



UNIVERSITY OF TRENTO - Italy

**Announcement of selection for PhD places in  
PHYSICS – 21<sup>st</sup> cycle  
PhD Programme**

THE RECTOR

Given Law no. 210 of 3.07.1998 and in particular, art. 4, which assigns the organization of PhD studies to universities in accordance with the general criteria stipulated by ministerial regulations;

Given the Ministerial Decree no. 224 of 30.04.1999, regarding the general criteria to be followed by individual universities in the organization of PhD studies;

Given 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;

Given the Charter of the University of Trento and in particular art. 8, paragraph 3;

Given the University Regulations for PhD Research Programmes, issued with the Rector's Decree no. 997 of 16.12.2003;

Given the proposals made by the Department of Physics;

Given the report by the Scientific Committee in the session of 10.06.2004 on the scientific relevance of the proposal to set up PhD Programmes;

Given the report of the internal Evaluation Committee of 19.05.2004 on the requirements for the PhD Programmes proposed;

Given the resolution made jointly by the Academic Senate and the Scientific Research Committee on the 7.04.2005

decrees

## ART. 1 - INSTITUTION

The University of Trento announces the 21<sup>st</sup> cycle of the PhD Programme 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

**Coordinator of PhD Programme:** prof. Renzo Vallauri - Tel. 0039 0461 881583  
E.mail: [vallauri@science.unitn.it](mailto:vallauri@science.unitn.it)

**Official language:** Italian and English

Selection for **18** PhD positions in the PhD Programme is announced, **10** positions will be assigned grants.

The grants are financed as follows:

- 6 grants University of Trento
- 1 grant Istituto Nazionale di Fisica Nucleare (INFN) in topics concerning *Physics of fundamental interactions*
- 1 grant Istituto Nazionale per la Fisica della Materia (INFM) in topics concerning *Theory of ultracold Bose and Fermi gases in magnetic traps and optical lattices*
- 1 grants Department of Physics, University of Trento, for research concerning specifically *Silicon photonics*
- 1 grants Department of Physics, University of Trento, for research concerning specifically *Hydrogen technologies and new materials*

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 beginning of the selection. 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://www.unitn.it/ricerca/dottorati\\_form\\_av/ciclo\\_21/bandi.htm](http://www.unitn.it/ricerca/dottorati_form_av/ciclo_21/bandi.htm)

## ART. 2 –ADMISSION REQUIREMENTS

Applications for the PhD positions above are invited from candidates, regardless of sex, age and nationality, who have an Italian “laurea specialistica” in scientific matters, instituted in compliance with Ministerial Decree no. 509 of 3.11.1999 as amended, a university degree in scientific matters of the previous Italian regulations in force or equivalent degree qualification obtained abroad.

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

In this case, citizens of the European Union have to attach to their application their degree certificate or degree self-certification (according to Presidential Decree no. 445 of 28.12.2000 concerning EU citizens), whereas applicants from a country outside European Union have to attach to the application a translation in English of the degree certificate with exams and scores obtained, signed under their own responsibility, so as to allow the Scientific Board to declare the equivalence, valid for the only purpose of participating in the selection.

Successful applicants from a country outside European Union have to present their degree certificate with the examinations passed and the scores 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 enrolment in the PhD Programme.**

Applications are also invited from students who expect to complete their degree by the 20<sup>th</sup> of October 2005. 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 28.12.2000, applicable only to EU citizens), by this date.

#### Art. 3 – THE PhD PROGRAMME

By convention, each year the work load for the course of study corresponds to 60 credits.

Each student is expected to fulfil the PhD requirements by attending advanced courses offered by the PhD School

- basic courses for a total of 80 hours (10 credits)
- additional 40-hour courses, 5 credits, selected from the basic and other courses offered by the PhD

Usually the didactic activity finishes in the first semester of the second year of the PhD course.

The rules of the PhD course are detailed in the Manifesto of Study available on the website:

[http://www.unitn.it/dipartimenti/fisica/attivita\\_didattica.htm](http://www.unitn.it/dipartimenti/fisica/attivita_didattica.htm)

#### Art. 4 – APPLICATION TO PARTICIPATE IN THE SELECTION

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

The application, including all the required annexes, must arrive at the University of Trento **by the 20<sup>th</sup> of September 2005** in one of the following ways:

- hand delivered to the Department of Physics - University of Trento, Via Sommarie, 14 – 38050 Povo (TN) – (ITALY), from 9.00 am 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 PhD Programme in Physics”);

The University of Trento does not accept responsibility for mistakes made by post offices.

The applicant should ensure that the address given for correspondence and the telephone number are correct and that any changes are reported as soon as possible to Ufficio Dottorati di Ricerca.

**Applications arriving after the 20<sup>th</sup> of September 2005 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 examination. Under Legislative Decree 196/03, all information will be kept confidential.

Applications should include:

- 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 scores obtained in each examination (except for candidates who have not yet obtained their degree certificate at the time of presentation of the application as outlined in Art. 2 of this announcement);
- a hard copy of the degree dissertation. Students, who expect to complete their degree by the 20<sup>th</sup> of October 2005, have to bring their copy of the degree dissertation and the degree certificate at last within this date;
- summary of the dissertation (in English for foreign applicants) explaining the reasons for the choice of the subject, the research methodology and results obtained;
- at least one letter of recommendation written by the dissertation advisor and/or other experts on the subject. The letter must be in a sealed envelope;
- any other qualifications useful for assessment of the applicant (e.g.: dissertations, scientific publications, study and post-graduate activities of research, prizes, grants etc.);
- curriculum vitae et studiorum.

Applicants with a foreign qualification that has not been officially recognized as equivalent to the Italian degree, have to attach a translation in English of the degree certificate with exams and scores obtained, signed under their own responsibility, so as to allow the Scientific Board to declare the equivalence, valid for the only purpose of participating in the selection;

If, afterwards the submission of their application, applicants have to add further information, it must reach the University offices **by the 20<sup>th</sup> of September 2005**. The applicant's name, the PhD Programme he/she is applying for 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.

Any time, candidates not fulfilling the requirements requested, can be left out the selection for the PhD Programme.

#### Art. 5 – SELECTION

Admission to the PhD Programme is decided after comparative selection assessing the candidate's knowledge and his/her aptitude for scientific research.

The examination consists in:

- an assessment of qualifications according to Art. 4;
- an oral exam.

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

- 30 assessment of qualifications;
- 70 oral exam.

Only applicants obtaining a minimum score of 10 in the assessment of qualifications will be admitted to the oral exam.

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

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

The selection is successfully passed with a minimum 60 point score.

At least 20 days before the date of the oral examinations, the list of the candidates admitted to the oral exams, time and location of them will be displayed on the website:

[http://www.unitn.it/ricerca/dottorati\\_form\\_av/ciclo\\_21/calendario\\_prove.htm](http://www.unitn.it/ricerca/dottorati_form_av/ciclo_21/calendario_prove.htm)

as laid down in Art. 19 of the University Regulations for PhD Research Programmes.

#### Art. 6 – ORAL EXAMINATION

The purpose of the examination is to ascertain the applicant's aptitude for scientific research.

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

During the oral exam the foreign candidates should also demonstrate an adequate knowledge of the Italian language.

#### Art. 7 – ADMISSIONS COMMITTEE

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

Having held the entrance examinations, the Committee will draw up a general merit-based ranking according to the grades obtained by the applicants in the oral examination.

The final ranking of candidates will be posted on the website:

[http://www.unitn.it/ricerca/dottorati\\_form\\_av/ciclo\\_21/graduatorie/index.htm](http://www.unitn.it/ricerca/dottorati_form_av/ciclo_21/graduatorie/index.htm)

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

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

## Art. 8 - ADMISSION TO THE PHD PROGRAMME

Short-listed applicants will be admitted to the PhD Programme according to their order on 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 places 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 places without 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 place.

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

According to art. 18, paragraph 3 of the University Regulations for PhD Research Programmes and according to previous Scientific Board resolutions, the Admissions Committee **may admit** to the School up to 11% 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 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 after the date of the publication of the final ranking.**

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

In their applications (forms are available at Ufficio Dottorati di Ricerca and on the website:

[http://www.unitn.it/ricerca/dottorati\\_form\\_av/ciclo\\_21/download/modulo\\_iscrizione\\_eng.doc](http://www.unitn.it/ricerca/dottorati_form_av/ciclo_21/download/modulo_iscrizione_eng.doc)), 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 a PhD Programme in Italy;
- declare that they are not already enrolled and undertake not to enrol in 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 PhD Programme; if they are, they will stop attending such a school before the start of the PhD 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.

Successful applicants from a non-E.U. country, who have a foreign qualification, must attach their degree certificate with the examinations passed and the scores 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”).

Successful applicants who do not send their application **within 15 days following the date of publication of the list** on the website: [http://www.unitn.it/ricerca/dottorati\\_form\\_av/ciclo\\_21/graduatorie/index.htm](http://www.unitn.it/ricerca/dottorati_form_av/ciclo_21/graduatorie/index.htm) lose the right to enrol and the corresponding places will be offered to the next candidates 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.

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

Successful applicants can choose one of the scholarships financed by the University or one financed by external bodies according to their position on the merit-based ranking. Grants financed by external bodies, where specific research is required, limit the holder to carry out this work for the entire PhD Programme, so the candidate can choose to accept or not to accept the specific grant.

The annual PhD scholarship amounts to Euro 10,561.54 inclusive of all eventual social security contribution that has to be paid by the PhD student as established by the Italian current Law<sup>1</sup>.

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 PhD student.

Scholarships are increased by 50% for any periods spent abroad authorized by the Coordinator or by the Scientific Board.

Grants are awarded for the entire duration of the PhD Programme following confirmation by the Scientific Board of the results achieved every year by the PhD students.

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

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<sup>1</sup> At the moment of the publication of this announcement the current Italian Law states that the PhD scholarship is subject to social security contributions (INPS 10% or 18%, 1/3 of which has to be paid by the PhD student), according to art .2, para. 26 of Law no. 335/95 as amended.

#### Art. 11 - PhD STUDENTS RIGHTS AND DUTIES

PhD students must undertake to attend the PhD Programme and to carry out research activities on a full time basis according to the schedules and the regulations laid down by the Scientific Board, as specified in Art. 3 of the present announcement.

Students writing an inter-university thesis are obliged to carry out study and research activities in compliance with the agreement with the foreign university.

In case of negative opinion given by the Scientific Board regarding activities and studies, the Rector can exclude students from the PhD 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 PhD Programme, students are insured by the University against accidents and damage to third parties that occur in circumstances pertaining to the PhD Programme.

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

In the case of admission to a PhD Programme without a grant, or should he/she waive 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 terminate employment in public administration in the two years succeeding his/her having obtained a PhD, the amounts paid out during the course of the PhD studies are claimed back.

#### Art. 12 – PhD TITLE CONFERRAL

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

The Examining Committee will be nominated by the Rector, upon the advice of the Scientific Board according to the University Regulations for PhD Research Programmes.

#### 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 – REFERRAL RULE

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 the University Regulations for PhD Research Programmes issued with the Rector's Decree no. 997 of 16.12.2003 shall apply.

Trento, 30 maggio 2005

The Rector  
prof. Davide Bassi

<p style="text-align: center;"><b>TO THE MAGNIFICO RETTORE UNIVERSITÀ DEGLI STUDI DI TRENTO VIA BELENZANI, 12 38100 TRENTO – ITALY</b></p>
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I, the undersigned, apply to be included in the competitive selection for the PhD Programme in  
**PHYSICS – 21<sup>st</sup> cycle**

For this purpose I, the undersigned, declare<sup>2</sup>

<b>SURNAME</b>	
<b>FIRST NAME</b>	
<b>DATE OF BIRTH</b>	
<b>PLACE OF BIRTH</b> Town/City	
Country	

**PLACE OF RESIDENCE**

<b>Address</b>			
<b>Zip Code</b>		<b>Country</b>	
<b>Tel.</b>		<b>Fax</b>	
<b>E-mail</b>			

**ADDRESS FOR CORRESPONDENCE (if different from residence)**

<b>Address</b>			
<b>Zip Code</b>		<b>Country</b>	
<b>Tel.</b>		<b>Fax</b>	

• THAT I HAVE \_\_\_\_\_ CITIZENSHIP

•  THAT I TOOK AN ITALIAN DEGREE

in (subject)  
at the University of  
conferred on (date)  
with mark


<sup>2</sup> It is a criminal offence to provide incorrect or incomplete information; any candidate found to have done this will be automatically rejected from the PhD Programme.

**THAT I HAVE NOT YET GRADUATED** and I am aware that my admission to the PhD Programme depends on the presentation of my degree certificate by the 20<sup>th</sup> of October 2005<sup>3</sup> and that I am currently

studying (subject)  
at the University of  
Country


**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 Scientific Board to recognize its equivalence to the Italian degree <sup>4</sup>

- **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** <sup>5</sup> **ANY DISABILITY** (art. 4 L. 104/92) and 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 PhD Research Programmes  
[http://www.unitn.it/ateneo/norme\\_regolamenti/regolamenti/download/ricerca\\_prod\\_intel/Regol\\_in\\_materia\\_di\\_Scuole\\_dottorato\\_ricerca\\_vers\\_ingl.pdf](http://www.unitn.it/ateneo/norme_regolamenti/regolamenti/download/ricerca_prod_intel/Regol_in_materia_di_Scuole_dottorato_ricerca_vers_ingl.pdf)
  - the Implementing Regulations of the PhD Program in Physics  
[http://www.unitn.it/ateneo/norme\\_regolamenti/regolamenti/download/ricerca\\_prod\\_intel/norme\\_eng/Physics.doc](http://www.unitn.it/ateneo/norme_regolamenti/regolamenti/download/ricerca_prod_intel/norme_eng/Physics.doc)

Date \_\_\_\_\_

Signature \_\_\_\_\_

<sup>3</sup> I, the undersigned, undertake to bring to the Department of Physics – University of Trento, Via Sommarive, 14 – 38050 Povo TN (ITALY) a copy of the degree dissertation and- the degree certificate by the 20th of October 2005.

<sup>4</sup> 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 Scientific Board to declare the equivalence, valid for the only purpose of participating in the selection.

<sup>5</sup> Cross out the item of no concern.

## ANNEXES<sup>6</sup>:

- 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 scores obtained in each examination (except for candidates who have not yet obtained their degree certificate at the time of presentation of the application as outlined in Art. 2 of this announcement);. Students, who expect to complete their degree by the date of the assessment of qualifications, have to bring the degree certificate at last within the **20<sup>th</sup> of October 2005**;
- a copy (book) of the degree dissertation. summary of the dissertation (in English for foreign applicants) explaining the reasons for the choice of the subject, the research methodology and results obtained;
- at least one letter of recommendation written by the dissertation advisor and/or other experts on the subject. The letter must be in a sealed envelope;
- any other qualifications useful for assessment of the applicant (e.g.: dissertations, scientific publications, study and post-graduate activities of research, prizes, grants etc.);
- curriculum vitae et studiorum.

Applicants with a foreign qualification that has not been officially recognized as equivalent to the Italian degree, have to attach a translation in English of the degree certificate with exams and scores obtained, signed under their own responsibility, so as to allow the Scientific Board to declare the equivalence, valid for the only purpose of participating in the selection;

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<sup>6</sup> After the conclusion of the entrance examination procedure, applicants intending to receive back their documents attached to their application for the selection of the PhD Programme 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.