

## **CALL FOR APPLICATIONS**

# Admission to the PhD Programme in

# **SPACE SCIENCE AND TECHNOLOGY**

# 41st Cycle

# **ACADEMIC YEAR 2025/2026**

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N.B. The English translation of this document is provided as a support to the candidates and has no legal effects. The Italian version, issued by Rector's Decree n. 632 of 20<sup>th</sup> June 2025 – revised Call, constitutes the sole authentic text and will be referred to for any legal matters.



### Art. 1 - SUBJECT OF THE CALL

The University of Trento opens the call for positions for the 41st Cycle (Academic Year 2025/2026) of the PhD Programme in "Space Science and Technology"

**Deadline for application: July 16th, 2025, hrs. 4 pm CEST** (Italian time, GMT +1, all the times indicated in this Call are to be meant as Italian time)

Positions: no. 37

Scholarships: n. 35 (on reserved topics)
Positions without scholarship: no. 2

Position reserved for scholarship holders from foreign Countries: no. 4 (with reference to art. 7)

The number of positions with scholarships available for selection is distributed as follows:

#### **SUMMARY OF AVAILABLE POSITIONS**

### CURRICULUM 1 – OBSERVATION OF THE UNIVERSE

FUNDING INSTITUTION	N. OF POSITIONS	OPERATIONAL SITE	RESERVED TOPIC SCHOLARSHIPS
University School for Advanced Studies IUSS of Pavia	1	University School for Advanced Studies IUSS of Pavia	1A - Multi-wavelength observations of Galactic and extragalactic compact objects and transients
Scuola Internazionale Superiore di Studi Avanzati – SISSA Trieste	1	Scuola Internazionale Superiore di Studi Avanzati – SISSA Trieste	1B - Combined Study of Data from Space Probes Observing Galactic, Extra-Galactic, Cosmological Systems, Methods of Combined Analysis, Interpretation, Theoretical Constraints [Progetto "Space It Up!" – Accordo di collaborazione ex art. 15 della L. n. 241/1990 con GSSI – Contratto ASI n. 2024-5.E.0 – CUP master: I53D24000060005 (nell'ambito del bando ASI PE M4 C2 I1.3, finanziato dall'UE – NextGenerationEU)]
National Institute for Astrophysics - INAF	1	INAF - Institute of Space Astrophysics and Cosmic Physics ,Palermo	1C - Compact objects and Physical Processes: Insights from Space Data
University of Ferrara	1	University of Ferrara	1D - Theoretical, observational or experimental cosmology and multimessenger astrophysics at the University of Ferrara
National Institute for Astrophysics - INAF	1	INAF - Osservatorio Astrofisico di Arcetri, Florence	1E - Next-Generation Gravitational Wave Astronomy at INAF: Exploring Astrophysical Frontiers with LISA
POSITIONS WITH SCHOLARSHIPS			5
NO. OF POSITIONS	NO. OF POSITIONS		5



CURRICULUM 2 – EARTH AND			ND THE SUN-EARTH SYSTEM
FUNDING INSTITUTION	N. OF POSITIONS	OPERATIONAL SITE	RESERVED TOPIC SCHOLARSHIPS
Italian Space Agency - ASI	1	University of Bologna	2A - Radiative transfer modelling in support of greenhouse gas source identification and emissions estimates (CUP F63C25000370005)
Italian Space Agency - ASI	1	University of Florence	2B - Study on the use of new observation technologies from space for spatially explicit estimation of forest variables (CUP F63C25000370005)
National Institute for Astrophysics - INAF	1	INAF – Astrophysical Observatory of Turin	2C - The Solar Corona: Diagnostics and Instrumentation for Space Weather Investigations from Multiple Solar Missions (CUP Master: I53D24000060005; CUP INAF: C53C24000360005)
University of Calabria	1	University of Calabria	2D - Numerical Simulations for forecasting Extreme and Nonlinear Events in the Earth and the Sun-Earth system (Contract No. 2024-5-E.0 - CUP No. I53D24000060005)
University of Calabria	1	University of Calabria	2E - Modeling of Solar Wind and Magnetospheric Nonlinear Phenomena via Adavnced Simulations and Observations (Contract No. 2024-5-E.0 - CUP No. I53D24000060005)
University of Trento with the financial support of the Autonomous Province of Trento	1	University of Trento	2F - Innovative methods for Earth Observation using the CSES Constellation (CUP E53D23004090006)
POSITIONS WITH SCHOLARSHIPS			6
NO. OF POSITIONS			6
POSITION RESERVED FOR SCHOLARSHIP HOLDERS FROM FOREIGN COUNTRIES (Art. 7) (Operational site to be defined to be defined during the evaluation of applications)			2

## **CURRICULUM 3 – PLANETRAY SCIENCES**

FUNDING INSTITUTION	N. OF POSITIONS	OPERATIONAL SITE	RESERVED TOPIC SCHOLARSHIPS
National Institute for Astrophysics - INAF	1	INAF, Capodimento Astronomical Observatory - Naples	3A - The Moon's Surface Composition, Environment and Active Physivcal Processes: Insights from Space Data and Laboratory Experiments (Fondi di Progetto Space It Up, CUP Master: I53D24000060005; CUP INAF: C53C24000360005)
University of Chieti- Pescara	1	University of Chieti- Pescara	3B - Future planetary missions will integrate autonomous robotics with human-led operations across mobility, mining, and habitat construction



University of Trento	1	University of Trento	3C - Artificial intelligence methodologies for the analysis of planetary radar sounder data
POSITIONS WITH SCHOLARSHIPS			3
NO. OF POSITIONS			3
POSITION RESERVED FOR SCHOLARSHIP HOLDERS FROM FOREIGN COUNTRIES (Art. 7) (Operational site to be defined to be defined during the evaluation of applications)			1

## CURRICULUM 4 - ASTROBIOLOGY, LIFE SCIENCES AND SPACE MEDICINE

FUNDING INSTITUTION	N. OF POSITIONS	OPERATIONAL SITE	RESERVED TOPIC SCHOLARSHIPS
University of Rome "Tor Vergata"	1	University of Rome "Tor Vergata"	4A - Human Life Science and Space Medicine - Physiological and biological bases of space adaptations: quantitative approaches (CUP E83C22000040006)
University of Turin	1	University of Turin	4B - Gender and Biological Differences in Space: Advancing Women's Psychophysical Well-being in Space Missions
University of Turin	1	University of Turin	4C - Therapeutic approaches for muscle wasting with repurposed drugs
POSITIONS WITH SCHOLARSHIPS			3
NO. OF POSITIONS			3

## **CURRICULUM 5 – SPACE SENSING AND INSTRUMENTATION**

FUNDING INSTITUTION	N. OF POSITIONS	OPERATIONAL SITE	RESERVED TOPIC SCHOLARSHIPS
Fondazione Bruno Kessler - FBK	1	Fondazione Bruno Kessler – FBK Trento	5A - Foundation models for anomaly detection of ionospheric phenomena and correlation with seismo-induced events
Fondazione Bruno Kessler - FBK	1	Fondazione Bruno Kessler – FBK Trento	5B - Development of Readout and Control Electronics for Silicon-Based Detectors Using FPGA Technologies
Fondazione Bruno Kessler - FBK	1	Fondazione Bruno Kessler – FBK Trento	5C - Advanced Silicon Sensors for Space Applications
CNIT - National Inter- University Consortium for Telecommunications	1	CNIT - National Inter- University Consortium for	5D - Photonics for space applications



National Institute for Nuclear Physics - INFN, Bari or Rome - Tor Vergata section	5E - Design and prototype characterization of innovative high energy particle detectors for space application
National Institute for Nuclear Physics - INFN, Pisa	5F - Development of high-sensitivity X-ray detectors for astronomical imaging, spectroscopy, and polarimetry (Progetto ASIX, Codice - FISA-2022-00393 - Avviso FISA D.D. 1405 del 13/09/2022 CUP I53C24000350005)
University of Trento	5G Distributed radar sounder for mapping ice in the Earth's polar regions
	7
	7
	Nuclear Physics - INFN, Bari or Rome - Tor Vergata section  National Institute for Nuclear Physics - INFN, Pisa

## CURRICULUM 6 - SATELLITE PLATFORMS: ENGINEERING AND TECHNOLOGIES

FUNDING INSTITUTION	N. OF POSITIONS	OPERATIONAL SITE	RESERVED TOPIC SCHOLARSHIPS
Fondazione Bruno Kessler - FBK	1	Fondazione Bruno Kessler – FBK Trento	6A - Model-based system-software engineering and formal methods for space systems
National Research Council - CNR	1	CNR-IEIIT (Turin) or CNR-STIIMA (Milan)	6B - Development of millimeter/sub-millimeter-wave components for Space payloads through Advanced Manufacturing
Sant'Anna School of Advanced Studies - Pisa	1	Sant'Anna School of Advanced Studies - Pisa	6C – Power Processing and Control for CubeSat scale air-breathing electric propulsion (Grant Agreement number: 101088694. CUP n. J53C23001840006. Project name: Building a space Revolution: Electric Air-breathing Technology for Highatmosphere Exploration. Project acronym: BREATHE ERC-2022-COG. Type of action: HORIZON ERC Grants. Granting authority: European Research Council Executive Agency
Politecnico of Turin	1	Politecnico of Turin	6D - Advanced models for the design and characterization of deployable antennas
University of Palermo	1	University of Palermo	6E - Computational modelling of damage and aging of structures and materials exposed to harsh extraterrestrial environments
University of Brescia & Be2net s.r.l.	1	University of Brescia	6F - Deep Learning techniques for inverse problem in imaging
POSITIONS WITH SCHOLARSHIPS			6



NO. OF POSITIONS			6
POSITION RESERVED FOR SCHOLARSHIP HOLDERS FROM FOREIGN COUNTRIES (Art. 7) (Operational site to be defined to be defined during the evaluation of applications)			1
	CUR	RICULUM 7 – ECONOMICS	S, LAW AND SPACE DIPLOMACY
POSITIONS WITHOUT S	CHOLARSHIP		2
NO. OF POSITIONS			2
		S – GRAVITATION	
FUNDING INSTITUTION	N. OF POSITIONS	OPERATIONAL SITE	RESERVED TOPIC SCHOLARSHIPS
Italian Space Agency - ASI	1	University of Milan "Bicocca"	8A - The "global fit" challenge in the data analysis of the space mission LISA (CUP F63C25000370005)
Italian Space Agency - ASI	1	University of Milan "Bicocca"	8B - Development of algorithms for low-latency observations of mergers of massive black holes with the LISA space mission (CUP: F63C25000370005)
Italian Space Agency - ASI	1	University of Pisa	8C - Multi-sensor analysis of the data stream from terrestrial and space (LISA) gravitational wave observatories (CUP: F63C25000370005)
Italian Space Agency - ASI	1	University of Trento	8D – From the LISA Pathfinder mission to the LISA observatory for gravitational waves at mHz frequencies: measurements of the fundamental limits for free-falling masses (CUP: F63C25000370005)
University of Trento	1	University of Trento	8E - Design, analysis, and testing of a gravitational reference test mass system for geodesy (Progetto "SPACE IT UP! Contratto ASI n.2024-5-E.0 CUP Master n. I53D2400060005" e il CUP di progetto n. E63C24000530003. Fonte di finanziamento "Osservazione della Terra" "Finanziamento dalla Presidenza del Consiglio dei Ministri ai sensi dell'Art. 1, comma 254, della legge 160/2019, anno di riferimento 2024)
POSITIONS WITH SCHO	POSITIONS WITH SCHOLARSHIPS		5
NO. OF POSITIONS			5

The study program is structured into 8 Curricula. Candidates may express interest in reserved topics scholarships, which are contingent upon the execution of a specific research topic conducted at the operational site indicated in the previous table, for



which certain skills are required. Positions covered by reserved topics scholarships and places reserved for scholarship holders from foreign countries may only be allocated to those who specifically request them.

During the oral exam, the specific suitability of the applicants will be assessed.

Those interested in one or more of the above-mentioned positions must carefully check the theme and the required skills, and if the scholarships are conditional upon the acceptance of confidentiality agreements and/or transfer of results, as indicated on the competition webpage: <a href="https://www.unitn.it/en/phd/space-science-and-technology-sst-national-doctoral-programme">https://www.unitn.it/en/phd/space-science-and-technology-sst-national-doctoral-programme</a>.

The positions with scholarships or covered by other forms of financial support, may be increased following the availability of additional funding after the issuance of this call and before the evaluation of qualifications. Any such increase will be communicated exclusively on the Call for Applications webpage.

Additional positions: for positions with reserved topics scholarships that become available after the publication of this call (and published on the Call for Applications webpage), it will be possible to apply by filling in the descriptive field with the chosen scholarship in the online application, modifying if necessary the order of preference previously indicated. Those who, at the time of publication of the additional scholarships, had already closed their online application may express their interest and, if necessary, change their order of preference in accordance with the procedures and deadline that will be announced on the competition website.

Moreover, applicants selected by special committees may also be admitted to the 41st Cycle, following a decision of a dedicated committee belonging to specific international mobility programmes in which the universities and research institutions that are operational sites of the PhD programme participate.

**Duration:** three years

Start of the academic Year: November 1st, 2025

Official language: English

**Application Website:** <a href="https://www.unitn.it/en/phd/space-science-and-technology-sst-national-doctoral-programme">https://www.unitn.it/en/phd/space-science-and-technology-sst-national-doctoral-programme</a>

PhD SST Website: <a href="https://phd.unitn.it/phd-sst/">https://phd.unitn.it/phd-sst/</a>

Important:

- a) The selection dates and all results (interimediate and final), any automatic exclusion from the selection due to incomplete application (see subsequent Art. 3), and exclusion due to unrecognized foreign qualifications (see subsequent Art. 2), will be published on the competition webpage referencing only the ID of the application, which is recommended to be kept in memory. This publication serves as official notification for all legal purposes, and no personal communications will be sent.
- b) Any notices regarding the competition will be transmitted via email to the personal email address associated with the account registered by the system at the time of application closure. For candidates who have an active or recently concluded career at the University of Trento, please verify the correctness of this personal email address at the following link: <a href="Account Data Management">Account Data Management</a>. If it becomes necessary to modify the personal contact after the application closure, it is advisable to also send a communication to the Division for Support of PhD and Higher Education Courses Polo Collina (<a href="phd.office-st@unitn.it">phd.office-st@unitn.it</a>).

### 1.1 Description and objectives of the PhD Program

Italy has a long tradition in space science and technology and has developed a complete chain of activities linking university education, academic and private research and industrial activities, with important national and international spin-offs. Italian public investment in space has increased in recent years. Space is an area where the National Recovery and Resilience Plan (NRRP) invests significant resources: in this context MUR and ASI have launched a national call for an Extended Partnership dedicated to the development of basic space science and technology.



Space is a multidisciplinary field that requires specific education and training. A National PhD Program dedicated to Spaces Science and Technology is therefore timely, strategic and well justified, bringing together scientific and technological expertises, Universities and Research Institutions, Academia and Industry.

The training topics related to space activities cover different areas are what makes the National PhD Program approach particularly effective, as training content, from the many universities and research organisations involved, can be shared, thus ensuring quality and excellence in content and at the same time a wide variety of training profiles for PhD students.

The Course is divided into the following eight curricula, the description of which (with the relevant GSDs - Scientific Disciplinary Groups) can be found in the PhD Programme website.

- 1 Observation of the Universe
- 2 Earth and the Sun-Earth system
- 3 Planetary Sciences
- 4 Astrobiology, Life Sciences and Space Medicine
- 5 Space Sensing and Instrumentation
- 6 Satellite Platforms: Engineering and Technologies
- 7 Space Economy, law and diplomacy
- 8 Gravitation

## 1.2 Participating Universities and Research Institutions

To launch the National PhD Program, the University of Trento has signed agreements with the following Universities and Research Institutions operational PhD sites:

Universities / Higher Education Institutions

- 1. "Gabriele d'Annunzio" University UNICH
- 2. Institute of Advanced University Education IUSS Pavia
- 3. Politecnico of Turin POLITO
- 4. Scuola Internazionale Superiore di Studi Avanzati SISSA Trieste
- 5. Sant'Anna School of Advanced Studies SSSA Pisa
- 6. University of Brescia UNIBS
- 7. University of Ferrara UNIFE
- 8. University of Palermo UNIPA
- 9. University of Rome "Tor Vergata" UNITOV
- 10. University of Calabria UNICAL
- 11. University of Turin

## Research Institutions

- 1. Fondazione Bruno Kessler FBK
- 2. Italian Space Agency ASI
- 3. National Institute for Nuclear Physics INFN
- 4. National Institute for Astrophysics INAF
- 5. National Inter-University Consortium for Telecommunications CNIT
- 6. National Research Council CNR



#### Art. 2 – ADMISSION REQUIREMENTS

- 1. Applications for PhD positions are accepted from applicants, regardless of gender, age and nationality, holding:
  - a) an Italian "Laurea Magistrale" or "Laurea Specialistica", according to the M.D. November 3, 1999, no. 509, amended by M.D. October 22, 2004, no. 270;
  - b) a university degree obtained at an Italian Institution belonging to the AFAM system (Alta Formazione Artistica e Musicale);
  - an equivalent foreign degree (Master's degree) obtained at an officially recognized academic institution, valid for admission to PhD studies in the Country where it has been issued (except for substantial differences) and similar (duration and level) to the Italian degree, recognized as eligible by the Selection Committee for the sole purpose of accessing this specific PhD Program.
- 2. Applications are also accepted from candidates who do not hold the required degree but expect to obtain it by October 31<sup>st</sup>, 2025. In this case admission is "conditional" and applicants must submit the degree certificate (or a self-declaration to the relevant PhD Office (Science & Technology Area email: phd.office-st@unitn.it) no later than November 7<sup>th</sup>, 2025. Failure to provide the certificate awarded or a self-declaration pursuant to art 46 of D.P.R. 28.12.2000, n. 445 and subsequent amendments by the deadline will lead to exclusion.
- 3. Applicants with a foreign qualification that has not been officially recognised as equivalent to a second cycle Italian degree (Laurea Magistrale/Specialistica/vecchio ordinamento) will be considered as requesting equivalence in their application, by attaching the necessary supporting documents.
  It is in the applicant's interest to provide all the elements useful for the assessment, especially if the education system of the country where the qualification was obtained is not similar to the Italian one.
  The Selection Committee may require the applicant to provide additional documentation if deemed necessary for the purpose of assessing the eligibility.
- 4. Notwithstanding the provisions of Art. 11, co. 6 of M.D. 629/2024 and Art. 8, co. 7 of M.D. 630/2024, candidates who have already obtained a Doctoral degree can apply for a second Doctoral Programme only if its main research topics and scientific-disciplinary fields differ from those of the candidate's first Doctorate Programme. Those who have already benefited, even if partially, from a doctoral scholarship in Italy, and public employees on extraordinary paid leave cannot be awarded another doctoral scholarship.

### Art. 3 – APPLICATION PROCEDURE

- 1. The application must be completed and submitted by July 16th, 2025 4:00 p.m. (Italian time), exclusively through the online procedure, which will be available within three working days from the date of publication of the Call. The online enrollment procedure can be accessed in one of the following ways (candidates are invited to not wait until the last few days before the deadline for the submission of the application. In order to get login information, and therefore access the online application portal, it could take up to three full working days):
  - with SPID or CIE (Electronic Identity Card): those who have an Italian Tax Code (codice fiscale) and an Italian identity document must access the enrolment procedure with CIE (more information are available at <a href="https://webapps.unitn.it/Apply/en/Web/Home/dott">https://webapps.unitn.it/Apply/en/Web/Home/dott</a>) or with SPID, the Italian Public Digital Identification System, which automatically certifies the identity of the person on the UniTrento systems and sets up an @unitn.it account. To request the SPID identity (useful for accessing various online services of the Italian Public Administration) please see the website: <a href="https://www.spid.gov.it/en/what-is-spid/how-to-activate-spid/">https://www.spid.gov.it/en/what-is-spid/how-to-activate-spid/</a>
  - with a UniTrento account: those who already have an account issued by the University can access the registration
    procedure with the username they already have (<a href="mailto:name.surname@unitn.it">name.surname@unitn.it</a>). For details on UniTrento account and
    password: Account @unitn.it.



- registering a UniTrento "guest" account: those who do not have an Italian Tax Code can register a temporary account as "guest". After enrollment, the guest account will be converted into a definitive @unitn.it account. To register a guest account: https://webapps.unitn.it/Registration/en/Home
- To finalize the application a non-refundable application fee of € 30,00 is to be paid exclusively through PagoPA payment system according to the instructions given in the appropriate section of the online application ("Application Fee"). The online application can be saved and modified until the final submission, after which changes will no longer be possible.
- 3. The application is to be considered for all purposes of the law as a self-declaration of personal data and qualifications. Administration highly recommends that candidates make sure to have received the notification email confirming that their application has been successfully completed and submitted. UNITrento refuses any responsibility for all applications not closed properly by candidates.
- 4. When filling out the online application, it is mandatory to indicate a preference for **one of the activated curricula**. For the chosen curriculum, it is necessary to prepare a Statement of Purpose (as per the subsequent point 5.E) to explain in detail the reasons for the choice, and a Research Proposal (as per the subsequent point 5.F). **For the selected curriculum**, the reserved topics scholarships (up to a maximum of 3) for which the candidate intends to apply must also be indicated **in a binding order of priority**. The oral exam will include an assessment of the specific skills required to obtain eligibility for the scholarships listed by the candidate.

The candidate may also declare their availability to be considered for the assignment of reserved topics scholarships in addition to those for which they have expressed a preference, should there be scholarships left unassigned due to a lack of interest from other candidates or if no one has been deemed eligible.

**5. MANDATORY ATTACHMENTS** (Failure to upload one or more mandatory attachments will result in automatic exclusion from the selection):

#### A. Identifying document (ID):

A copy of the applicant's valid **identity card** (*only EU citizens*) or **passport** (*non-EU citizens*), in particular of the pages reporting his/her photograph, personal data, number, place and date of issue, expiry date and signature;

- B. Academic degree for admission to the PhD Programme:
  - a. Italian qualification: already obtained/to be obtained: a self-declaration, in accordance with Presidential Decree art. 46 no. 445 of 28.12.2000 and subsequent amendments, stating the list of passed exams together with date, mark and credits obtained in each examination. A facsimile is available at the selection web page link but similar documents are also accepted as long as they report the information requested in the call. If the qualification was issued by the University of Trento, the information will be acquired automatically.
  - b. foreign qualification
    - already obtained:
    - a certificate attesting to the possession of a second level university qualification (see art. 2, paragraph 1, letter c), issued by the institution that awarded it. The certificate must indicate the type of diploma, the date it was awarded and the relevant grade;
    - a list of examinations taken to obtain the qualification to access a PhD Programme (academic transcript of records of the Master's degree) with relevant credits (if provided for in the university system of the country that awarded the qualification), marks, and rating scale. If the university studies carried out abroad are divided into first and second level, the copy of the Bachelor's degree and the list of examinations taken to obtain that degree (academic transcript of records of the Bachelor's degree) must also be attached.



#### • to be obtained:

- a certificate of enrolment in a course of study that allows admission to a PhD Programme (see art. 2 paragraph 1 letter c), with a list of the examinations successfully passed, credits (if provided for in the university system of the country that awarded the qualification) obtained in each examination, marks, rating scale (academic transcript of records) and the possible award date. If the university studies carried out abroad are divided into first and second level, the copy of the Bachelor's degree and the list of examinations taken to obtain that degree (academic transcript of records of the Bachelor's degree) must also be attached.

If the aforementioned documents are not in English, they must be accompanied by a translation in Italian or in English made provisionally by the applicant who takes responsibility for the accuracy of the translation and its compliance with the original text.

- C. **Curriculum vitae et studiorum with a list of publications** (in Italian or English, preferably in <u>Europass format</u>). The CV must detail all previous and, if applicable, current training (upper secondary education diploma, degree, Master's degree, PhD, higher education or specialisation courses, etc.), any research skills acquired or other elements relevant to the subject of the call (e.g. any publications, participation in conferences, etc.);
- D. **Abstract of the thesis** <u>in english</u> (Magistrale or *Master's degree*), including: reasons for the dissertation, methods of investigation, and results obtained (max. 3.000 characters including spaces); those who have not yet graduated may attach a statement with the data and contact details of the supervisor;
- E. **Statement of Purpose** in English (max 3.000 characters, including spaces), in which the candidate specifies the motivation(s) that lead him/her to undertake the PhD and the reason for choosing the PhD program in Space Science and Technology, with the identification of the research project chosen from among those proposed, referencing to the skills and experience acquired.
- F. Research Proposal in English, which will be used for evaluation purposes only and will not be binding for the research activities that would eventually be carried out during the PhD. The proposal may cover a topic of the candidate's choice related to the foundational disciplines of the PhD Program in Space Science and Technology; it should be a maximum of two pages (max 4.000 characters, including spaces) divided into: "Background and Rationale" and "Objectives" of the project.

#### **6. OPTIONAL ATTACHMENTS:**

- G. **Name of ONE referee**, expert in the research fields of the PhD Program, working at universities or national and international research institutions, with details of his/her e-mail addresses. Once the relevant section of the application has been completed and saved by the applicant, the system automatically sends (within 24 hours) to the referee an e-mail with instructions and forwarding method. The letter can be completed according to the model provided to the referee. Applicants are recommended to make sure that their referees submit the letter of presentation by **July 18th**, **2025**.
- H. **Other qualifications**, such as English language certifications, international tests (e.g., GRE or equivalent), and other documents useful in attesting the candidate's or applicant's aptitude for research;
- I. Copy of the first-level academic degree (Bachelor's degree) and transcript;
- L. **Copy of the title page** of the thesis containing the title of the thesis and the name of the thesis supervisor; candidates who have not yet obtained the title may attach a statement with the data and contact information of the thesis supervisor;
- M. Applicants with a foreign qualification may attach:
- Academic Diploma of the Master's degree (Master of Science/Arts or equivalent), in its original language and
- Diploma Supplement (DS) drafted according to the form developed by the European Commission, the Council of Europe and UNESCO / CEPES;

alternatively



- Declaration of value which certifies that the educational qualification is valid in the country of issuance for admission to a PhD Program (third level of higher education according to the Bologna Process European Higher Education Area; EQF level 8); alternatively
- Statement of comparability of foreign university qualification<sup>1</sup> issued by the ENIC-NARIC Center in Italy (CIMEA) that contains all the information necessary for the assessment of the qualification.

If the foreign academic qualification has already been recognized as equivalent<sup>2</sup> to a second cycle Italian qualification by the competent academic bodies of Italian universities, the equivalence provision (Rectoral Decree).

- 7. If, once the application has been definitively closed, the applicant wishes to supplement his/her documentation, the additional material, accompanied by an explanatory note indicating the purpose of the material added/supplemented<sup>3</sup>, must be sent by the deadline of the call (the last date for acceptance of the application) to the e-mail address <a href="mailto:atence@unitn.it">atence@unitn.it</a> (indicate in the subject line: "Application ID Surname Name National PhD in Space Science and Technology 41st cycle application supplement"). Integrations received by means other than the one described above will not be accepted.
- 8. Only documents (originals or copies) in English and Italian will be considered for the selection by the Selection Committee; for all other languages it is compulsory to attach a translation into English or Italian signed by the applicant. The mandatory attachments required at points D, E, and F **must** be submitted in English by all applicants.
- 9. All applicants are conditionally admitted to the selection upon ascertaining that they fulfil the admission requirements. The University of Trento has the right to verify the documents delivered pursuant to articles 71 et seq. of the Presidential Decree n. 445 of December 28th, 2000. If the submitted degree does not satisfy the requirements specified in Art. 2 of this call, or if the information provided in the application is not true, the candidate may be excluded from the selection process at any time and even after enrolment or the beginning of the PhD course.
- 10. According to Art. 20 of Italian Law n. 104/92, and Art. 16 (1) of Italian Law n. 68/99, applicants with special needs or with learning disabilities, may explicitly request special assistance or extra time during the examinations in their application, according to their particular disability. In this regard, the data will be processed in compliance with the regulations in force as indicated in the information on the processing of personal data (Art. 12 of this call).

#### Art. 4 – EVALUATION OF APPLICATIONS

- 1. The evaluation is made by a Selection Committee appointed by the Rector upon advice from the PhD Committee, in accordance with the University Regulations for PhD Programs. The Selection Committee sets the evaluation criteria during a preliminary meeting.
- 2. The selection is aimed at ascertaining, comparatively, the preparation and aptitude of the candidates to carry out research activities concerning the topics of the PhD Course and the scholarship on reserved topics in the chosen curriculum. The selection consists of:
  - the assessment of the qualifications referred to in the previous Art. 3 of the present call
  - an interview, based on the criteria established in the following point 4 of the present Article.
- 3. The Committee will assess eligibility for reserved topic scholarships for which the candidate has declared a preference, based on the documentation (research project) submitted in the application or subsequent supplement.

<sup>&</sup>lt;sup>1</sup> The University of Trento signed an agreement with the CIMEA Association about evaluating and verifying foreign titles through the online platform Diplome. Further information at <a href="https://www.unitn.it/en/international/coming-unitrento">https://www.unitn.it/en/international/coming-unitrento</a>. The certificate of comparability of qualifications for the 55 countries of the Lisbon Convention can be downloaded directly and free of charge via: <a href="https://www.cimea.it/EN/pagina-ardi-automatic-recognition-database-italia">https://www.cimea.it/EN/pagina-ardi-automatic-recognition-database-italia</a>

<sup>&</sup>lt;sup>2</sup> For further details please consult <a href="https://www.cimea.it/EN/pagina-riconoscimento-accademico.">https://www.cimea.it/EN/pagina-riconoscimento-accademico.</a>

<sup>&</sup>lt;sup>3</sup> Please check that the file names are correct and appropriate.



**Important**: the request to participate in the award of one or more reserved topic scholarships implies a preference for the award of these over any non-specific thematic scholarships

- 4. The Committee can award a maximum of 100 points, as follows.
- a) all the mandatory applicant's qualifications (max 60 pts), as listed previously in art. 3. Specifically, the committee will award the following scores:
  - evaluation of Curriculum Vitae and Course of study (points B, C e D of the mandatory attachments to the application): **maximum 25 points.**
  - evaluation of the Research Proposal and Statement of Purpose (referred to in points E and F of the mandatory attachments to the application): **maximum 35 points.**

Applicants who score no less than 35/60 points in the above evaluation will be admitted to the interview.

b) Interview and (if applicable) letter of reference (max 40 pts): the interview is conducted in English via internet and will focus on a discussion of the qualifications submitted (points B, C and D of the qualifications attached to the application), the Research Proposal and the Statement of Purpose (referred to in points E and F of the qualifications attached to the application). The presentation by the candidate of the above may also take place, at his/her discretion, through the use of video-shared slides. For each of the research topics put forward in the call for applications, the Committee may invite experts with proven expertise in the field to take part in the interview, including those belonging to the PhD Committee.

During the interview, the Committee will ascertain the possession of the basic disciplinary knowledge required to attend the PhD course and evaluate the candidate's suitability with respect to each of the scholarships for which the candidate expressed interest in the application.

The Selection Committee will evaluate the interview by awarding a maximum score of **40 points**. Applicants who score **less than 25/40 points** in the interview will be excluded from the final list.

- 4. The selection will take place with the following schedule:
  - titles evaluation: starting from July 23rd, 2025;
  - interviews: starting from July 31st, 2025.

All outcomes (intermediate and final) will be published at the application website.

- 5. The interview will be conducted online through the use of audio-video connection tools which allow:
- the correct identification of the participants (through a webcam);
- the interview to be done in public form.

The interviews' starting time will be set by the Committee.

The date and time at which the interviews will be held will be announced before they take place by means of a notice published on the application website.

The University declines all responsibility in case of technical difficulties that might prevent the interviews from being conducted correctly.

Any changes to the date of the interviews will be published exclusively on the application website.

In order to facilitate identification formalities, candidates must show the same identity document attached to the application form in order to undergo the interview.

Absence or failure to log in for any reason whatsoever, unavailability on the scheduled day or at the scheduled time, or failure to provide identification documents, are grounds for disqualification from the selection procedure.



#### Art. 5 - RANKINGS

- 1. Upon completion of the evaluation work, the Committee compiles for each curriculum an overall merit ranking.
- 2 The available positions are assigned to short-listed applicants according to:
  - a. the position in the overall ranking list;
  - b. for reserved topics scholarships, following the order of priority and the order of the ranking list considering specific eligibility;
  - c. in the event of a tie, the provisions of Article 6 below apply.
- 3. Failure to award the reserved topics scholarships will imply a decrease in the number of positions offered in the call for applications.
- 4. Results will be available on the selection's webpage and on the University Notice Board. **The publication on the website is** to all intents and purposes valid as official notification.

### Art. 6 - ADMISSION TO THE PHD PROGRAM AND ACCEPTANCE OF THE OFFER

- 1. Short-listed applicants are admitted to the PhD Program based on the final ranking list until the available positions have been filled.
  - All applicants compete for the award of the funded reserved scholarships; applicants who have been awarded a scholarship on a specific reserved topic must accept it.
  - Renunciation of the scholarship awarded according to the ranking described in Art. 5 will result in the forfeiture of the right to admission.
- Should two applicants obtain the same score, regarding the award of the scholarship, the applicants' economic situations shall be the deciding factor, in accordance with the criteria established by the Italian Prime Minister's Decree of 09.04.2001 and subsequent amendments and integrations. As for positions without scholarship, the younger of the two applicants will be selected.
- 3. Winners will have to confirm acceptance of the position, using the appropriate online procedure [Instructions available on the webpage "Enrolling in a PhD"].
  - within 8 days from the day following the day of the final ranking publication if awarded a scholarship position, or other form of financial support, or a reserved position for scholarship holders from foreign countries;
  - within 14 days from the day following the day of the final ranking publication if awarded a NON-scholarship position.
- **N.B.!** Admitted applicants with a qualification that has not been awarded in Italy must deliver (if they had not already done so during the application phase "Application procedure") the PhD Office S&T (sending them in advance by email: <a href="mailto:phd.office-st@unitn.it">phd.office-st@unitn.it</a>) by **November 7th:** 
  - academic diploma of the Master's degree (Master of Science/Arts or equivalent) in the original or certified copy, together with the Academic transcript of records, possible official translations, legalised or with an "apostille" affixed (please carefully verify the fulfillment of the requirements set by the issuing country of the title).
  - Diploma Supplement (if provided for by the university where the title was issued, it is commonly used within the member countries of the European Higher Education Area (EHEA));
     alternatively



- Declaration of Value<sup>4</sup> issued by the Italian diplomatic or consular representations country of origin of the institution that awarded the title alternatively
- Statement of comparability of foreign university qualifications issued by the ENIC-NARIC Center (CIMEA in Italy) that contains all the information necessary for the assessment of the qualification. For the issuance of ENIC-NARIC certificates, the University of Trento has activated a partnership with CIMEA (https://international.unitn.it/incoming/diploma-verification).

In case the Diploma Supplement, or the Declaration of Value, or the Statement of comparability are not available by the on the date indicated above, admitted applicants must deliver a document showing that they asked the University; or the Italian diplomatic or consular representations; or the ENIC-NARIC center for the documents to be issued.

Admission to the Ph.D.Program for successful applicants who do not provide the required above-mentioned documents **by November 8**th, **2025** will be "conditional" and the applicants will lose their right to continue the PhD Program if:

- they do not deliver the documents within 6 months from the starting date of the Program;
- following verification, the title submitted does not comply with the criteria set out in Art. 2 of this call for applications.

In the case of loss of student status, the applicant must return the scholarship installments which might have been received.

- 4. The acceptance of the position must be accompanied by the stamp duty and the receipt of payment of the "Provincial Tax for the Right to University Studies" - TDS, except in the case of exemption. To date, there are no fees charged to PhD students for access to courses and attendance, with the exception of the aforementioned annual provincial tax for the right to study (TDS).
- 5. Failure to accept the position within the above-mentioned time limit shall be deemed a renunciation and the corresponding positions shall be made available to the next eligible candidates in the order of the corresponding ranking.
- 6. In the event of **renunciation** or **exclusion** of the eligible candidate **before the beginning of the course** (*November 1st, 2025*), the position shall be taken by the next candidate or candidate according to the order of the relevant ranking and taking into account the specific eligibility. Said candidate or applicant must accept the position **within 4 days** starting from the day after the communication is sent by the PhD Course Support and Higher Education Division Polo Collina.
- 7. In the event of **renunciation** or **exclusion** of an enrolled student, **in the first term of the first year of the course**, the PhD Committee is entitled to assess the advisability of proceeding with a replacement following the order and any specific suitability of the relevant ranking.
- 8. Upon the closure of the enrolments, the doctoral candidates must inform by e-mail (<a href="mailto:dn\_sst@unitn.it">dn\_sst@unitn.it</a>) the Secretariat of the Doctoral Course of the precise date of their arrival at their own operational site. In the event that for proven reasons he/she cannot be at his/her place of operational site for the beginning of the academic year, the PhD student must give timely and documented notice by e-mail (<a href="mailto:dn\_sst@unitn.it">dn\_sst@unitn.it</a>) by **November 7th**, **2025** at the latest, under penalty of exclusion from the Course. In the event of failure to notify or to arrive at the operational site by the above-mentioned dates, the PhD student shall be deemed to have withdrawn.

#### Art. 7 – POSITION RESERVED FOR SCHOLARSHIP HOLDERS FROM FOREIGN COUNTRIES

1. Candidates holding scholarships funded by foreign countries may choose to compete only for the places reserved for them within the research area of their interest.

<sup>&</sup>lt;sup>4</sup> If the Declaration of Value di Valore has not yet been issued on the date indicated, a document proving that the request for issue has been submitted to the competent diplomatic representation must be presented. The PhD candidate must transmit, as soon as available, the original Declaration of Value.



- 2. When filling out the online application form for admission to the competition, they must choose the selection method 'Places reserved for scholarship holders from foreign countries' and attach, in addition to the documents indicated in art. 3 of this call, a certificate attesting to the ownership of the scholarship provided by the country of origin, specifying the period of coverage and the amount received annually (minimum amount equal to the value of the doctoral scholarship provided by the University of Trento as indicated on page: Doctoral Scholarship) or a copy of the application submitted to the competent authorities for the award of the same.
- 3. The selection of places reserved for scholars from foreign countries shall be carried out in the same manner and on the same dates as the selection for the other places.
- 4. For the reserved posts, the Selection Committee will draw up separate rankings in relation to each Curriculum providing for such positions.
- 5. In the event that there are no suitable candidates and candidates, the posts reserved for Fellows from foreign countries remaining vacant may not be assigned to other candidates or candidates.
- 6. When establishing the rankings, the Commission, on the basis of the candidates' skills and of the research project submitted, shall formulate a proposal for assignment to one of the curricula and for a working site, to be identified among suitable Universities or Research Institutions on the national territory.
- 7. Candidates intending to compete for the posts reserved for scholars from foreign countries must prove that they are definitively in possession of the scholarship by the peremptory deadline of 31 October 2025. Proof of possession of the scholarship must be sent by email to phd.office-st@unitn.it by that date, under penalty of exclusion from the PhD course.

#### Art. 8 - PHD COURSE ENROLMENT

- The enrolment in the PhD Course of those who have accepted the position, in the aforementioned modalities, will be
  automatically formalised as soon as the Ministry informs the University of the accreditation of the PhD Courses for the
  academic year 2025/2026. In the event of non-confirmation of accreditation and should the ministerial funding not be
  granted, candidates and applicants who have accepted the position will be promptly notified by email and the Right to Study
  Fee (TDS) will be refunded.
- 2. To finalise the enrolment process, those who have obtained their qualifications abroad, upon arrival in Italy, are required to present the official documents (in original or certified copy), relating to the academic course, already scanned during the admission to the selection phase or during the position confirmation stage, to allow the appropriate assessment of the validity of the titles, also through the national information centres for the recognition of foreign titles belonging to the ENIC-NARIC network. Until then, candidates are admitted to the course subject to reservations and may be excluded if they do not meet the requirements.

#### Art. 9 – INTELLECTUAL PROPERTY RIGHTS ON RESEARCH RESULTS AND PUBLICATIONS

- 1. Without prejudice to the Italian law on copyright (legislative decree 633/1941 and subsequent amendments), intellectual and industrial property rights on the results eventually achieved by the student, including (but not limited to) software, industrial inventions patentable or not, know-how, models, data and data collection, are regulated in accordance with applicable laws and University regulations and, if necessary, according to the provisions in the individual agreements with universities, companies or entities involved<sup>5</sup>.
- 2. Before the start of the research activity, the PhD student is required to sign a specific declaration of commitment to confidentiality in relation to the information, data and documents of a confidential nature that he / she may become aware of in carrying out his / her activity at and / or on behalf of the University. Each doctoral student is also required to sign a

<sup>&</sup>lt;sup>5</sup> See: https://www.unitn.it/en/ricerca/1767/protection-and-valorization-of-intellectual-property



declaration stating that intellectual property rights are owned by the University of Trento, thus being aware of the relevant legislation and University Regulations on intellectual property. Each doctoral student may be required to sign a Confidentiality Agreement with the funding body in the case that his/her doctoral position is not funded by the University of Trento.

#### ART. 10 - PROCESSING OF PERSONAL DATA

- 1. Pursuant to art. 13 of Regulation (EU) 2016/679 (General Data Protection Regulation), the University of Trento intends to provide candidates for this selection (hereinafter referred to as 'interested parties') with the following information.
- 2. Data controller.

The Data controller is the **University of Trento**, via Calepina n. 14, 38122 Trento (TN); email: <a href="mailto:ateneo@pec.unitn.it">ateneo@pec.unitn.it</a>; <a href="mailto:ateneo@pec.unitn.it">ateneo@pec.unitn.it</a>;

- 3. Contact details of the Data Protection Officer
  - The **Data Protection Officer (DPO)** of the Controller whom you may contact for information concerning your personal data may be contacted at the following email address: <a href="mailto:rpd@unitn.it">rpd@unitn.it</a>.
  - The contact details of the DPOs of the Data Controllers may be requested directly from the individual Data Controllers by writing to the appropriate contact point phd.office-st@unitn.it.
- 4. Purpose of the processing and legal basis
  - The Controller and the Joint Data Controllers process personal data in the context of the performance of their public interest tasks and, in particular, for the purposes of carrying out this selection procedure and fulfilling the related legal obligations (Art. 6(1)(e) and (c); Art. 9(2)(g) of the GDPR).
- 5. Nature of data provision
  - The provision of personal data is essential for participation in this procedure and failure to provide such data will make it impossible to take part. The provision of particular data relating to health (for candidates with disabilities) is optional, but failure to provide it will result in the impossibility of accessing the requested support tools.
- 6. Processing methods
  - Personal data are processed in hard copy, computerised and/or telematic format by staff authorised to process data in relation to the tasks and duties assigned and in compliance with the principles of lawfulness, correctness, transparency, appropriateness, relevance, non excessiveness and confidentiality (Art. 5(1) GDPR). No profiling or automated decisions are made.
- 7. Categories of recipients
  - In fulfilment of the obligations set out in the Agreement with Third Party Entities pursuant to Article 3, paragraph 2 of Ministerial Decree of the Ministry for Universities and Research no. 226 of 14.12.2021, the data will be shared between the Data Controller and the Joint Holders for the pursuit of the purposes indicated above and, also, communicated to Third Party Entities (not Joint Holders) which will process the data as autonomous data controllers.
  - Personal data may also be communicated, in addition to University staff, to other public and private entities for the pursuit of the purposes indicated above, including any financing entities in relation to the funded grants. Personal data may also be communicated to third parties in the event of the fulfilment of a legal obligation and/or an order by a judicial authority.
- 8. Transfer to non-EU countries
  - If, within the scope of the purposes indicated above, personal data are transferred to non-EU countries, the transfer will be carried out within the limits and under the conditions set out in articles 44 et seq. of the GDPR.
- 9. Period of data retention
  - Personal data shall be kept for the period necessary for the performance of this procedure and in any case for the time required to fulfil legal obligations. In any case, they shall be kept for the time established by current legislation and/or the University regulations on the management and storage of the documentation produced by the University in the performance of its institutional activities.
- 10. Rights of the interested parties



Data subjects may at any time exercise with the Data Controller the rights enshrined in Articles 15 et seq. of the GDPR and, in particular, access to their personal data, rectification, integration and, if the legal requirements are met, deletion, restriction as well as the right to object to processing; at the contacts indicated above.

In addition to this, without prejudice to the right of data subjects to exercise their rights as set out in Articles 15-22 with regard to all Data Controllers, the data subject may at any time forward their requests to exercise their rights also to the email address: <a href="mailto:phd.office-st@unitn.it">phd.office-st@unitn.it</a>.

Data subjects who believe that their data is being processed in breach of the GDPR have the right under Article 77 of the GDPR to lodge a complaint with the Data Protection Authority or to take appropriate legal action.

#### Art. 11 - REFERRAL RULES

- 1. For matters not explicitly mentioned in the present call, refer to Law no. 398 of 1989.11.30, art. 4 of Law no. 210 of 1998.07.03 as amended by art.19, par. 1, of the Law no. 240 of 2010.12.30, to Ministerial Decree no. 226 of 2021.12.14.1, to the University Regulations for Phd Programs issued by Rector's Decree no. 250 of 11.03.2022, to the Code of Ethics of the University of Trento, to the Students' Honour Code, to the Internal Regulations in force of the PhD Programs, and to the other relevant provisions contained in the current legislation.
- 2. This call, accompanied by its translation into English, is published on the University website, on the website of the Italian Ministry of Education and on Euraxess.
- 3. Any changes or additions to the call will be made available on the selection website.
- 4. The person responsible for the administrative procedure is the Head of the Education and Student Services Department at the University of Trento.
- 5. The reference office is the PhD Office Science and Technology Area; email: <a href="mailto:phd.office-st@unitn.it">phd.office-st@unitn.it</a>. The selection committee is responsible for the candidate selection process, from the evaluation of qualifications to the interview, the drafting of the minutes, and the formulation of the merit rankings.

On behalf of
The Rector
The Head of Education and Student Services
Paolo Zanei