



UNIVERSITY OF TRENTO - Italy

Announcement of selection for doctoral positions in “Doctoral School in Materials Engineering” – 23rd cycle

THE RECTOR

- In accordance with Law no. 210 of 3.07.1998 and in particular, art. 4, which assigns the organization of doctoral studies to universities in accordance with the general criteria stipulated by ministerial regulations;
- In accordance with the Ministerial Decree no. 224 of 30.04.1999, regarding the general criteria to be followed by individual universities in the organization of doctoral studies;
- In accordance with the Decree by the Prime Minister of 9.04.2001, and subsequent amendments on the general criteria for uniform treatment regarding the right to higher education;
- In accordance with the Charter of the University of Trento and in particular art. 8, paragraph 3;
- In accordance with the University Regulations for Doctoral Schools, issued with the Rector's Decree no. 997 of 16.12.2003; and subsequently modified with Rector's Decree no. 359 of 19.04.2006;
- In accordance with the proposal made by the Department of Materials Engineering and Industrial Technologies;
- In accordance with the report by the Scientific Committee in its session on 10.06.2004 on the scientific relevance of the proposal to set up Doctoral Programmes;
- In accordance with the report of the internal Evaluation Committee of 16.01.2007 on the requirements for the Doctoral Programmes proposed;
- In accordance with the resolution made jointly by the Academic Senate and the Scientific Research Committee on 06.02.2007

decrees

ART. 1 - INSTITUTION

The University of Trento announces the 23rd cycle of the International Doctoral School in Materials Engineering in co-operation with the University of Havana (Cuba), the Institute for Transuranium Elements of Karlsruhe (Germany), the University of Colorado at Boulder (USA) and the Georgia Institute of Technology (USA).

Length: three years¹

Scientific Areas:	CHIM/06	Organic Chemistry
	CHIM/07	Chemical Basis of Technologies
	FIS/03	Material Physics
	GEO/02	Stratigraphic and Sedimentological Geology

¹ The “Dual PhD” program with the University of Colorado at Boulder and the Georgia Institute of Technology lasts 4 years

ING-IND/14	Machine Design
ING-IND/21	Metallurgy
ING-IND/22	Materials Science and Technology
ING-IND/23	Applied Physical Chemistry
ING-IND/25	Chemical Plants
ING-IND/34	Industrial Bioengineering
MAT/07	Mathematical physics

Research area: Biomaterials and biomedical technologies
 Biotechnologies and technologies agroindustrial
 Nanotechnologies and nanomaterials
 Surface engineering
 Structural materials, durability and lifetime assessment
 Net-shape materials
 Materials for energy and environment
 Materials and technologies for cultural heritage
 Functional materials
 Materials and technology for food industry

Head of the School: prof. Paolo Scardi – phone: +39 0461 882417 - e-mail: paolo.scardi@ing.unitn.it

Official languages: Italian and English

Selection for 15 doctoral positions in the Materials Engineering Programme is announced, of which 10 positions will be assigned grants².

Grants are financed as follows:

7 grants	University of Trento, one of which will be reserved for those doctoral students who will participate in the programme with the University of Colorado at Boulder and one with the Georgia Institute of Technology ³
1 grant	Fondazione Trentino Università, for the research project on "Hot working of nanostructured aluminium"
1 grant	Department of Materials Engineering and Industrial Technology, for the research project financed by european funds on "Study of deep cryogenic treatment of tool steels"
1 grant	Sincrotrone Trieste on the research project "Materials characterization by synchrotron radiation powder diffraction at MCX, the new beamline at Elettra".

ART. 2 –ADMISSION REQUIREMENTS

Applications for doctoral positions are accepted from candidates, regardless of sex, age and nationality, who have an "laurea specialistica (magistrale) italiana", according to Ministerial Decree no. 509 of 3.11.1999 as amended, a university degree of the previous regulations in force, or equivalent degree qualification obtained abroad, it is better if the degree concerns materials or industrial Engineering or scientific- technological areas.

Applications are also accepted from students who expect to complete their degree **by 31.10.2007**. They need to present, together with their application, a statement declaring they will obtain the degree **by this date**. In such cases admission is "conditional" and applicants must be able to present the degree certificate when enrolling or he will be excluded.

Applicants who have a foreign qualification that has not been officially recognized as equivalent to an Italian degree should submit a request for equivalence to be recognized in their application for the selection.

In this case they must attach the following documents in addition to the application form:

² The number of grant-assisted places may be increased by funds from universities, public research bodies or qualified private organizations made available after the publication of this announcement and before the assessment of qualifications. Any increase in the number of available places resulting from an increase of grants will be communicated through the official notice board of the University of Trento and posted on the website: <http://portale.unitn.it/en/ec/phd/me.htm>

³ The starting of the Programme will be subjected to the signing of both Universities of the specific Convention concerning the co-tutelle Programme

- degree certificate or degree self-certification (according to Presidential Decree no. 445 of 28.12.2000 concerning EU citizens);
- translation into English or into Spanish of the degree certificate with exams and marks obtained and duly signed by the applicant to enable the Doctoral School Committee to declare its equivalence, for the only purpose of being admitted to the selection of the Doctoral Programme.

Successful non-EU applicants, who have a foreign qualification, must present the degree certificate with exams taken and marks obtained, translated and certified by the Italian Embassy or Consulate in the country of the university that issued the degree and the value declaration ("Dichiarazione di Valore") when enrolling.

Art. 3 – THE DOCTORAL PROGRAM

The syllabus provides for activities differentiated during the three-year course, with greater attendance of classes during the first and second year. The Doctoral programme adds up to 180 credits, 120 recognised for the research activities and 60 for educational activities.

Research credits are awarded by completing the dissertation, whereas educational credits can be obtained by attending:

- courses of the Manifesto of Studies (<http://www.ing.unitn.it/dimti/>);
- courses taken at other institutions;
- schools, workshops and seminars organised by the Doctoral Programme or by other institutions.

Such activities must be certified, based on the attendance and achievement of specific educational objectives.

The purpose of the educational activities is to provide doctoral students with an advanced background on the main topics of materials science and technology, placing emphasis on engineering expertise which is the basis of a Doctoral Programme in Materials Engineering. The target of the Doctoral Programme is to provide doctoral students with qualified skills in engineering, useful to work in research centres or in companies. As well.

One of the aims of the Doctoral Programme is to allow the students to achieve a complete maturity and autonomy in planning, programming, developing and reporting their research activity.

To be admitted to the second and third year, students are required to pass an exam. The student is asked to hold a seminar on the research topics concerning his/her dissertation. The seminar is public and it should be held in front of a commission, whose at least two members are appointed by the Doctoral School Committee, and the tutor. The final judgement of the commission will be based on the presentation, quality and advancement of the research work, ability of the student in answering to the commission' and audience's questions.

The official admission to the following year is granted by the Doctorate School Committee, which is asked to discuss and approve the report of the commission.

To be admitted to the following year, students should achieve at least 2/3 of the credits provided for their curriculum, unless the Doctoral School Committee allows an exception (for example, to allow the student to conduct extended research activity abroad).

The denial of the admission to the following year implies the exclusion from the Doctoral Programme and forfeiture the grant.

Within the third year doctoral students should take an exam, similar to the exam for admission to the second and third year, which qualifies him or her to take the final examination.

Doctoral student carrying out a co-tutelle program (i.e. the "Dual PhD" with the University of Colorado at Boulder), requiring to spend a period of research in a foreign university, could be asked to follow a specific research program.

Art. 4 – APPLICATION

Application should be made using the application form attached to this announcement.

The application, including the attachments required, **must arrive by the 15 September** in one of the following ways:

- by hand to the University of Trento - Ufficio Dottorati di Ricerca, Via Inama 5 – 38100 Trento (TN), from 10:00 am to 12:00 a.m., Monday to Friday;
- by mail to the following address: "Magnifico Rettore dell'Università degli Studi di Trento - via Belenzani 12 – 38100 Trento (TN), ITALY" (please, write "Doctoral School in Materials Engineering" on the envelope);
- by fax to the following number: +39 0461 882191.

The University of Trento does not take responsibility for loss of applications from mistakes in writing the address nor from possible postal or telegraphic delays or problems.

Applications arriving after the 15 September 2007 will not be considered, even if sent before this date.

According to Italian Law no. 104/92, art. 20, and to Italian Law no. 68/99, art. 16, para. 1, applicants with special needs are expected to indicate explicitly in their application whether they require special assistance or extra time during the examinations. Under Legislative Decree 196/03, all information will be kept confidential.

Applications should include:

- a photocopy of the applicant's identity card or passport;
- degree certificate or degree self-certification (according to Presidential Decree no. 445 of 28.12.2000 concerning EU citizens) with a list of the examinations passed successfully and the scores obtained in each examination.

Applicants expecting to complete their degree when applying, must submit a certification of the enrolment in the course of studies with a list of the examinations passed successfully and scores obtained in each examination and a declaration stating they will get the degree within the 31.10.2007, the title of the dissertation and a letter of the supervisor of the thesis. In case they should succeed in the competition they will be required to present the degree certificate by the date of the enrolment.

Applicants with a foreign qualification that has not been officially recognized as equivalent to the Italian degree have to attach a translation into English or Spanish of the degree certificate with exams and scores obtained, signed under their own responsibility, in order to allow the Doctoral School Committee to declare the equivalence, valid for the only purpose of participating in the selection.

- curriculum studiorum;
- abstract of the dissertation;
- two letters of recommendation written by experts in the doctoral research areas listed in art.1
- any certificates proving the knowledge of the English language;
- any other qualifications useful for assessment of the applicant (dissertations, scientific publications, works publishing).

If, after the submission of their application, applicants need to add further information, this must reach the University offices by the 15st of September 2007. The applicant's name, Doctoral School in Materials Engineering and the object "Integrazione domanda" must be clearly written on the envelope.

The University of Trento has the right to check, even to spot check, declarations and documents provided by the candidates, according to art. 71 and following articles of the Presidential Decree no. 445 of 28.12.2000.

Candidates not fulfilling the requirements requested can be omitted from the selection for the doctoral programme at any time.

Art. 5 – SELECTION

The selection process is designed to assess the candidate's knowledge and aptitude towards scientific research.

Applicants must show a document for identification in order to be admitted to the examination.

The examination process consists in:

- an assessment of qualifications according to Art. 4. Candidates obtaining a minimum score of 18 will be admitted to the written exam.

The list of the candidates admitted to the written exam will be displayed on the website:

<http://portale.unitn.it/en/ec/phd/me.htm>;

- a written exam; candidates obtaining a minimum score of 18 will be admitted to the oral exam;
- an oral exam. The oral exam is successfully passed with a minimum 18 point score.

The oral exam will also evaluate the candidate's knowledge of English.

The written and oral exam may be held in Italian or English prior authorization by the Admissions Committee.

The Admissions Committee can assign each candidate a total score of 90 as follows:

- 30 assessment of the qualifications;
- 30 written test;
- 30 oral exam.

At least 20 days before the date of the examination, time and location of the examination will be displayed on the website: <http://portale.unitn.it/en/ec/phd/me.htm> as laid down in Art. 20 of the University Regulations for PhD Research Programmes.

Art. 6 – PROGRAM OF THE EXAMINATION

The written exam is based on the general knowledge of Materials Engineering topics.

The oral exam will be focused on discussion of the written exam, the degree dissertation, any qualification of the candidate and a research proposal regarding the topic of candidate interest among those proposed by Doctoral Programme.

Art. 7 – ADMISSION COMMITTEE

After hearing the Doctoral School Committee, the Rector appoints the Admissions Committee. It will consist of three members chosen among Italian and foreign professors and researchers, who are experts in the scientific areas of the Doctoral School. The Committee may also include two experts, who may be foreign, from public and private national and international research centres.

When the entrance examinations are over, the Committee will draw up a general merit-based ranking according to the grades obtained by the applicants in each examination. The final ranking of candidates will be posted on the website: <http://portale.unitn.it/en/ec/phd/me.htm>

Through publication of the list, notification concerning the proceedings is considered to be fulfilled.

The successful applicants will not receive personal communication of the results.

Art. 8 - ADMISSION TO THE DOCTORAL SCHOOL

Short-listed applicants will be admitted to the Doctoral School according to their placement in the list until all available places have been filled.

If the candidates are equally worthy of admission, the student's economic situation will be evaluated for positions that include a grant, in accordance with the Decree of the President of the Council of Ministers (D.P.C.M.) of 9.04.2001 as amended, for positions not assigned grant, the youngest student shall be given priority.

If a successful applicant withdraws before the beginning of the Programme, the next applicant on the list will be offered the position.

If a successful applicant withdraws or is excluded in the first three-month term of the first year, the Doctoral School Committee may decide to fill the vacancy place with another candidate on the list.

According to art. 19(3) of the University Regulations for Doctoral Schools and according to previous Doctoral School Committee resolutions, the Admissions Committee **may admit** to the School up to 40% of the total assigned places, candidates who are eligible in the general ranking, if they belong to one of the following categories:

- applicants from non-E.U. countries who have been awarded any kind of grant;
- applicants from a country with a specific intergovernmental agreement with Italy, on the basis of a bilateral agreement between the University of Trento and the foreign university (with no obligatory financial burden for the University of Trento);
- short-listed applicants who have been awarded grants under Law 449/97, Art. 51 ("Assegni di ricerca").

Art. 9 –ENROLMENT

Applicants who are admitted to the Doctoral School should forward their enrolment application on paper with attached stamp duty to:

"University of Trento - Direzione Servizi e Comunicazione – Ufficio Dottorati di Ricerca, Via Inama 5 – 38100 Trento (ITALY)" within 15 days of the date of the publication of the final ranking.

If applicable, the payment receipt of the provincial tax for the right to university study (TDS) must be attached to the application.

In the application (forms are available at the Central Office of Doctoral Studies and on the website: <http://portale.unitn.it/en/ec/phd.htm>), candidates should:

- ask / ask not to be awarded a grant (including successful applicants who are not eligible for a grant in case an applicant eligible for a grant gives up his/her place);
- declare that they already receive / do not receive a grant by the Italian Ministry of Foreign Affairs or by other Italian or foreign institution;
- declare that they have / have not already been awarded (even for one year only) a grant for an Italian Doctoral Programme;
- declare that they are not already enrolled and undertake not to enrol on any other programme for a diploma, degree, an Italian "Scuola di Specializzazione", PhD or master degree, whether of the I or the II level, for the duration of this Doctoral School. Or alternatively, declare that they will stop attending such a school before the start of the Doctoral School;
- declare that they are / are not employed by the Italian public sector;
- declare to request the Doctoral School Committee authorization for any work occupation;
- undertake to inform the University of any changes of their residence or address.

Successful non-EU applicants who have a foreign qualification must attach their degree with the exams taken and marks obtained, translated and authenticated by an Italian Consulate, Embassy or Diplomatic Representative in the country of the university that issued the degree and its declaration of validity ("Dichiarazione di valore").

Applicants admitted to the School who do not send their application **within 15 days following the publication date of the ranking** on the website: <http://portale.unitn.it/en/ec/phd/me.htm> lose the right to enrol and the corresponding position will be offered to the next candidate on the list.

Art. 10 – GRANTS

Grants are assigned on the basis of the merit-based ranking of applicants drawn up by the Admissions Committee, on request of the candidate.

If a candidate awarded a grant forfeits this right, the next candidate on the list will be offered the grant.

Successful applicants can choose one of the grants financed by external bodies according to their position in the merit-list.

If grants financed by external bodies required the Doctoral student to focus the research on specific topic the candidate can choose to accept or not the specific grant.

In 2007⁴ the amount of the annual scholarship after tax has been determined as follows:

First year: 9.920,46 EUR for doctoral students residing in Italy; 10.561,54 EUR for doctoral students residing outside Italy who can apply the international Convention to avoid the double taxation; 10.596,77 EUR for the doctoral student residing abroad who cannot apply the international Convention to avoid the double taxation; 10.209,88 for the doctoral student residing in Italy contributing to an additional social security system.

Second and Third year: 12.000 EUR for doctoral students residing in Italy; 12.641,08 EUR for doctoral students residing outside Italy who can apply the international Convention to avoid the double taxation; 12.676,31 EUR for the doctoral student residing abroad who cannot apply the international Convention; 12.289,42 EUR for the doctoral students residing in Italy contributing to an additional social security system.

The grant is normally paid bi-monthly in advance, with recover of undue payments in case the student is expelled or suspended.

Grants are normally paid bi-monthly in advance, with recoupment of undue payments in case the student is expelled or suspended.

Grants cannot be combined with other scholarships, except those awarded by national or foreign scientific institutes for periods spent abroad and deemed useful for the research activities of the Doctoral student.

On request of the tutor the grant is increased by 50% for any periods spent abroad that are authorized by the Head of the School or by the Doctoral School Committee, on request of the tutor.

Grants are awarded for the entire duration of the Programme following confirmation of the results achieved every year.

Doctoral students' failure to attend the Programme for over thirty days will have their grants suspended.

Art. 11 - RIGHTS AND DUTIES OF DOCTORAL STUDENTS

Doctoral students must undertake to attend the Doctoral Programme and to carry out research activities on a full time basis according to the schedules and the regulations laid down by the Doctoral School Committee, as laid down in Art. 3 of the present announcement and in Art. 13 of the Regulations of the Doctoral School in Materials Engineering, displayed at the webpage: <http://portale.unitn.it/en/rr/reru.htm>

Students participating in a co-tutelle programme are required to conduct study and research activities according to the agreement signed with the foreign university.

In case of a negative evaluation given by the Doctoral School Committee regarding a student's participation in School's activities and studies, the Rector can exclude the student from the doctoral School.

Grants financed by external bodies where specific research is to be carried out, limit the grant holders to carry out that specific work for the entire duration of the Programme.

For the length of the Doctoral Programme, students are insured by the University against accidents and damage to third parties that occur in circumstances pertaining to the Programme.

A public office employee admitted who is accepted for a doctoral Programme may request leave of absence for reasons of study without a stipend and may benefit from the doctoral grant, as long as conditions are met.

In the case of admission to a doctoral programme without a grant, or should the applicant not accepted it, the person on leave of absence may benefit from the economic remuneration, social insurance and retirement benefits provided by the public institution where he/she is employed. Should the employee terminate employment in public office within two years from having obtained the doctoral degree, the amount paid out during the course of the doctoral studies must be claimed back.

⁴ At the moment of the publication of this announcement the current Italia Law states that the doctoral scholarship is subject to social security contributions (INPS 16% or 23,50%. One third of the tax is chargeable to the doctoral student) according to art 2(26) of Law no. 335/95 as amended.

Art. 12 – DOCTORAL TITLE CONFERRAL

The doctoral title, conferred by the Rector, is granted when students pass the final examination which takes place at the end of the doctoral Programme.

Upon hearing the advice of the Doctoral School Committee, the Examination Committee is nominated by the Rector, according to the University Regulations for Doctoral Schools.

In case of a co-tutelle programme the Examination Committee will be appointed according to the specific provisions of the Convention.

Art. 13 – PERSONAL DATA

The University of Trento, in accordance with Legislative Decree 196/03 “Italian Personal Data Protection Code”, uses applicants’ personal data only for the purpose of selection procedures and for institutional reasons.

In observance of the above-mentioned legislative decree, participation in the selection requires the applicant to give the University of Trento permission to publish his/her personal data concerning the results of the selection procedure on the University website.

Art. 14 – FURTHER REGULATIONS

For matters not explicitly mentioned in the present announcement, art. 4 of Law no. 210 of 3.07.1998, the Ministerial Decree no. 224 of 30.04.1999 and to the University Regulations for Doctoral Schools issued with the Rector's Decree no. 997 of 16.12.03 and amended with the Rector's Decree no. 359 of 19.04.2006.

Trento, 11 July 2007

The Rector
Prof. Davide Bassi

TO THE MAGNIFICO RETTORE
 UNIVERSITÀ DEGLI STUDI DI TRENTO
 VIA BELENZANI, 12
 38100 TRENTO – ITALY

I, the undersigned, apply to be included in the competitive selection for the International Doctoral School in

MATERIALS ENGINEERING
23rd CYCLE

For this purpose I, the undersigned, declare

SURNAME	
FIRST NAME	
DATE OF BIRTH	
PLACE OF BIRTH Town City	
Country	
CITIZENSHIP	

PLACE OF RESIDENCE

Address			
Zip Code		Country	
Tel		Fax	
E-mail			

ADDRESS FOR CORRESPONDENCE (if different from residence)

Address			
Zip Code		Country	
Tel		Fax	

- THAT I HAVE _____ CITIZENSHIP
- THAT I HAVE AN ITALIAN DEGREE (“LAUREA”) with mark _____

IN (subject)	
FROM (University)	
CONFERRED ON (date)	

- THAT I HAVE NOT YET GRADUATED, that I am aware that my admission to the Doctoral School depends on the presentation of my degree certificate by the 31.10.2007

STUDYING (subject)	
AT (University)	

COUNTRY

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- THAT I HAVE A FOREIGN QUALIFICATION which is recognized as equivalent to the Italian degree

Italian Rector's Decree recognizing equivalence	No. _____
	on (date) _____
	University of _____

- THAT I HAVE A FOREIGN QUALIFICATION and I request the Doctorate School Committee to recognize its equivalence to the Italian degree ⁵

in (subject)

at the University of

conferred on (date)

with mark

length of the course in years

- THAT I SPEAK ENGLISH (please, point out the level of knowledge) _____

- THAT I SPEAK THE FOLLOWING LANGUAGE(S)

<input type="checkbox"/> French	<input type="checkbox"/> Spanish	<input type="checkbox"/> German	<input type="checkbox"/> Russian	<input type="checkbox"/> _____	<input type="checkbox"/> _____
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- THAT I UNDERTAKE to inform the University of any changes of my address of residence, place of living and correspondence

- THAT I HAVE / DO NOT HAVE ⁶ ANY DISABILITY (art. 4 Law 104/92) and need:

- the following assistance:

- and/or extra time (cross out as necessary): YES NO

- THAT I AM AWARE AND TO ACCEPT THE REGULATIONS REGARDING:

- the present call
- the University Regulations for Doctoral Schools (http://portale.unitn.it/en/rr/reg_doct.htm)
- the Regulations of the Doctoral School in Materials Engineering (<http://portale.unitn.it/en/rr/reru.htm>)

Date _____

Signature _____

⁵ Candidates who have a foreign qualification are required to send in addition to the degree certificate or degree self-certification (according to Presidential Decree no. 445 of 28.12.2000 concerning EU citizens) the English or Spanish translation of the qualification indicating the exam taken and marks obtained, duly signed under his/her own responsibility, to enable the Doctoral School Committee to declare its equivalence, valid for the only purpose of participating in the selection.

Successful applicants from a non-E.U. country, who have a foreign qualification, have to attach their degree certificate with the examinations passed and the grades obtained, translated and authenticated by an Italian consulate, embassy or diplomatic representative in the country of the university that issued the degree and the respective declaration of equivalent value ("Dichiarazione di valore") not later than the date set for the enrolment in the Doctoral School.

⁶ Cross out the item of no concern.

ANNEXES⁷:

- a photocopy of the applicant's identity card or passport;
- degree certificate or degree self-certification (according to Presidential Decree no. 445 of 28.12.2000 concerning EU citizens) with a list of the examinations passed successfully and the scores obtained in each examination.

Applicants expecting to complete their degree when applying, must submit a certification of the enrolment in the course of studies with a list of the examinations taken and marks obtained and a declaration stating they will get the degree by the 31.10.2007, the dissertation's title and a letter of presentation of the thesis's supervisor. If they should succeed in the competition they will be required to present the degree certification when enrolling.

Applicants with a foreign qualification that has not been officially recognized as equivalent to the Italian degree have to attach a translation into English or Spanish of the degree certificate with exams and scores obtained, signed under their own responsibility, in order to allow the Doctoral School Committee to declare the equivalence, valid for the only purpose of participating in the selection.

Abstract of the dissertation

- curriculum studiorum;
- two letters of recommendation written by experts in the doctoral research areas listed in art.1
- any certificates proving the knowledge of the English language;
- any other qualifications useful for assessment of the applicant (dissertations, scientific publications, works publishing).

⁷ After the conclusion of the entrance examination procedure, applicants intending to receive back their documents attached to their application for the selection of the Doctoral School must write to the Administration (Ufficio Dottorati di Ricerca) a specific request within a year the expire date of the present announcement. Any postal expenses will be met by the applicant.