



UNIVERSITY  
OF TRENTO - Italy

**Call for Doctoral positions at the**  
PhD Programme in  
**Civil, Environmental and Mechanical Engineering**  
**32<sup>nd</sup> Cycle**

**ACADEMIC YEAR 2016/2017**

**N.B. Please note that only the Italian version of the present call issued with Rector's Decree no. 501 of 07.07.2016 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 32<sup>nd</sup> Cycle (Academic Year 2016/2017) of the Phd Programme in Civil, Environmental and Mechanical Engineering as follows:

	<b>Curriculum A Civil and Environmental Engineering</b>	<b>N.</b>	<b>Topics of reserved scholarships<sup>1</sup></b>
<b>Positions</b>	University of Trento Scholarships	<b>3</b>	-
	University of Trento and Department of Civil, Environmental and Mechanical Engineering Scholarships	<b>4</b>	-
	Edmund Mach Foundation (Trento) scholarship	<b>1</b>	A1 - Formulation of Trichoderma atroviride SC1 for soil application
	Positions without scholarship	<b>1</b>	-
	<b>Nr. of positions</b>	<b>9</b>	-
	Supernumerary positions	1	-

	<b>Curriculum B Mechanics, Materials, Chemistry and Energy</b>		<b>Topics of reserved scholarships</b>
	University of Trento Scholarships	<b>1</b>	-
<b>Positions</b>	University of Trento and Department of Civil, Environmental and Mechanical Engineering Scholarships	<b>2</b>	-
	University of Trento and ISTECCNR (Faenza) Scholarship	<b>1</b>	B1 - Mechanics of biomimetic implants for bone and osteochondral regeneration
	Positions without scholarship	<b>1</b>	-
	<b>Nr. of positions</b>	<b>5</b>	-
	Supernumerary positions	1	-

	<b>Curriculum C Modelling and Simulation</b>		<b>Topics of reserved scholarships</b>
<b>Positions</b>	University of Trento and Department of Civil, Environmental and Mechanical Engineering Scholarships	<b>3</b>	C1 - Development of thermomechanical-based finite elements for nonlinear resilient systems
	University of Trento and Department of Economics and Management Scholarships	<b>1</b>	-
	University of Trento and Istituto Italiano di Tecnologia (IIT Pontedera) Scholarships	<b>2</b>	C2 - Mechanics of Soft Adaptive Robots Inspired by Legless Living Organisms for Soil Exploration C3 - Mechanics of Octopus Inspired Suckers
	Fellowships for doctoral studies (Marie Skłodowska-Curie XP-RESILIENCE) <sup>2</sup>	<b>2</b>	C4 - Analysis and risk assessment of petrochemical plants endowed with innovative metamaterial-based shields under seismic/fire loadings C5 – Novel analysis of shallow and deep foundations and optimal layouts of subplants/plants under seismic conditions

<sup>1</sup> Reserved scholarships can only be assigned to those candidates who will ask for and obtain the specific eligibility.

<sup>2</sup> Marie Curie positions, both fellowships and positions without scholarship, are reserved to European Training Network XP-RESILIENCE - ETN - H2020-MSCA-ITN-2016 – Marie Skłodowska-Curie – Innovative Training Network (ITN) project, coordinating by University of Trento. The positions are reserved to the candidates in possession of specific admission requirements, available on the selection website.

	Positions without scholarship reserved to MSCA fellow (Marie Skłodowska-Curie XP-RESILIENCE)	2	C6 – Development of an optimal real-time monitoring system for petrochemical plants subjected to Na Tech events  C7 – Risk/Resilience-based design of petrochemical plants and development of recommendations for Eurocode extension
	Positions without scholarship	1	-
	<b>Nr. of positions</b>	<b>11</b>	-
	Supernumerary positions (see art. 8)	1	-

	<b>Curriculum D: Architecture and Planning, Landscape</b>		<b>Topics of reserved scholarships</b>
<b>Positions</b>	University of Trento Scholarships	1	-
	Positions without scholarship	1	-
	<b>Nr. of positions</b>	<b>2</b>	-
	Supernumerary positions (see art. 8)	1	-

**Deadline for application: August 25, 2016, at 4.00 pm (Italian local time – GMT+2)**

For further details on research topics see the selection website.

**Duration:** three years

**Start of the Academic Year:** November 1st, 2016

**Selection website:** <http://www.unitn.it/en/ateneo/1954/announcement-of-selection>

**PhD Programme website** (information on the programme, admission to subsequent years and to final examination): <http://web.unitn.it/en/dricam>

**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 Language:** English

**Settori scientifico–disciplinari:** <http://web.unitn.it/en/dricam/29600/scientific-areas>

The positions with scholarships or other forms of financial support may be increased after the publication of this call till August 25, 2016.

All the new available positions will be posted solely on the selection website.

**Important notice:**

- a. All selection results (interim and final), as well as the possible exclusion from the selection for incomplete application and/or exclusion for foreign qualification title 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 and applicants will not receive any personal communication.
- b. 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 in the section “Email address for notification”. Candidates are advised to check their mail box regularly and keep the Doctorate Office - Science and Technology ([phd.office-st@unitn.it](mailto:phd.office-st@unitn.it)) timely informed of any change of their email account.

**Art. 2 – ADMISSION REQUIREMENTS**

1. Applications for doctoral positions are accepted from Italian as well as foreign applicants, regardless of gender and age, provided their eligibility by possessing:

- 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, “Laurea 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 level) to the Italian degree, recognized as equivalent<sup>3</sup> by the Admissions Committee for the sole purpose of access to the Phd Programme.  
Any degree in a scientific and technological area will be given preferential status.
2. Applications are also accepted from students expecting to obtain the required degree **by October 31<sup>st</sup>, 2016**. Admission to the Doctoral Programme for successful applicants who have not yet graduated will be “conditional” and the applicant will have to submit to the Doctorate Office S&T (via email to: [phd.office-st@unitn.it](mailto:phd.office-st@unitn.it)) **by November 4<sup>th</sup>, 2016**, on penalty of exclusion, a certificate or self-declaration of the degree awarded.
  3. Applicants with a foreign qualification who do not have a legally recognized title equivalent<sup>4</sup> to an Italian degree (*Laurea Magistrale/Specialistica/vecchio ordinamento*) will be considered on hold in requesting the equivalence in their application. In this case the applicant is requested to attach the necessary supporting documents. The Admissions Committee may require the applicants to provide additional documentation in order to assess their eligibility. The ID list of applications whose foreign academic qualifications have been considered not eligible for admission to the selection will be available at the webpage of the admission procedure.

### Art. 3 – APPLICATION PROCEDURE

The application must be **completed and submitted by August 25<sup>th</sup>, 2016 at 4:00 PM Italian time (GMT +2), exclusively through the online system:** <http://www.unitn.it/en/apply/dott>.

Candidates who do not have an account at the University of Trento must register<sup>5</sup> in advance at: <http://www.unitn.it/account>.

For the application a non-refundable payment of € 15 is required which can 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 final submission. However, after the final submission it can no longer be modified.

It is the sole responsibility of the applicant to verify the final submission of the application through receipt notification received by e-mail. The University refuses any liability for all applications not properly submitted by candidates.

During the filling out of the application online applicants must choose which curriculum/a they are interested to apply for, specifying the order of preference. If a candidate is winner in more than one curriculum, he/she will be enrolled in the curriculum that was marked higher as choice in their application online.

Applicants must attach a research proposal/s in connection with the curriculum/a chosen. After the assessment of all candidates, the committee may review the position of those who could not access to any of the chosen curricula, possibly placing them in the ranking/s of other curriculum/a even if not chosen during the application.

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

**5. MANDATORY ATTACHMENTS** (failure to upload one or more mandatory attachments results in automatic exclusion from the selection<sup>6</sup>)

#### 1) Identifying document (ID):

<sup>3</sup> <http://www.study-in-italy.it/study/new-degrees.html>

<sup>4</sup> For further information visit <http://www.cimea.it/default.aspx?IDC=134>

<sup>5</sup> Candidates are advised to register well in advance of the deadline because the issue of the username and password (sent via email), necessary to enter UNITN’s online services, may require up to 2 working days.

<sup>6</sup> The list of candidates excluded because of incomplete application and identified by the application ID will be published on the selection website.

- 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;

## 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 possession of a degree with examinations taken, grades and credits obtained, by using Annex A (graduates from the University of Trento may only declare the place and the date of award as the other information will be collected ex officio);

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

- **foreign qualification<sup>7</sup>:**

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 Supplement<sup>8</sup>/Transcript of Records or Declaration of value<sup>9</sup> or Rector's Decree of Equivalence<sup>10</sup>;

to be obtained:

- a certificate of enrolment with a list of the examinations successfully passed and marks and credits obtained in each examination;
- a statement declaring that the student will complete his/her degree by October 31, 2016 including the Institution and the official duration of the course.

## 3) Summary of the degree thesis written in English explaining the reasons for the choice of the subject, the research methodology and the results obtained (maximum 2 pages);

## 4) Curriculum vitae et studiorum preferably on the basis of the Europass template: <http://europass.cedefop.europa.eu/en/documents/curriculum-vitae>;

## 5) description of the research proposal and statement of purpose in English (maximum 3 pages) relative to the research areas of the PhD Program in Civil, Environmental and Mechanical Engineering. A list of research topics, that can be useful as a reference for the project, will be published on the website: <http://www.unitn.it/en/ateneo/1954/announcement-of-selection>. Applicants wishing to participate in one or more reserved scholarships must attach a file containing a project for each topic. For any scholarships on reserved topics that will have been made available after the deadline of this call, see art. 4. **The candidates awarded a scholarship on a specific reserved topic is required to accept. Renouncing of the reserved scholarship implies the exclusion of the candidate from the right to enroll in the PhD programme.**

## 6. OPTIONAL ATTACHMENTS:

- List of research outputs;
- any certificates attesting the knowledge of foreign languages;
- any other documents useful to assess the research skills of the applicant (prizes, scholarships, post-graduate research and work activity, etc.)
- Up to two names of referees working at universities or national and international research institutions, with details of their e-mail addresses<sup>11</sup>.

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

<sup>8</sup> 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](http://ec.europa.eu/education/lifelong-learning-policy/ds_en.htm)

<sup>9</sup> <http://www.cimea.it/default.aspx?IDC=118>; <http://www.studiare-in-italia.it/studying/info-07.html>; <http://www.cimea.it/default.aspx?IDC=176>

<sup>10</sup> The deliver of Diploma Supplement/Transcript of Records, Declaration of value or Rector's Decree of Equivalence will be mandatory during the enrolment procedure.

<sup>11</sup> A lack of reference letters is not a cause for exclusion from the selection procedure.

The University will accept any additional documents to the submitted application if sent by email to [ateneo@unitn.it](mailto:ateneo@unitn.it) (**Subject:** "Application ID number- candidate's Surname and Name - Doctorate in Civil, Environmental and Mechanical Engineering – 32° cycle - Supplement to application") **by August 25<sup>th</sup>, 2016 at 04:00 p.m. Italian time. Additional documents submitted by other 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 signed by the candidate. The attachments required at points 3 and 5 must be submitted in English by all applicants.**

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 for enrolment to the PhD Programme is made by an Admissions Committee appointed by the Rector upon advice of the Doctoral Committee, in accordance with the University doctoral regulations. The Admissions Committee sets the evaluation criteria during meetings preliminary to the selection.
2. The admission to the Doctoral Programme is decided upon the evaluation of the candidate's expertise by the Admissions Committee, based on his/her knowledge and scientific research attitude with specific focus on the curriculum/a chosen in the Application online.  
The selection is made on the basis of the assessment of qualifications (listed in previous art. 3). The Admission Committee may contact the applicant for an in-depth interview or a video-interview concerning the material submitted. This interview will not entail additional points. Interviews will be held from September 8<sup>th</sup>, 2016. Applicants are requested to insert a valid Skype contact in the online application in order to be called.
3. Applicants who are interested in applying also for scholarships for specific research subject (reserved scholarships) must specify it in the online procedure. Candidates, who will have sent the application by the deadline, may also opt for any scholarships on reserved topics that will be available after the deadline of this call. These scholarships will be published on the selection website together with the instructions on how to access the online system that will be only available from August 26<sup>th</sup> till August 31<sup>st</sup>, 2016, 4.00 PM (GMT +2) Italian time. Competences on the specific subjects of the reserved scholarships or fellowships will be assessed during the evaluation process by the Admissions Committee based on the research projects submitted.  
**IMPORTANT NOTICE:** the candidate's selection 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 can assign each candidate a total score of 100 as follows:
  - 30 for the assessment of qualifications and curriculum vitae;
  - 60 for the assessment of research proposal and statement of purpose.
  - 10 for the assessment of the summary of the degree thesis.
5. Candidates obtaining a minimum score of 60/100 will be short-listed.
6. The assessment of qualifications will take place at the Department of Civil, Environmental and Mechanical Engineering, Via Mesiano, 77 – 38123 TRENTO from **September 8, 2016**.

#### Art. 5 – RANKING

1. At the end of the selection procedure the Admissions Committee will draw up one ranking for each curriculum.
2. Scholarships are assigned to short-listed applicants according to:
  - a) the position in the ranking list;
  - b) for reserved scholarships, applicant's suitability for that specific scholarship.

3. The non-allocation of scholarships on reserved topics will result in the reduction of the available positions.

#### Art. 6 – ADMISSION TO THE DOCTORAL PROGRAMME AND ENROLMENT

1. Applicants are admitted to the Doctoral Programme according to their position in the final rankings until all available positions in each curriculum have been filled. If a candidate is chosen in more than one curriculum, he is enrolled in the curriculum that he selected as first choice in the application online and deleted from the other ranking/s. The applicant who has been awarded a scholarship on a specific reserved topic must accept it. The renunciation of the reserved scholarship implies the applicant's exclusion from enrolment 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 09.04.2001 and subsequent amendments and integrations.
3. Admitted applicants must enrol following the instructions at <http://www.unitn.it/en/ateneo/1928/enrollment-1-2-3-year>:
  - **within 8 days** starting from the day following publication of the final rankings on the Selections website for **positions with scholarships**;
  - **within 14 days** starting from the day following publication of the final rankings on the Selections website for **positions without scholarships**.

**Important notice!** 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 exams, grades and credits obtained, 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<sup>th</sup>, 2016**. The lack of documents delivery by the deadline may result in the exclusion from the Doctorate.

4. The enrolment must include the payment of stamp duty and, where applicable, the payment of the "provincial tax for the right to higher education" - TDS<sup>12</sup>. At present, no fees are charged to doctoral students to access courses and attend them, with the exception of the aforementioned annual provincial tax for the right to study (TDS).
5. Admitted applicants who do not enrol by the above-mentioned deadlines will lose their right to enrol, and their position will be offered to the next applicants on the relevant ranking list.
6. If a successful applicant withdraws before the beginning of the PhD Programme (November 1, 2016), the next applicant on the reference ranking list 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 during the first quarter of the first year (three months), the Doctoral Committee may decide to fill the vacancy with the next applicant on the reference list.

#### Art. 7 – SUPERNUMERARY POSITIONS

1. According to art. 20, par. 3 of the University Regulations for Doctoral Programmes, no more than **4** supernumerary applicants may be admitted without scholarships paid by the University, after passing the selection procedure, if they fall within one of the following categories:
  - a) shortlisted non-EU candidates who are granted scholarships by other entities;
  - b) 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;

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<sup>12</sup> Note that the total amount of the TDS + stamp duty must be paid only by credit card following the instructions. Page <http://www.unitn.it/en/ateneo/1931/education-tax-tds-and-revenue-stamp> provides information on exemption from the TDS.

- c) research fellows (*Assegnista di ricerca*) at the date of the beginning of the PhD programme according to Italian Law 240/2010 and researching a subject relevant to the PhD Programme; such relevance to be determined by the Doctoral Committee;
  - d) 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 to do so by submission of appropriate documentation proving their status via e-mail to [phd.office-st@unitn.it](mailto:phd.office-st@unitn.it), such admission **within 8 days** from the day following publication of the ranking lists. Supernumerary admission is disposed within the limit of the number of supernumerary positions listed in par. 1.
  3. After verification of the documents referred to in par. 2, applicants admitted to supernumerary positions will receive an email notification from the Doctorate Office S&T ([phd.office-st@unitn.it](mailto: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 positions additional with respect to the quota specified in par. 1.

#### Art. 8 – INTELLECTUAL PROPERTY RIGHTS ON RESEARCH RESULTS AND PUBLICATIONS

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. 9 – 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. 10 – 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 Doctoral School in Information and Communication Technology, 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



# ANNEX A

## Declaration substituting **DEGREE CERTIFICATE<sup>1</sup>**

(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

#### A) 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 of<sup>2</sup> \_\_\_\_\_

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:

#### B) 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  
 Italian University degree of the previous regulations in force

#### <sup>1</sup> (\*) 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 award of the degree and/or English certificate;
- The self-declaration shall be duly signed and dated.

<sup>2</sup> Graduates of the University of Trento may only declare the date of award of the title; other information will be collected automatically.

