are not required to pay the regional tax for the Right to University Study:
  ✓ Those who have applied for a grant for the 2024/2025 academic year to the Azienda Regionale per il Diritto allo Studio Universitario (Tuscany Regional Agency for the Right to University Study). Students who are subsequently not awarded or are only eligible for this grant ranking list must pay the regional tax after the publication of the final ranking list by the Tuscany Regional Agency for the Right to University Study;
  ✓ Students with disabilities, with a recognised disability (Article 3(1) of Law no. 104 of 5 February 1992) or with a disability of 66% or more;
  ✓ Students with parents who are disability pension holders (Art. 30 of Law No. 118 of 30 March 1971).

  For more information on the regional tax for the Right to University Study, please visit: http://www.dsu.toscana.it

Art. 6

(Ph.D. Scholarships and Other Contributions)

Scholarships are for the duration of the relevant Ph.D. Programs and confirmed annually upon admission to the following year by approval from the Advisory Board of the individual Program.

The annual budget for each student comprises a scholarship of € 16,243.00 (€ 18,800.00 for the Ph.D. Program in Emerging Digital Technologies), including social security charges payable by the recipient and paid in monthly instalments in arrears, and a housing grant of € 2,200/year.

Scholarships cannot be combined with other scholarships for any reason whatsoever, except for those granted by national or foreign institutions, aimed at supplementing the student's research activities with visits abroad except for any incompatibility with other European Community funding. Doctoral students who have previously received a Ph.D. scholarship in Italy, even partially, are not eligible for another Ph.D. scholarship.

Ph.D. students have access to the School's library and laboratories in accordance with their respective regulations. Students can also use the School's canteen for the duration of the Program (with the benefit of 26 free meals per month, excluding holiday periods as specified in the academic calendar).

For periods of study and research abroad, authorised by the Faculty Board, the scholarship can be increased by 50% (max € 5,010 gross withholding tax for 6 months for standard scholarships and max € 5,798 gross withholding tax for scholarships of the Ph.D. Program in Emerging Digital Technologies), following the procedures set out in the Training Activities Regulations.

In addition, under Article 9 of Ministerial Decree 226/2021, the School makes available to all Ph.D. students an individual budget of no less than 10% of the annual amount of the scholarship (€ 4,873 for three-year Programs, € 6,498 for four-year Programs and € 5,640 for Ph.D. Program in Emerging Digital Technologies) to cover expenses related to their research activities.

The scholarships and contributions referred to in this Article are subject, for tax and contribution purposes, to the current regulations on scholarships provided by universities and Regions.

The School insures each student against accident and civil liability for the entire duration of the Program and ensures that the safety conditions of the premises, facilities, instruments, and equipment used in the Ph.D. Program are observed.

The School also provides insurance coverage for health and ancillary risks during duly authorized off-campus travel undertaken in accordance with internal regulations.

Art. 7
(Ph.D. Student Obligations)

Ph.D. students are required to attend the courses and research activities offered by the School for the Ph.D. Programs, to fulfill the obligations provided for in the Training Activities Regulations (Book III), including the submission of the annual report on the educational and research activities carried out, and to comply with the policies included in the School's Statute, internal Regulations, Code of Ethics and Code of Conduct.

Ph.D. students who are beneficiaries of scholarships funded by Ministerial Decrees 629/2024 and 630/2024 are also required to comply with the obligations relating to periods of study and research in Enterprise and abroad specified in the **Annex "Scholarship Descriptions"** an integral part of this notice, as well as the semi-annual and annual reporting requirements outlined in the aforementioned ministerial decrees. Failure to comply with these obligations will result in revocation of the scholarship.

Ph.D. students must:
- Complete the training evaluation questionnaires required by the School;
- Comply with the fulfilments of the type of scholarship awarded;
- Timely notify the supervisor and the Ph.D. Office of any requests to use the research budget and to spend a term abroad.

For health and safety protection, Ph.D. students must also:
- Fill in the Employment Destination form;
- Undergo health checks as part of the health surveillance carried out by the School's Medical Officer;
- Participate in the planned training and instruction courses.

Failure to comply with these obligations will result in sanctions up to a ban on access to the School premises.

<div align="right">

The Rector
Prof. Sabina Nuti

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The Scuola Superiore Sant'Anna operates in compliance with the regulations on the prevention of corruption (L.190/2012) by applying the measures identified in the "Three-year Corruption Prevention Plan" published in the "Transparent Administration" section of the institutional website at: www.santannapisa.it

Normative references:
Equivalence and recognition of foreign degrees: Law no. 148/2002; Ministerial Decree no. 270/2004, Presidential Decree no. 189/2009
Self-certifications: Presidential Decree No. 445/2000 as amended.
Assistance, integration, and rights of the disabled: Law No 104/1992
Single text for safety at work: Legislative Decree No 81/2008

ANNEX "Scholarship Descriptions" to the Call for Applications for additional positions in the Ph.D. Programs of Scuola Superiore San'Anna, XL Cycle, A.Y. 2024/2025, funded by the European Union - NextGenerationEU with resources from the PNRR, M4C1 Inv. 3.4 and Inv. 4.1 under Ministerial Decree No. 629 of April 24, 2024 and M4C2 Inv. 3.3 under Ministerial Decree No. 630 of April 24, 2024 and additional positions funded by the National Cybersecurity Agency for the implementation of Ph.D. programs on cybersecurity.

1.   Ph.D. Program in Agrobiosciences

https://www.santannapisa.it/en/training/phd-agrobiosciences

<table>
<tr>
<td>Ph.D. Coordinator</td>
<td colspan="2">Prof. Luca Sebastiani
e-mail: l.sebastiani@santannapisa.it</td>
</tr>
<tr>
<td>Language</td>
<td colspan="2">English/Italian</td>
</tr>
<tr>
<td>Duration</td>
<td colspan="2">3 years</td>
</tr>
<tr>
<td>Academic Objectives</td>
<td colspan="2">The Program is aimed at the acquisition of high-level skills, necessary to carry out research activities in one or more of the thematic areas included in the Ph.D. Program and represented by the members of the college in an autonomous, original, and methodologically rigorous manner. PhD students will be able to tackle complex research problems and formulate and test hypotheses with a full knowledge and understanding of the most important research methodologies and techniques.

During the course, doctoral students will acquire high-level skills through the in-depth study of one of the research areas included in the course; they will acquire research methodologies and techniques and data analysis useful to their field of study; they will set up and carry out original research, the results of which will be the subject of a thesis that will be discussed orally at the end of the three years.

Students will also be trained to develop highly professionalized collateral skills related to scientific writing and communication, including the ability to communicate research results to a diverse range of audiences. In short, the training objective is realized through didactic-scientific training, technical-scientific training, and organizational-managerial training.</td>
</tr>
<tr>
<td rowspan="2">Curricula</td>
<td>Genomics and crop production</td>
<td>Plant biotechnologies; Plant genetics and physiology; Plant genomics; Crop production sciences; Pre and post-harvest advanced technologies in horticulture; Quality of crop production.</td>
</tr>
<tr>
<td>Agriculture, Environment, and Landscape</td>
<td>Agroecology; Organic, integrated or low-input farming; Functional biodiversity in agroecosystems; Landscape agronomy; Multi-criteria analysis of food and non-food cropping systems; Agro-environmental analysis of cropping systems; Multifunctional agriculture; Interaction between farming-territory-landscape.</td>
</tr>
<tr>
<td>Available Positions</td>
<td colspan="2">n. 1 position with a scholarship funded by the European Union - NextGenerationEU with resources from the PNRR, Mission 4, Component 1, Investment 3.4, type "Digital and Environmental Transitions"</td>
</tr>
<tr>
<td>Restricted research topics</td>
<td colspan="2">Disciplinary and thematic areas consistent with the digital transition and ecological transition referred to in the PNRR</td>
</tr>
</table>

Period abroad	Mandatory (min. 6 max. 12 months, 18 months in case of thesis co-tutelage, even not continuous)
Period in Enterprise/Research Centers	Mandatory (min. 6 max. 12 months, even non-continuous) at enterprises or research centers
Contacts	info-phdlifesciences@santannapisa.it phone +39 050 882604

2. Ph.D. Program in Law

https://www.santannapisa.it/en/training/phd-law

Ph.D. Coordinator	Prof. Gianluigi Palombella e-mail gianluigi.palombella@santannapisa.it
Language	Italian, English
Duration	3 years
Academic Objectives	Our PhD in Law bears an essential international inspiration. It promotes a strong interdisciplinary methodology and develops by integrating generalist and specialized competencies in the legal field. It aims to train researchers capable of creativity and originality, in frontier fields, in the strategic directions of the DIRPOLIS Institute (sustainability, AI and technology law, environment and ecological transition, rule of law and constitutional guarantees, human rights, economic law, regulation and global governance, theories and practices of comparative and transnational law), and able to move with mastery in a global horizon of legal interconnections. The Course also aims to train, through a multi-disciplinary and inter-disciplinary didactic and research pathway, figures with a high scientific and professional profile adequately prepared both to operate in the academic and university research spheres at national and international levels and to hold highly qualified positions in national and international organizations and agencies, in the public, private and in the third sector.
Available Positions	**no. 1 position with a scholarship,** funded by the European Union - NextGenerationEU with resources from the PNRR, Mission 4, Component 1, Investment 4.1, type "Cultural Heritage"
Restricted research topics	Candidates should submit a research project related to more than one of the following areas: Cultural heritage law, copyright law and digitization of cultural heritage, the illegal market of art and antiquities, tools to combat smuggling of works of art, administrative law in the relations between different regimes and legal systems (national, European, international, and global), concerning which the discipline of cultural heritage represents an important case study
Period abroad	Mandatory (min. 6 max. 12 months, 18 months in case of thesis co-tutelage, even not continuous)
Period in Enterprise/Public Administration	Mandatory (min. 6 max. 12 months, even non-continuous) at enterprises or research centers or Public Administration, including museums, institutes, and training institutions of the Ministry of Culture, archives, libraries
Contacts	info-phddirpolis@santannapisa.it phone. +39 050 882681

3. Ph.D. Program in Economics

https://www.santannapisa.it/en/formazione/international-doctoral-Program-economics

PhD Coordinator	Prof. Alessio Moneta e-mail: a.moneta@santannapisa.it
Language	English
Duration	4 years
Academic Objectives	The primary aim of the program is to train top-level scholars and researchers in the field of economics.
Available Positions	**no. 1 position with a scholarship,** funded by European Union - NextGenerationEU with resources from the PNRR, Mission 4, Component 1, Investment 4.1, type "PNRR Research"
Restricted research topics	Topics aimed at bringing significant development of knowledge, including applied knowledge, in the areas of interest of the PNRR. For discipline areas with a strong scientific-technological vocation, promote interdisciplinarity, membership in international networks, and intersectoriality referred to in the PNRR
Period abroad	Mandatory (min. 6 max. 12 months, 18 months in case of thesis co-tutelage, even not continuous)
Period in Enterprise/Research Centers	**Not mandatory**
Contacts	info-phdeconomics@santannapisa.it +39 050 882604

4. Ph.D. Program in Emerging Digital Technologies

https://www.santannapisa.it/en/training/international-phd-course-emerging-digital-technologies

Ph.D. Coordinator	Prof. Luca Valcarenghi e-mail: info-phdtecip@santannapisa.it
Language	English
Duration	3 years
Academic Objectives	The objective of the Program is to train professionals for public and private, national and international, research bodies, and for companies providing products or services in the fields of communication, information, and perception technologies.

Curricula	**Embedded Systems:** It focuses on real-time embedded software for safe and secure cyber-physical systems, hardware acceleration of deep neural networks, operating systems, cloud computing, hypervisors, and software architectures for predictable support of machine learning algorithms in safety-critical systems, such as autonomous driving and artificial intelligence for industrial systems.
	Photonic Technologies: It focuses on photonic integrated circuits and sensors, optical communication systems and networks, microwave photonics for 5G/6G, photonics for radar and lidar, optical wireless, artificial intelligence in telecommunication networks, and programmable telecommunication networks. Applications span terrestrial, aerial, and space domains.
	Perceptual Robotics: It focuses on human-robot interaction systems, telerobotics and virtual environments, intelligent automation systems and artificial intelligence, mechanical engineering and intelligent machine design, human-robot interaction, and wearable robotics, virtual and augmented.
Available Positions	**no. 1 position with a scholarship,** funded by European Union - NextGenerationEU with resources from the PNRR, Mission 4, Component 2, Investment 3.3, and co-funded by Accelerat Srl
	NEW no. 2 positions with a scholarship, funded by the National Cybersecurity Agency
Restricted research topics	Position funded by European Union - NextGenerationEU with resources from the PNRR, Mission 4, Component 2, Investment 3.3, and co-funded by Accelerat Srl: • Disciplinary and thematic areas consistent with the needs of the Country, as well as of the regional territories covered by the program, in terms of high-skilled figures and oriented to meet the innovation needs of the companies referred to in the PNRR. In particular, the research will be aimed at the study of computer security issues in high-performance embedded systems, with particular reference to virtualization technologies.
	Positions funded by the National Cybersecurity Agency: • Topic 1: Advanced isolation and monitoring mechanisms for virtualized Edge platforms • Topic 2: Methods of defense against adversarial attacks on neural models in the real world
Period abroad	Mandatory (min. 6 max. 12 months, 18 months in case of thesis co-tutelage, even not continuous)
Period in Enterprise/Research Centers	Position funded by European Union - NextGenerationEU with resources from the PNRR, Mission 4, Component 2, Investment 3.3, and co-funded by Accelerat Srl: Mandatory (min. 6 max. 12 months, even non-continuous) at the co-financing enterprise
	Positions funded by the National Cybersecurity Agency: Not mandatory
Contacts	info-phdtecip@santannapisa.it +39 050 882191

5. Ph.D. Program in Health Science Technology and Management

https://www.santannapisa.it/en/training/phd-health-science-technology-and-management

Ph.D. Coordinator	Prof. Milena Vainieri e-mail: milena.vainieri@santannapisa.it
Deputy Coordinator	Prof. Alberto Giannoni e-mail: alberto.giannoni@santannapisa.it

Language	English
Duration	3 years
Academic Objectives	This doctoral program embodies multidisciplinary aims and interests that are typical of the training requirements within health systems. By integrating expertise from both internal and external sources, including the Classes of Social and Experimental Sciences at Scuola Sant'Anna, it serves as both a response to tangible demands and a catalyst for a comprehensive training and research initiative. Grounded on the principles of the Ottawa Charter for Health Promotion and aligned with the Sustainable Development Goals outlined in the United Nations Agenda 2030, the program sets out to cultivate a cohort of researchers and professionals with interdisciplinary competencies. The overarching goal of this program is to equip individuals with the capacity to generate new knowledge through adept skills and research projects focused on the identification, examination, analysis, and evaluation of organizational and technological solutions. These solutions are intended to address the evolving needs and challenges encountered by contemporary healthcare systems, both under routine circumstances and during emergencies, with the ultimate aim of delivering superior care and services to all members of society.
Available Positions	**no. 1 position with a scholarship,** funded by European Union - NextGenerationEU with resources from the PNRR, Mission 4, Component 1, Investment 4.1, type "Public administration"
Restricted research topics	Preferably within the following CUN disciplinary areas: - Area 09 - Industrial and information engineering - Area 13 - Economic sciences and statistics. In particular, the research project should concern the health sector and specifically should: - support institutional design also through the experimentation of innovative tools of different governance models from a comparative perspective between policy areas, between European, state, and sub-state levels of government, and between national cases, which adequately take into account the opportunities offered by new information and communication technologies (ICT); - promote the digital and ecological transition of public administrations, contributing to the redesign and simplification of organizational models, as well as to the processes of selection and adoption of enabling technologies and solutions, to ensure greater effectiveness, efficiency, and cost-effectiveness of public action.
Period abroad	Mandatory (min. 6 max. 12 months, 18 months in case of thesis co-tutelage, even not continuous)
Period in Enterprise/Research Centers	Mandatory (min. 6 max. 12 months, even non-continuous) at Public Administration, enterprises or research centers
Contacts	info-phdteam@santannapisa.it +39 050 882651

6. **Ph.D. Program in Human Rights, Global Politics and Sustainability: Legal and Philosophical Perspectives**

https://www.santannapisa.it/en/training/phd-human-rights-and-global-politics

Ph.D. Coordinator	Prof. Mariagrazia Alabrese e-mail: m.alabrese@santannapisa.it
Deputy Coordinator	Dr. Lorenzo Gasbarri e-mail: Lorenzo.Gasbarri@santannapisa.it
Language	English
Duration	3 years
Academic Objectives	The Ph.D. program in Human Rights, Global Politics, and Sustainability: Legal and Philosophical Perspectives is positioned at the crossroads of legal and political sciences, spanning four key research areas: 1. Agricultural, Food, and Environmental Law 2. European Studies 3. International Law 4. Political Philosophy The program is designed to equip candidates with a diverse and comprehensive educational and research experience, Candidates undergo training to navigate the academic research landscapes at both national and international levels, positioning them to assume qualified roles in national and international organizations and agencies. An integral aspect of the program is its commitment to disciplinary pluralism, viewed as a fundamental and qualifying objective.
Available Positions	**no. 1 position with a scholarship,** funded by European Union - NextGenerationEU with resources from the PNRR, Mission 4, Component 1, Investment 4.1, type "Public administration"
Restricted research topics	Preferably within the following CUN disciplinary areas: - Area 11 - Historical, philosophical, pedagogical, and psychological sciences - Area 12 - Legal sciences - Area 13 - Economic sciences and statistics In particular, the research project, from an interdisciplinary perspective, should be able to interpret the theoretical and legal framework related to the topic of human rights and global policies and propose innovative governance models to promote better institutional design. As an example, the project may aim at the integrated development of one or more of the following knowledge and skills: - reconstruct and interpret the relevant national and supranational legal framework for the individual policy area; - participate in the governance, organization, and strategic direction of public administrations (both at the national, regional, and local levels) through the implementation of innovative strategies that are strongly oriented toward users and the effectiveness of the actions put in place, as well as the enhancement of resources; - enhance administrative capacity in relation to the formulation and design of public policies, both by developing diagnostic capacity and by assuming responsibility for the coordination of the policy cycle with regard to the phenomenology of possible issues at the stages of problem definition and identification of solutions, decision-making, 'implementation and evaluation; - support institutional design including through the testing of innovative tools of different governance models in comparative terms across policy areas,

	across European, state, and sub-state levels of government, and across national cases, which adequately take into account the opportunities offered by new information and communication technologies (ICTs); - promote and foster the digital and ecological transition of public administrations, contributing to the redesign and simplification of organizational models, as well as to the processes of selection and adoption of enabling technologies and solutions, to ensure greater effectiveness, efficiency, and cost-effectiveness of public action.
Period abroad	Mandatory (min. 6 max. 12 months, 18 months in case of thesis co-tutelage, even not continuous)
Period in Enterprise/Research Centers	Mandatory (min. 6 max. 12 months, even non-continuous) at Public Administration, enterprises or research centers
Contacts	info-phddirpolis@santannapisa.it +39 050 882681

7. Ph.D. Program in Management, Innovation, Sustainability, and Healthcare

https://www.santannapisa.it/en/training/phd-management-innovation

Ph.D. Coordinator	Prof. Fabio Iraldo e-mail: fabio.iraldo@santannapisa.it
Deputy Coordinator	Prof. Tiberio Daddi e-mail: tiberio.daddi@santannapisa.it
Language	English
Duration	3 years
Academic Objectives	In the Ph.D. Program, the main themes of management are explored in depth, along with the fundamental teachings for conducting research in the social sciences, with particular reference to the thematic areas of Innovation, Health, and Sustainability. Students will acquire the methodological foundations necessary to analyze and evaluate both the main internal processes of companies and the strategic and operational integration relationships at the system level, with particular attention to the ways of evaluating and managing business and process performance, strategic dynamics, and development factors, including those of the territory, that determine them. In addition, the course of training aims to enhance opportunities for dialogue and joint research among the School's various disciplines, firstly within the field of Economics, secondly within the Social Sciences Class, and finally with the various sectors of the Experimental Sciences Class. Such opportunities for dialogue are sought both in the context of teaching offerings and the definition of the research projects of the students and alumni.
Available Positions	**no. 1 position with a scholarship,** funded by the European Union - NextGenerationEU with resources from the PNRR, Mission 4, Component 2, Investment 3.3, and co-funded by RICOH ITALIA SRL
Restricted topics	Disciplinary and thematic areas consistent with the needs of the country, as well as of the regional territories covered by the program, in terms of high-skilled

	figures and oriented to meet the innovation needs of companies referred to in the PNRR.
	In particular, the research project will be developed under the theme of "The Interaction of Circular Economy (CE), Life Cycle Assessment (LCA) and Sustainability Reporting in the Digital Transition.".
Period abroad	Mandatory (min. 6 max. 12 months, 18 months in case of thesis co-tutelage, even not continuous)
Period in Enterprise/Research Centers	Mandatory (min. 6 max. 12 months, even non-continuous) at the co-financing enterprise
Contacts	info-phdmanagement@santannapisa.it +39 050 882649