



UNIVERSITY
OF TRENTO - Italy

Call for Doctoral positions at the
PhD Programme in
Physics
32nd Cycle

ACADEMIC YEAR 2016/2017

N.B. Please note that only the Italian version of the present call issued with Rector's Decree no. 403 of 07.06.2016 is legally binding; the English version is provided for information only

Art. 1 – SUBJECT OF THE CALL

The University of Trento opens the call for position for the 32nd Cycle (Academic Year 2016/2017) of the Phd Programme in “Physics” jointly run with the National Institute for Nuclear Physics (INFN - Italy).

Positions: no. 16

Scholarships: no. 14

Positions without scholarship: no. 2

Supernumerary positions: no. 3 (see art. 7)

Deadline for application: August 31, 2016, hrs. 04.00 PM (Italian time, GMT +2)

Scholarships are funded by:

no. 7 scholarships: the University of Trento;

n. 3 reserved scholarships: Istituto Nazionale di Fisica Nucleare

- **n. 2 scholarships** on topic: “Particle, astroparticle, nuclear, theoretical physics, related technologies and applications, including medical Physics” (Scholarships A1 and A2);

- **n. 1 scholarship** on topic: “Application of novel position-sensitive Silicon PhotoMultipliers to medical imaging” (Scholarship B)

n. 2 reserved scholarships: Fondazione Bruno Kessler on topics:

- “CMOS low-noise readout circuits for arrays of THz sensors” (Scholarship C)

- “Application of graphene to nanofluids synthesis for solar thermal applications” (Scholarship D)

n. 1 reserved scholarship: IIT on topic:

- “Optical microscopy and magnetometry with fluorescent nanodiamonds” (Scholarship E)

n. 1 reserved scholarship: CNR-INO BEC (Gruppo BEC - Grant ERC) on topic:

- “Ultracold quantum gases” (Scholarship F)

For further details on research topics see selection website.

Any candidates selected by special committees for admission related to specific international mobility programmes in which the University of Trento participates, may also be admitted to the 32nd Cycle on additional positions, as described on the website of the call.

Duration: three years

Start of the Academic Year: November 1, 2016

Selection website: <http://www.unitn.it/en/ateneo/1940/announcement-of-selection>

Programme website (information on the programme, admission to final examination and award of the degree): <http://web.unitn.it/drphys>

Rights and duties of doctoral students: <http://www.unitn.it/en/ateneo/52919/rights-and-duties-of-doctoral-students>

Doctoral scholarships: <http://www.unitn.it/en/servizi/1937/doctoral-scholarships>

Official languages: English, Italian

Scientific Areas:

FIS/01 Experimental Physics

FIS/02 Theoretical Physics, mathematical methods and models

FIS/03 Physics of Matter

FIS/04 Nuclear and Sub nuclear Physics

FIS/05 Astronomy and Astrophysics

FIS/07 Applied Physics (for the environment, biology, medicine and cultural heritage)

The positions with scholarships or other forms of financial support may be increased after the publication of this call and the day before the assessment of qualifications. All the new available positions will be posted solely on the selection website.

N.B.

- a. All selection results (interim and final), the possible exclusion from the selection for incomplete application and exclusion for foreign qualification not recognized as suitable, will be published only on the selection webpage; the candidates will be identified through the application ID. The publication on the website is to all intents and purposes valid as official notification.
- b. Without exception, all possible communication from the University of Trento to applicants will be managed via e-mail to the email address specified in the application online. Candidates are advised to check their mail box regularly and keep the Doctorate Office Science and Technology (phd.office-st@unitn.it) promptly informed of any change of their email account.

Art. 2 – ADMISSION REQUIREMENTS

1. Applications for doctoral positions are accepted from applicants, regardless of gender, age and nationality, who hold:
 - a) an Italian “Laurea Magistrale”, according to the Ministerial Decree no. 270 of 22.10.2004 and subsequent amendments, or
 - b) an equivalent Italian university degree (previous regulations in force, “specialistica”, AFAM), or
 - c) an equivalent foreign degree (*Master’s degree*) obtained at an officially acknowledged academic institution, valid for admission to PhD studies in the Country of issue and similar (duration and level¹) to the Italian degree, recognized as equivalent by the Admissions Committee for the sole purpose of access to the present Phd Programme.Any degree in a scientific area will be given preferential status.
2. Applications are also accepted from students expecting to obtain the necessary degree **by October 31, 2016**. Admission to the Doctoral Programme for successful applicants who have not graduated yet will be “conditional” and the applicant will have to submit to the Doctorate Office Science and Technology (via email to: phd.office-st@unitn.it) **by November 4, 2016**, on penalty of exclusion, the awarding certificate or a self-declaration (see Annex A).
3. Applicants with a foreign qualification that has not been officially recognised as equivalent² to an Italian degree (*Laurea Magistrale/Specialistica/vecchio ordinamento*) will be considered as requesting equivalence in their application, attaching the necessary supporting documents. The eligibility of foreign academic degrees is assessed by the Admissions Committee, following the rules in force or the international treaties on recognition of academic qualifications. The Admissions Committee may require the applicant to provide additional documentation if deemed necessary for the purpose of assessing the suitability. The ID list of applications whose academic qualifications have been considered not eligible for admission to the selection will be made available at the webpage of the admission procedure.

Art. 3 – APPLICATION PROCEDURE

The application³ must be **completed and submitted by 4.00 PM Italian time (GMT +2) of August 31, 2016, solely by the online system: <http://www.unitn.it/en/apply/dott>**. Candidates who do not have an account of the University of Trento must register in advance at⁴: <http://www.unitn.it/account>.

¹ Italian: <http://www.studiare-in-italia.it/study/new-degrees.html>, English: <http://www.study-in-italy.it/study/new-degrees.html>

² For further information visit <http://www.cimea.it/default.aspx?IDC=134>

³ The candidate can choose either Italian or English to fill in the application.

⁴ Candidates are advised to register well in advance with respect to the deadline as the release of the username and password (sent via email), necessary to enter UNITN's online services, may require up to 2 working days.

The application is subject to the payment of an application fee - non-refundable - amounting to € 15 to be paid by credit card according to the instructions given in the appropriate section of the online application. The application online can be saved and modified several times until the submission, afterwards it cannot be changed anymore.

Candidates must make sure that they have received the email notifying the correct closure of the online application. The University refuses any liability for all those applications not properly completed, closed and submitted by candidates.

The online application is considered to be a self-declaration of personal data and qualifications declared with full legal effect.

MANDATORY ATTACHMENTS (failure to upload one or more mandatory attachments results in automatic exclusion from the selection⁵)

1. 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 photograph, personal data, number, place and date of issue, expiry date and signature.

2) Academic certificate:

• **Italian qualification:**

already obtained: a self-declaration, in accordance with Presidential Decree art. 46 no. 445 of 28.12.2000 and subsequent amendments, declaring the degree obtained, "*Classe di Laurea*"⁶, award date, issuing University, final grade, examinations taken, grades and credits obtained (by using Annex A); graduates of the University of Trento may declare the place and the date of award as the other information will be collected automatically;

to be obtained: a self-declaration, in accordance with Presidential Decree art. 46 no. 445 of 28.12.2000 and subsequent amendments, declaring the possible awarding date, issuing University, final grade, examinations taken, grades and credits obtained (by using Annex A); future graduate of the University of Trento may declare the place and the foreseen date of awarding as the other information will be collected automatically;

• **foreign qualification**⁷:

already obtained: copy of the academic certificate (necessary for access to doctoral studies) accompanied by a list of exams with their credits and grades and, if available, the Diploma Supplement⁸ / transcript of records or Declaration of value⁹ or Rector's Decree of equivalence¹⁰;

to be obtained:

- a certificate of enrolment with a list of the examinations successfully passed and marks and credits obtained in each examination (if this document is not in English, the applicant must provide, in the same file, a translation of the same duly undersigned);
- a statement declaring that the student will complete his/her degree by October 31, 2016 (including the name of the awarding Institution and the official duration of the Master's programme).

3) summary of the Master's thesis (in Italian or in English) explaining the reasons for the choice of the subject, the research methodology and the results obtained (max. 4 pages);

⁵ The list of candidates, identified by the application ID, excluded for incomplete application will be published on the selection website.

⁶ See at <http://hubmiur.pubblica.istruzione.it/web/universita/offerta-formativa/classi-di-laurea-magistrale>

⁷ It is in the interest of the applicant to provide all relevant information for the assessment, especially if the country where the qualification was obtained has an education system not comparable to the Italian one. EU candidates who have obtained or will obtain the qualification abroad can submit self-declaration (see facsimile in Annex A)

⁸ The Diploma Supplement accompanies a higher education diploma, providing an improvement in international "transparency" and a promotion of the academic and professional qualifications obtained (diploma, degrees, certificates, etc.). The Diploma Supplement must be issued by the same institution that issued the qualification. Further information at: http://ec.europa.eu/education/lifelong-learning-policy/ds_en.htm

⁹ Further information about DV at <http://www.cimea.it/default.aspx?IDC=176>

¹⁰ The delivery of the Diploma Supplement, Declaration of value or decree of equivalence, optional in the application stage, will be mandatory for the winners at the time of actual enrolment.

- 4) **curriculum vitae** in English, preferably according to the Europass model, clearly accounting for the applicants previous experience (Bachelors, prizes, researches,...):
<http://europass.cedefop.europa.eu/en/documents/curriculum-vitae>;
- 5) **statement of purpose** (in Italian or English, max. 2 pages);
- 6) **Bachelor degree certificate** (or equivalent), with academic transcript of exams and grades obtained. For EU citizen with a title awarded by an European public institution, the photocopy can be substituted by a self-declaration according to Italian D.P.R. 45/2000.

OPTIONAL ATTACHMENTS:

- any additional documents which may be useful for the assessment of qualifications (degree thesis, awards, scholarships, post-graduate research activity, etc.);
- a maximum of 2 reference letters¹¹ in English or Italian by referees, experts in the research fields of the Doctoral Programme from Universities or National/ International Research Institutions.
Reference letters must not be sent by candidates. Once the section “Referees” has been completed and saved by the candidate, the system automatically sends, within 24 hours, a notification email to the referees containing the instructions and modalities of transmission. Letters have to be issued on the base of a model sent directly to referees, and have to be uploaded on the website by them.
It is strongly recommended that applicants verify with their referees that they have uploaded the Reference Letters **no later than September 5, 2016.**

The University will accept any additional documents to the submitted application if sent by email to ateneo@unitn.it (**Subject:** “Application ID - Applicant’s Surname and Name – PhD Programme in in “Physics” – 32nd Cycle - Supplement to application”) **within August 31, 2016, HRS 04.00 PM (GMT +2) Italian time.** Additional documents submitted by different means will be disregarded.

Only documents in English and Italian will be taken into consideration for the selection by the Admissions Committee; for all other languages it is compulsory to attach a translation into English undersigned by the candidate.

All applicants are admitted to the selection procedure conditionally upon ascertainment that they fulfill 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 no. 445 of 28.12.2000. The University can at any time, even after enrolment and upon justified reasons, decide the exclusion of candidates lacking the requirements specified in the present call.

Art. 4 – EVALUATION OF APPLICATIONS

1. The evaluations is made by an Admissions Committee for access to the PhD Programme appointed by the Rector upon advice of the PhD Programme Committee, in accordance with the University doctoral regulations. The Committee sets the evaluation criteria during the preliminary meeting.
2. The selection procedure is designed to ensure, comparatively, the knowledge and aptitude of the candidates to carry out research in areas related to the PhD programme. The selection is made on the basis of the assessment of:
 - the applicant’s qualifications according to previous art. 3
 - an interview. The oral examination is designed to assess the candidate’s background about the Doctorate scientific areas, to discuss past research – included Master’s thesis - and professional experience, and qualifications submitted. The level of knowledge of English will also be assessed. In order to be allowed to oral examination the candidate must provide a valid ID/passport with photo. Applicants residing or domiciled abroad, or otherwise unable to proven reasons to take the interview in person, may be authorized – upon request – to conduct the oral examination in another seat by

¹¹Lack of reference letters does not constitute cause for exclusion from the selection procedure.

video-conference. The Committee will guarantee that all the regularity requirements are fulfilled during the examination (verifying the candidate's identity and the accuracy of the interview)

3. Applicants who wish to be eligible for the reserved scholarships must make an explicit request to the Admissions Committee before the interview at the time of identification. Competences on the specific subject of the reserved scholarship/s will be assessed during the interviews of interested applicants. **N.B.!** The choice made by the candidate to compete also for the reserved scholarships implies a preference on his/her part for the allocation of that specific scholarship with respect to the others.
4. The Admissions Committee may assign each candidate 100 points as follows:
 - 30 points: assessment of qualifications, optional attachments and reference letters included.
 - 70 points: interview.
5. Candidates obtaining a minimum score of 15/30 for the assessment of qualifications will be admitted to the oral examination. The interview is successfully passed with a minimum score of 30/70. Applicants obtaining an overall score of 60/100 will be short-listed.
6. The **assessment of qualifications** will be held **on September 7 and 8; interviews** will be held **from 19th to 23rd of September, 2016**.

Art. 5 – RANKING

1. At the end of the selection procedure the Admissions Committee draws up one ranking.
2. Scholarships are assigned to short-listed applicants following:
 - a) the position in the ranking;
 - b) for reserved scholarships, the applicant's eligibility for that specific scholarship.
3. The non-allocation of scholarships on reserved topics concerning previous point b) will result in the reduction of the available positions.

Art. 6 – ADMISSION TO THE DOCTORAL PROGRAMME AND ACCEPTANCE OF THE POSITION

1. Short-listed applicants are admitted to the PhD Programme according to their place in the final ranking until all available places have been filled. The applicant who has been awarded a scholarship on a specific reserved topic must accept it. The renunciation of the reserved scholarship implies the exclusion of the applicant from the right to enrol in the PhD programme.
2. Should two candidates obtain the same score, as regards the awarding of the scholarship, the candidates' economic situations shall be the deciding factor, in accordance with the criteria established by the Italian Prime Minister's Decree of 9 April 2001 and subsequent amendments and integrations.
3. Admitted applicants must send the acceptance of the position following instructions at <http://www.unitn.it/en/ateneo/1928/enrollment-1-2-3-year>:
 - **within 8 days** starting from the next day of the publication of the final ranking on the Selections website for **positions with scholarships**;
 - **within 14 days** starting from the next day of the publication of the final ranking on the Selections website for **positions without scholarships**.

N.B.! Admitted applicants with a foreign qualification must deliver the Diploma Supplement (qualifications obtained in countries of the European Research Area) or the Declaration of value together with the copy of the final Diploma with a complete transcript of records, translated and authenticated by the Italian diplomatic representatives in the Country of issue; if these documents are not available at the time of the acceptance of the position, they must be delivered **by November 9, 2016**. The non-delivery may result in the exclusion from the Doctorate.

4. Please note that the enrolment must include the payment of stamp duty and, where applicable, the payment of the "provincial tax for the right to higher education" - TDS¹². To date there are no fees charged to doctoral students to access courses and the frequency thereof, with the exception of the aforementioned annual provincial tax for the right to study (TDS).
5. Admitted applicants **who do not enrol within the above mentioned deadlines** will lose their right to enrol and their places will be offered to the next applicants on the relevant ranking.
6. If a successful applicant withdraws before the beginning of the course (November 1, 2016), the next applicant on the reference ranking will be offered the place. The latter must submit his/her enrolment **within 4 days** starting from the day after the day in which the communication from the Doctorate Office S&T is sent.
7. If a successful applicant withdraws or is excluded after the beginning of the courses and during the first quarter of the first year (three months), the PhD Programme Committee may decide to fill the vacancy with the next applicant on the list.

Art. 7 – SUPERNUMERARY POSITIONS

1. According to art. 20, par. 3 of the University Regulations for Doctoral Programmes, no more than **3** supernumerary applicants may be admitted without scholarship paid by the University, after passing the selection procedure, if they fall under one of the following cases
 - shortlisted non-EU candidates who are granted scholarships by other entities;
 - shortlisted candidates from countries which have specific inter-governmental agreements with Italy, and with which an ad-hoc agreement with the University is then made, without the University of Trento being required to assume any financial obligations
 - be a research fellow (*Assegnista di ricerca*) at the date of the beginning of the PhD programme according to Italian Law 240/2010 and be researching a subject relevant to the PhD Programme; such relevance to be determined by the PhD Programme Committee;
 - Italian civil servants or under Italian public law regime. Admission is subject to passing the selection procedure and placement on leave under Art. 2 of the Law of 13.08.1984 no. 476 and subsequent amendments.
2. Short-listed applicants who wish to assert their requirements for supernumerary positions shall request for such admission by submission of appropriate documentation proving their status via e-mail to phd.office-st@unitn.it **within 8 days** starting from the next day of the publication of the ranking lists. Supernumerary admission is disposed within the limit of the number of supernumerary positions listed in art. 1.
3. After verification of the documents referred to in par. 2, applicants who will be admitted on supernumerary positions will receive an email notification by the Doctorate Office S&T (phd.office-st@unitn.it) and must deliver their acceptance within the deadline specified in the email text itself.
4. Any candidates selected by special committees for admission related to specific international mobility programmes in which the University of Trento participates, may also be admitted to the 32nd Cycle on additional positions with respect to the quota specified in art. 1.

Art. 8 – ENROLMENT ON THE PHD PROGRAMME

According to Ministerial Decree no. 45 of 08.02.2013 the PhD programme can only be activated upon accreditation or its confirmation by the Ministry of Education. Therefore the enrolment on the PhD Programme, only for admitted candidates who have accepted the position as mentioned above in art. 6, will be automatically formalized as soon as received the aforementioned accreditation or its confirmation will have been approved. In case of accreditation not confirmed, candidates who have accepted the place will receive a timely notification via email and the fee for the Right to Education (TDS) will be refunded.

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

¹² Please note that the total amount of TDS + duty stamp must be paid only by credit card following the instruction. At page <http://www.unitn.it/en/ateneo/1931/education-tax-tds-and-revenue-stamp> you can check if you can be exempted from TDS.

Without prejudice to the Italian law on copyright (Legislative decree no. 633/1941 and subsequent amendments), use of results derived from doctorate research conducted with scholarships of other financial support financed by external bodies may be subject to restrictions imposed by specific funding agreements of which doctoral support-holders will be informed at the moment of acceptance of the position or enrolment.

Art. 10 – PERSONAL DATA

The University of Trento, abiding by Legislative Decree 196/2003 and subsequent amendments, shall use the personal data of the applicants only for the purpose of the selection procedures and for institutional reasons. Participation in the present selection entails, in observance of the above-mentioned law, that the applicant allows the University of Trento to publish his/her personal data concerning the results of the selection procedure on the University website. Data are treated by the University of Trento, via Calepina, 14 – 38122 Trento (Italy).

Art. 11 – REFERRAL RULES

1. For matters not explicitly mentioned in the present call, refer to Law no. 398 of 30.11.1989, art. 4 of Law no. 210 of 3.07.1998 as amended by art.19, par. 1, of the Law no. 240 of 30.12.2010, to Ministerial Decree no. 45 of 08.02.2013 and to the University Regulations for Doctoral Programmes issued with the Rector's Decree no. 383 of 04.07.2013 and subsequent amendments, to the Code of Ethics of the University of Trento, to the Internal Regulations in force of the PhD Programme in Physics, 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. Any changes or additions to the call will be made available only on the selection website specified in art. 1.

On behalf of
The Rector

The Head of Education and Student Services
Dott. Paolo Zanei

Declaration substituting
DEGREE CERTIFICATE¹

(Article 46 - letters l, m, n - D.P.R. 28 December 2000, No. 445)

The undersigned _____

Place of birth (*city+country*) _____ date of birth _____

Official postal address (*street, number, zip code, city, country*) _____

Mob. _____ e – mail _____

aware of the penal sanctions pursuant to Article 76 of the Italian Presidential Decree No. 445 of 28.12.2000 for falsifying documents and making mendacious declarations

DECLARES

1. TO HAVE GRADUATED (click the corresponding box):

- Type of degree Master's degree
 Laurea specialistica/magistrale
 Italian University degree of the previous regulations in force
 Other (specify) _____

Degree title: _____

on ____/____/____ University of² _____

Country _____

with mark _____ out of _____

AND TO HAVE PASSED THE FOLLOWING EXAMS (fill out the following section C, **obligatory in either case A) or B)**

Alternately:

2. TO HAVE NOT YET GRADUATED and to be aware that admission to the Doctorate is conditional upon submission of the degree certificate by the date cited in the announcement.

- Type of degree Master's degree
 Laurea specialistica/magistrale

¹ (*) To be noted:

- Extra-EU students can provide self-declarations only concerning facts and information which can be verified by an Italian public administration and only if they are in possession of a valid residence permit, to be attached to the declaration;
- The self-declaration shall provide all the information required, in particular the admission requirements and those related to the mark, date and place of obtainment of the degree and/or English certificate;
- The self-declaration shall be duly signed and dated.

² Graduates of the University of Trento may declare the date of awarding of the title; other information will be collected automatically.

ANNEX A

- Italian University degree of the previous regulations in force
- Other (specify) _____

Degree in: _____

University of³: _____ Country: _____

Expected graduation date: _____

AND TO HAVE PASSED THE FOLLOWING EXAMS (fill out the following section C, obligatory in either case A) or B)

SECTION C: List of exams taken (marks and dates mandatory):

Course Title	Mark/Out of	Number of credits	Date

Date and place, _____

**Signature of the declarant
 (full and readable)**

This declaration is exempt from stamp duty, pursuant to Article 37 of the Italian Presidential Decree No. 445 of 28.12.2000.

³ Future graduates of the University of Trento may declare the date of awarding of the title; other information will be collected automatically.