



**Announcement of selection for Doctoral positions
Doctoral School in
PHYSICS – 24th cycle**

THE RECTOR

Given Law no. 210 of the 3rd of July 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;
Given the Ministerial Decree no. 224 of the 30th of April 1999, regarding the general criteria to be followed by individual universities in the organization of doctoral studies;
Given the Decree by the Prime Minister of the 9th of April 2001, and subsequent amendments on the general criteria for uniform treatment regarding the right to higher education;
Given the Statute of the University of Trento and in particular art. 12, paragraph 9;
Given the University Regulations for Doctoral Schools, issued with the Rector's Decree no. 997 of the 16th of December 2003 and amended with the Rector's Decree no. 359 of the 19th of April 2006;
Given the proposals made by the Department of Physics;
Given the resolution made jointly by the Academic Senate and the Scientific Research Committee on the 12th of February 2008;

decrees

ART. 1 - INSTITUTION

The University of Trento announces the 24th cycle of the Doctoral School in Physics.

Length: three years

Scientific areas: Experimental Physics
Theoretical Physics, mathematical methods and models
Physics of Matter
Nuclear and Sub nuclear Physics
Applied Physics
Teaching and History of Physics

Head of the School: prof. Lorenzo Pavesi - Tel. 0039 0461 881575 - E-mail: phd.physics@unitn.it

Official language: Italian and English

The selection for 18 doctoral positions in the Doctoral School in Physics is announced, 16 positions will be assigned grants.

The grants are financed as follows:

- n. 8 grants University of Trento
- n. 1 grant Department of Physics, University of Trento, for research concerning specifically "Silicon photonics"
- n. 1 grant Department of Physics, University of Trento, with funds provided by Agenzia Spaziale Italiana (ASI) on the topics concerning "Space observatories of gravitational waves: activity and data analysis of LISA Pathfinder and future perspectives for LISA"



- n. 1 grant Istituto Nazionale di Fisica Nucleare (INFN) concerning the following topic "Physics of fundamental interactions"
- n. 1 grant Fondazione Trentino Università concerning the following topic "Development of advanced mass spectrometric techniques for energetic and bioenvironmental applications"
- n. 1 grant Fondazione Bruno Kessler (FBK) concerning the following topic "Development and characterization of ultrathin junctions"
- n. 1 grant Fondazione Bruno Kessler (FBK) concerning the following topic "Production and surface treatment of transparent conducting oxides"
- n. 1 grant Fondazione Bruno Kessler (FBK) concerning the following topic "Silicon Photonics"
- n. 1 grant Fondazione Bruno Kessler (FBK) concerning the following topic "Development of materials for DNA analysis in microchips used in diagnostics"

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/phy.htm>

ART. 2 – ADMISSION REQUIREMENTS

Applications for the doctoral positions above are invited from candidates, regardless of sex, age and nationality, who have an Italian "laurea specialistica" (magistrale), instituted in compliance with Ministerial Decree no. 509 of the 3rd of November 1999 as amended, a university degree of the previous Italian regulations in force or equivalent degree qualification obtained abroad.

As concerns the assessment of qualifications the degree in Physics or in similar areas and subjects will be a preferential title.

Applicants who have a foreign degree which has not been officially recognized as equivalent to an Italian degree must submit a request for equivalence in the application. This is done by adding the following documents:

- degree certificate (according to Presidential Decree no. 445 of 28.12.2000 regarding self-certifications for EU citizens)
- translation into English of the degree certificate, with exams taken, grades obtained and signed by the applicant to enable the Doctorate School Committee to declare its equivalence, for the sole purpose of being admitted to the selection of this call.

Applications are also accepted from students who expect to complete their degree by **the 19th of September 2008**. In such cases, admission will be "conditional" and the applicant must be able to present the relevant degree certificate or a declaration that the degree has been conferred (in compliance with Presidential Decree no. 445 of the 28th of December 2000, applicable only for the EU citizens), to the Department of Physics (Via Sommarive, 14 – 38100 Povo, TN) **by this date**.

After admission to the School, successful non-EU applicants who have a foreign qualification and successful EU applicants who have a foreign degree, must provide the degree certificate with exams and grades 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") within the date of enrolment.

Art. 3 – THE DOCTORAL PROGRAMME

Each year the work load for the course of study corresponds to 60 credits. Each doctoral student must attend courses corresponding to 12 credits by following:

- at least one course of general character offered by the School for a total of 21 hours (3 credits),
- other specialised courses offered by the School for a total of 63 hours (9 credits).

Usually the didactic activity ends within the first semester of the second year of the Doctorate. The rules concerning the training activity of the doctoral students are described in the Teaching Programme (Manifesto degli Studi) available on the website:



<http://portale.unitn.it/drphys/portalpage.do?channelId=-34948&activeLanguage=en>

Art. 4 – APPLICATION

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

The application, including the annexes required, must arrive at the University of Trento **by the 5th of September 2008** in one of the following ways:

- hand delivered to the Department of Physics - University of Trento, Via Sommarive, 14 – 38050 Povo - Trento (ITALY), from 9.00 a.m. to 12.30 a.m., Monday to Friday;
- by mail to the following address: Magnifico Rettore dell'Università degli Studi di Trento, via Belenzani 12 38100 Trento (ITALY) (please, write on the envelope “Selection for Doctoral School in Physics”);

The University of Trento does not accept responsibility for mishandling of applications by mail or courier services, or for applications sent to an incorrect address.

Applications received after the deadline of the 5th of September 2008 will be disregarded, even if sent before the deadline.

According to Italian Law no. 104/92, art. 20 and to Italian Law no. 68/99, art. 16, par.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 according to the D. L. 196/03.

Applications should include:

- photocopy of the applicant's identity card or passport;
- the degree certificate issued by the University with a list of the examinations successfully passed and scores obtained in each examination.

Applicants expecting to complete their degree by the **19th of September 2008** 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. The applicant must then provide the relevant degree certificate or a declaration that the degree has been conferred to the Department of Physics (Via Sommarive, 14 – 38100, POVO- TN) by this date.

The EU citizens will be allowed to submit a self- certification according to the Presidential Decree no. 445 of the 28th of December 2000;

Applicants who have a foreign qualification that has not been officially recognized as equivalent to the Italian “laurea” should attach the English translation of the degree certificate with exams taken and grades obtained, signed under their own responsibility, to enable the Graduate School Committee to declare its equivalence, valid for the purpose of admission to the selection process.

- a copy of the degree dissertation. The candidate can send a hard copy of the thesis or a electronic (pdf) copy to phd.physics@unitn.it. Students who expect to get their degree by the **19th of September 2008**, have to send the copy of the dissertation within this date in order not to be excluded from the selection procedure;
- summary of the dissertation (in English for foreign applicants) explaining the reasons of the choice of the subject, the research methodology and results obtained (max 4 pages);
- at least one letter of recommendation written by the dissertation advisor and/or other experts on the subject. The letter must be sent in a sealed and signed (by the person writing the letter) envelope;
- curriculum vitae et studiorum;
- any other qualifications useful for assessment of the applicant (e.g.: dissertations, scientific publications, study and post-graduate activities of research, prizes, grants etc.).

If applicants should wish to add documents after their application was sent, this material must reach the University no later **than the 5th of September 2008**. The applicant's: name, Doctoral School in International Studies, and the subject (“Integrazione domanda”) must be clearly printed on any communication with the University.

The University of Trento may verify the 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 who do not fulfil the requirements requested, may be left out of the selection for the Doctoral School.



Art. 5 – SELECTION

The selection is based on

- assessment of qualifications according to Art. 4
- an oral exam assessing the candidate's knowledge and his/her aptitude for scientific research.

The candidates not residing in Italy who wish to take the oral exam in their home country can arrange for a telephone interview or video conference. In this case the candidate must fill in the ATTACHMENT A indicating the place where the examination can be held (University Institute or Consulate) and the name of a person who will confirm the identity of the applicant. The Admissions Committee will examine the requests to decide to accept it or not. In case the Committee should decide to accept it the candidate will be contacted in order to set the time for the examination.

The oral exam will evaluate the candidate's knowledge of English language as well.

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

The Admission Committee can assign each candidate a total score of 100 as follows:

- 0 – 30 for the assessment of qualifications;
- 0 – 70 for the oral exam.

Candidates who will gain a minimum score of 15/30 for the assessment of qualifications will be admitted to the oral examination. The list of the candidates admitted to the oral exam will be published at the following webpage: <http://portale.unitn.it/en/ec/phd/phy.htm>

The selection is successfully passed with a total minimum score of 60/100 points.

The assessment of qualifications and the oral exam will take place in the following dates:

- assessment of qualification: 22nd of September 2008 (Department of Physics, Aula seminari di Fisica Teorica)
- oral exams: 29th and 30th of September and 1st of October 2008 at 9.30 a.m. (Department of Physics, Aula seminari di Fisica Teorica)

Art. 6 – ORAL EXAMINATION

The oral exam will focus on the subject of the thesis and on the basic knowledge.

The oral exam may be held in a foreign language prior authorization by the Admissions Committee.

Art. 7 – ADMISSION COMMITTEE

The Rector, after hearing the Doctoral School Committee, appoints the Admission Committee. It will consist of 3 members chosen among Italian and foreign tenured professors and researchers, who are experts in the research areas of the Doctoral School. The Committee may also include two experts from public and private national and international research institutes.

After the entrance examinations, the Committee will draw up a general merit-based ranking according to the grades obtained by the applicants in the assessment of qualifications and in the oral examination.

The final ranking of candidates will be posted on the website: <http://portale.unitn.it/en/ec/phd/phy.htm>

Notification concerning the proceedings is considered to be fulfilled through publication of this list.

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

Art. 8 - ADMISSION TO THE DOCTORAL SCHOOL

Applicants will be admitted to the Doctoral School according to their order on the final ranking until all available places have been filled.

In case of equally ranked candidates, the student's economic situation will be evaluated for the purpose of assigning a scholarship, in accordance with the Decree of the President of the Council of Ministers (D.P.C.M.) of 9.04.2001 as amended. For places without a scholarship, the younger candidate shall be given priority.

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

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 vacant place with another candidate on the list.

According to art. 19, paragraph 3 of the University Regulations for Doctoral Schools and according to previous Doctoral School Committee resolutions, the Admission Committee **may admit** to the School up to 16,6 % of the total assigned places, candidates who are eligible in the general ranking, if they belong to 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 – HOW TO ENROL

Successful applicants should forward their application for enrolment to the University of Trento - Direzione Didattica e Servizi agli Studenti – Ufficio Dottorati ed Esami di Stato, Via Inama n. 5 – I-38100 Trento, ITALY, within 15 days following the date of the publication of the final ranking at the following website page:

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

If applicable, the receipt of payment of the provincial student tax (TDS) must be attached to the application.

On the application form, available from Ufficio Dottorati di Ricerca, and from the following 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 received / did 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 Doctorate Programme;
- declare that they are not already enrolled and promise not to enrol in any other program for a diploma, degree, an Italian "Scuola di Specializzazione", Doctorate or Specialization degree, whether of the 1st or 2nd level, for the duration of this Doctorate Programme; if they are, they will stop attending such a School before the start of the Programme;
- declare that they are / are not employed by the Italian public sector;
- declare to request the Doctoral School Committee authorization for any occupation;
- undertake to inform the University of any changes of their residence or address.

Admitted non-EU applicants holding a non-Italian qualification and admitted EU applicants holding a non-EU qualification must also present their degree certificate along with exams taken and grades, translated and authenticated by an Italian consulate, embassy or diplomatic representative in the country where the degree was issued, and the respective declaration of validity ("Dichiarazione di Valore") **within the date of enrolment.**

Short-listed applicants who do not submit their application within 15 full days of the date of publication of the ranking on the website: <http://portale.unitn.it/en/ec/phd/phy.htm> lose the right to enrol and their place(s) will be offered to the next candidate(s) on the ranking.

Art. 10 – GRANTS

Scholarships are assigned on the basis of the ranking compiled by the Admissions Committee.

In case a candidate declines the scholarship it will be offered to the next candidate on the ranking

In the case of one or more externally funded scholarships, the candidates may choose what scholarship to accept according to their position on the final ranking.

If these scholarships are reserved for specific areas of research, the candidate may choose to accept or decline the scholarship.

The net annual amount of the doctoral grant in the year 2008¹ will be:

- 9.876,33 EUR for doctoral students residing in Italy
- 10.561,54 EUR for doctoral students residing outside Italy who can adopt the agreement in order to avoid to pay tax in both countries;
- 10.173,21 EUR for the doctoral students residing in Italy and contributing to an additional social security system.

Grants are normally paid bi-monthly in advance, with recovery 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.

Scholarships are increased by 50% for any periods spent abroad authorized by the Head of the School or by the Doctoral School Committee.

¹ 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 17% or 24,72%. One third of the tax is chargeable to the doctoral student) according to art 2(26) of Law no. 335/95 as amended..



Grants are awarded for the entire duration of the Programme following confirmation by the Doctoral School Committee of the results achieved every year by the doctoral students.

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

If a doctoral student decides not to continue with his or her studies during any given year, he or she forfeits the right to use the grant for the amount which has not yet paid out.

Art. 11 - DOCTORAL STUDENTS RIGHTS AND DUTIES

Doctoral students must undertake to attend the Doctoral School 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 specified in Art. 3 of the present announcement.

Students carrying out a co-tutelle thesis are required to spend a period of study and research in a foreign university according to the agreement with it.

The Doctoral School Committee, with a justified reason and after evaluating the activities carried out by the doctoral students, can suggest the Rector to exclude the student from the Doctoral Programme.

Grants financed by external bodies, where specific research is required, limit the grant holders to carry out the specific work for the entire Programme.

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

From the beginning and for the whole Doctorate, a public service employee accepted for a Doctoral Programme may request leave of absence for reasons of study, without monetary allowances and may benefit from the Doctoral grant, where the required conditions are met.

In the case of admission to a doctoral School without a grant or if the candidate has declined it, the person on absence of leave enjoys the economic remuneration and social insurance and retirement benefits enjoyed by the public administration where he/she is employed. Should the employee terminates employment in public administration in the two years succeeding his/her having obtained a Doctoral title, the amounts paid out during the course of the Doctorate are claimed back.

Art. 12 – DOCTORAL TITLE CONFERRAL

The doctoral title, conferred by the Rector, is awarded when students pass the final examination at the end of the three-year doctoral Programme.

The Examination Committee will be nominated by the Rector, upon the advice of the Doctoral School Committee and in accordance with the University Regulations for Doctoral Schools.

Release of title certification is dependent upon delivery of the final thesis to the University's open access institutional archive on behalf of the graduate, that guarantees the conservation and public availability of the thesis. It is the University's responsibility to then deposit the thesis, according to law, among the National Libraries of Rome and Florence.

Art. 13 – PERSONAL DATA

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

In observance of the above-mentioned law, 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 the 3rd of July 1998, the Ministerial Decree no. 224 of the 30th of April 1999 and the University Regulations for Doctoral Schools, issued with the Rector's Decree no. 997 of the 16th of December 2003 and amended with the Rector's Decree no. 359 of the 19th of April 2006 shall apply.

Trento, 19 May 2008

The Rector
prof. Davide Bassi



THAT I HAVE A FOREIGN QUALIFICATION and I request the Doctoral School Committee to recognize its equivalence to the Italian degree ⁴

in (subject)

at the University of

conferred on (date)

with mark

length of the course in years

- THAT I HAVE KNOWLEDGE OF ENGLISH
- THAT I SPEAK THE FOLLOWING LANGUAGE(S)

<input type="checkbox"/> Italian	<input type="checkbox"/> Spanish	<input type="checkbox"/> German	<input type="checkbox"/> French	<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 ⁵ ANY DISABILITY (art. 4 L. 104/92) and I need
 - the following assistance: _____

- or extra time (mark as necessary): YES NO

- THAT I AM AWARE AND I ACCEPT THE REGULATIONS REGARDING

- the present announcement
- the University Regulations for Doctoral Schools
http://portale.unitn.it/en/rr/reg_doct.htm
- the Regulations of the Doctoral School in Physics
<http://portale.unitn.it/en/rr/reru.htm>

Date _____

Signature _____

⁴ Applicants from a country non E.U. have to attach to the application an English translation of their degree certificate with exams and scores obtained, signed under their own responsibility, so as to allow the Doctoral School Committee to declare the equivalence, valid for the only purpose of participating in the selection.

⁵ Cross out the item of no concern.



ATTACHMENT A⁶

I, (SURNAME) _____ (NAME) _____

ask to sit the entrance examination in my own country. For this purpose

I am indicating where I will sit the examination

The University of _____

The Institute of _____

The Italian Embassy in _____

LOCATED IN

Address		No.	Zip Code
Town / City	COUNTRY		
TELEPHONE	E-MAIL		
SKYPE ACCOUNT	WEBCAM		

I declare under my own responsibility that I will be identified by⁷

NAME _____

FIRST NAME _____

DATE OF BIRTH _____

PLACE OF BIRTH _____

TEL. _____

E-MAIL _____

QUALIFICATION _____

Date _____

Signature _____

⁶ To be filled in only by candidates, residing out of Italy, who ask the Admissions Committee for the examination be made on telephone in their countries.

⁷ The person who is going to identify the candidate cannot be the candidate.



ANNEXES⁸:

- photocopy of the applicant's identity card or passport;
- the degree certificate issued by the University with a list of the examinations successfully passed and scores obtained in each examination.
Applicants expecting to complete their degree by the **19th of September 2008** 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. The applicant must then provide the relevant degree certificate or a declaration that the degree has been conferred to the Department of Physics (Via Sommarive, 14 – 38100, POVO- TN) by this date.
The EU citizens will be allowed to submit a self- certification according to the Presidential Decree no. 445 of the 28th of December 2000;
Applicants who have a foreign qualification that has not been officially recognized as equivalent to the Italian "laurea" should attach the English translation of the degree certificate with exams taken and grades obtained, signed under their own responsibility, to enable the Graduate School Committee to declare its equivalence, valid for the purpose of admission to the selection process.
- a copy of the degree dissertation. The candidate can send a hard copy of the thesis or a electronic (pdf) copy to phd.physics@unitn.it. Students who expect to get their degree by the **19th of September 2008**, have to send the copy of the dissertation within this date in order not to be excluded from the selection procedure;
- summary of the dissertation (in English for foreign applicants) explaining the reasons of the choice of the subject, the research methodology and results obtained (max 4 pages);
- at least one letter of recommendation written by the dissertation advisor and/or other experts on the subject. The letter must be sent in a sealed and signed (by the person writing the letter) envelope;
- curriculum vitae et studiorum;
- any other qualifications useful for assessment of the applicant (e.g.: dissertations, scientific publications, study and post-graduate activities of research, prizes, grants etc.).

⁸ 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.