



**UNIVERSITÀ
DI SIENA**
1240

Annex 2 to the Call for application for admission to the PhD course of national interest in Innovation in the diagnosis, prevention and treatment of infections at epidemic-pandemic risk of the University of Siena, 42nd cycle, academic year 2026-2027

Deadline for applications:

3 August 2026, 14:00 (*Central European Summer Time - CEST*)

Schedule of the PhD course with the description of the type of positions and modalities of selection

PhD in	Innovation in the diagnosis, prevention and treatment of infections at epidemic-pandemic risk
Coordinator	Donata Medagliani - <donata.medagliani@unisi.it>
Department	Biotechnologie Mediche
Attendance	Mandatory
Open positions	30

	<i>n.</i>	<i>Funding institution(s)</i>	<i>Research topic</i>
Positions with scholarship			
A.	2	Università degli Studi di Siena	Innovative technologies for vaccines, drugs, diagnostics, and immunological biomarkers for pandemic preparedness; "delivery" systems for vaccines and antimicrobial drugs; mathematical models to predict vaccination response; strategies to counteract the development of antimicrobial drug resistance; economic impact of epidemic-pandemic risk infections (1-8)
B.	17	Università degli Studi di Siena	Innovative technologies for vaccines, drugs, diagnostics, and immunological biomarkers for pandemic preparedness; "delivery" systems for vaccines and antimicrobial drugs; mathematical models to predict vaccination response; strategies to counteract the development of antimicrobial drug resistance; economic impact of epidemic-pandemic risk infections (1-8) <i>Co-funded by the European Health and Digital Executive Agency (HADEA), on behalf of the European Commission's Health Emergency Preparedness and Response Authority (DG HERA), under the 'European Vaccines Hub for Pandemic Readiness' project (101202831 — EVH — EU4H-2024-PJ-01).Project European Vaccines Hub for Pandemic Readiness (European Commission ID 101202831)</i>
C.	1	Università degli Studi di Firenze	Emerging mechanisms of antibiotic resistance in clinically relevant bacterial pathogens: epidemiological evolution and innovative diagnostic approaches (6)
D.	1	Libera Università Mediterranea (LUM)	Innovative Technologies for the timely and accurate diagnosis of pathogens; Strategies to counteract the emergence and spread of antibiotic-resistant bacteria; immune response biomarkers associated with infections and vaccinations (1, 6, 7)
E.	1	Scuola Superiore Meridionale di Napoli (SSM)	Development and optimization of innovative drug delivery systems for vaccines and antimicrobial agents (5) Portable analytical devices for early diagnosis and personalized treatment of bacterial infections (1)
F.	1	Università degli Studi di Napoli "Federico II"	Study and development of innovative drug delivery systems, such as lipid particles, vesicles, and other nanoparticles, to improve the efficacy and safety of vaccines and antimicrobial drugs (5)
G.	1	Università degli Studi di Torino	In silico design of bacterial targeted degraders for next-generation One Health-compliant antibiotics in the era of antimicrobial resistance (3) <i>Funded by the FIS-2024-07527 07527 Exploring the potential of targeted proteolysis to deliver next generation One health-compliant antibiotics in the era of resistance (XPLORE) project - CUP D53C25002330001 - Italian Science Fund (FIS 3)</i>
H.	1	Università della Campania "Luigi Vanvitelli"	Technologies for new vaccines (2), antivirals (3) and drug delivery systems (5)
I.	1	Università di Urbino "Carlo Bo"	Development of innovative vaccine strategies against pathogens with epidemic-pandemic risk, with particular reference to the immunology of infections, vaccinology, and advanced vaccine platforms (2)

J.	1	Università Humanitas	Innovative technologies for diagnosis: development of innovative diagnostic techniques for the timely and accurate identification of pathogens, such as viruses, bacteria, fungi, and parasites, with epidemic-pandemic risk (1)
K.	1	Dipartimento di Medicina Molecolare, Università di Padova	Identification and characterization of innovative therapeutic targets and new inhibitory molecules (3) <i>Funded by the G4-ATLAS project, code: RICH_PRIV_BANDI25_01, Richter - AIRC IG 2025 - Id. 32036</i>
L.	1	Istituto Superiore di Sanità	Genetic characterization of influenza viruses and other human respiratory viruses circulating in Italy of particular public health interest (1)
Posti riservati a dipendenti di imprese impegnati in attività di elevata qualificazione			
M.	1	Fondazione Biotechopolio di Siena	Design and development of new vaccines, based on innovative technology platforms, against pathogens with epidemic-pandemic risk (2)

Tematiche di ricerca

1. Innovative technologies for diagnosis: development of innovative diagnostic techniques for rapid and accurate detection of pathogens, such as viruses, bacteria, fungi and parasites, at epidemic-pandemic risk.
2. Vaccine Technologies: design and development of new vaccines, based on innovative technology platforms, against pathogens at epidemic- pandemic risk.
3. Technologies for new antimicrobial drugs: research and development of new antimicrobial drugs, including antibiotics, antivirals, antifungals and antiparasitic, for infections at epidemic-pandemic risk.
4. Monoclonal antibodies: design and development of monoclonal antibodies.
5. Drug delivery: study and development of advanced drug delivery systems, such as lipid particles, vesicles and other nanoparticles, to improve the efficacy and safety of vaccines and antimicrobial drugs.
6. Strategies to counter the emergence and spread of antibiotic-resistant bacteria at epidemic-pandemic risk
7. Biomarkers of the immune response: discovery and validation of biomarkers of the immune response associated with infections and vaccinations.
8. Mathematical models to predict the response to vaccination, the development of resistance to antimicrobial drugs the spread of pathogens, and the economic impact of infections at epidemic-pandemic risk.

A significant training opportunity for PhD students is provided by the Fondazione Biotechopolio di Siena (<https://www.biotechopolio.it/>) serving as the national pandemic preparedness hub for the research, development, and production of vaccines and monoclonal antibodies against epidemic-pandemic infections.

The European Health and Digital Executive Agency (HADEA), on behalf of the European Commission's Health Emergency Preparedness and Response Authority (DG HERA), co-funds 17 positions through the European Vaccines Hub for Pandemic Readiness project (<https://www.europeanvaccineshub.eu/>, 101202831 — EVH — EU4H-2024-PJ-01).

In accordance with article 8, paragraph 2 of the selection notice, all PhD students undertake to carry out a period of study and research abroad of at least 180 days at suitable facilities identified in agreement with the supervisor. Only for serious and justified reasons may the Academic Board approve a derogation from this commitment.

Type of rankings	• Single ranking list for positions with and without scholarship (positions A to L) • Stand-alone ranking list for positions reserved for employees (position M)
Documents required for evaluation (to be attached during online application)	• Curriculum vitae et studiorum, including a declaration of the qualification obtained, with the awarding institution, and a list of any publications (attention – the CV must be signed and include the following statement: <i>I hereby authorize the treatment of my personal data present in my Curriculum Vitae, according to the Italian Legislative Decree 196/2003 and the EU Regulation 2016/679.</i>) • Research project (max. 3 pages) in English • Reference letters (no more than two) of Italian and international academics and/or research professionals (the e-mail addresses of the referees are to be indicated (please be sure to indicate the correct email); the referees will receive an automatic request and must upload the letters by 6 August 2026.

	• Thesis abstract of Laurea Magistrale/Specialistica/vecchio ordinamento or equivalent foreign degree translated into Italian or English (max. 1 page) • English language proficiency certification at level B2 (optional) • Only for candidates applying for the employee-reserved position: Employment contract or letter of commitment from the company guaranteeing employment for the entire duration of the PhD programme (1 November 2026 - 31 October 2029). The candidate may indicate in the research project a priority between the partner universities/funding institutions (positions A-M) and between the research topics (1-8), the preferences expressed will not be binding for the purposes of the assignment positions. Candidates who achieved (or will achieve by 31 October 2026) 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: 1. University issuing the degree 2. type of <i>laurea – vecchio ordinamento/specialistica/magistrale</i>; 3. degree course name 4. list of examinations with marks 5. date of obtaining the title and final mark or expected date of obtaining the title (by 31 October 2026). Candidates who achieved (or will achieve by 31 October 2026) their <u>degree at a foreign university</u> (with a duration of at least four years) must specify in their curriculum: 1. University issuing the degree 2. type of degree (min. duration four years) – <i>Bachelor's degree/ Master's degree</i> 3. date of obtaining the title and final mark or expected date of obtaining the title (by 31 October 2026). Candidates with a foreign degree must attach to the online presentation also the following documentation: • transcript – certification of the title with the list of exams and marks – with a translation in Italian or English • Diploma supplement (if available). ATTENTION: Candidates with foreign qualifications admitted to the selection process are required to present, upon enrolment, a copy of the original degree and proof of authenticity (DOV, CIMEA, or diploma supplement); refer to Article 5, paragraph 8 of the selection notice.
Web site for further information	https://phd-dptip.unisi.it/
Selection modalities	• Evaluation of qualifications • Oral examination
Admission requirements	All master's degrees (lauree magistrali, specialistiche, a ciclo unico e vecchio ordinamento)
Exam procedures	The overall mark is the sum of the marks obtained in the assessment of titles, the research project and the oral interview. The minimum score for eligibility is 60/100. Evaluation of qualifications: up to maximum 40 points. The presence of candidates is not required for the evaluation of qualifications and the research project. The minimum score for admission to the oral examination is 20 points out of a maximum of 40 points. Oral examination: minimum score 40 points, maximum score 60 points. The examination will be held by videoconference: http://meet.google.com/jiw-tjvd-wts. The minimum score to pass the oral examination is 40 points out of a maximum of 60 points.

	The exam will consist in the presentation of the research project in English. English language proficiency will be assessed during the exam. The presentation can last up to a maximum of 10 minutes. The results of each part will be published on the PhD website: https://phd-dptip.unisi.it/
Dates of evaluation and exam(s)	Oral examinations: from 1 to 4 September 2026, by videoconference: http://meet.google.com/jiw-tjvd-wts The calendar for examinations will be published within 28 August 2026 on the PhD website: https://phd-dptip.unisi.it/
Selection committee	The composition of the committee will be published after the deadline for submitting applications.