



DOCTORAL SCHOOL IN  
PHYSICS

**ANNOUNCEMENT RESERVED TO NON-EU CITIZENS, WHO ARE RESIDENT OUTSIDE  
THE EU AND HAVE BEEN AWARDED A DEGREE OUTSIDE THE EU**

GENERAL DESCRIPTION

SUBJECT AREAS COVERED BY THE SCHOOL:

- main area: FIS/01
- other areas: FIS/02, FIS/03, FIS/04, FIS/05, FIS/07

RESEARCH FIELDS:

1. Astrophysics
2. Medical Physics
3. Subnuclear and Nuclear Physics
4. Theoretical Physics
5. Condensed Matter Physics

ORGANIZING DEPARTMENT: Dip. di Fisica

OTHER PARTICIPATING INSTITUTIONS (Italian):

- INAF-Istituto Nazionale di Astrofisica
- Istituto Nazionale di Fisica Nucleare
- ICTP- The Abdus Salam International Centre for Theoretical Physics
- Sincrotrone Trieste S.C.p.A.
- Laboratorio Nazionale TASC –IOM CNR

DURATION: 3 years

MAXIMUM NUMBER OF MONTHS TO BE SPENT ABROAD: 18

OFFICIAL LANGUAGE OF THE SCHOOL: Italian

ADMISSION INFORMATION

NUMBER OF PLACES AVAILABLE: .....4

- SCHOLARSHIPS: ..... 4

FUNDING BODY/IES:

- [cod M/5] Università degli Studi di Trieste ..... 1
- [cod D/8] Dip. di Fisica su fondi Sincrotrone Trieste (finalizzata al Progetto “Experiments with synchrotron radiation”) ..... 1
- [cod D/9] Dip. di Fisica su fondi Sincrotrone Trieste (finalizzata al Progetto “Development of novel free electron laser radiation source”) ..... 1
- [cod D/10] Dip. di Fisica su fondi Istituto Nazionale di Astrofisica - INAF (finalizzata al Progetto “Observational astrophysics”) ..... 1

Candidates who accept an earmarked scholarship are committed to the pre-assigned topic

Unassigned scholarships will be reallocated to: ATTACHMENT 3a – Physics

**Candidates have to list the scholarships they apply for by specifying the corresponding codes in the “[QUALIFICATION EVALUATION FORM](#)”. If extra earmarked scholarships become available after candidates have completed their application, they can modify their list within the deadline for receiving certificates.**

DEADLINE FOR COMPLETION OF DEGREE: ..... 31.10.2011



# UNIVERSITÀ DEGLI STUDI DI TRIESTE

## Sezione Ricerca e Dottorati

### Ripartizione Dottorati

ADMISSION REQUIREMENTS: qualifications + oral interview in videoconferencing.

FINAL SCORE (i.e. the marks obtained in the written examination and interview plus the points given for qualifications and publications):..... 70

MINIMUM FINAL SCORE REQUIRED: ..... 45/70

- MAXIMUM NUMBER OF POINTS AWARDED FOR QUALIFICATIONS + PUBLICATIONS: ..... 20

QUALIFICATIONS REQUIRED/RELATIVE WEIGHT:

1. up to 6/20 for

a) certificate of the academic qualification;

b) curriculum vitae et studiorum;

c) if available, a Graduate Record Examination (GRE) Subject Test in physics (or chemistry or mathematics)

2. up to 4/20 for

- a degree transcript listing the examinations taken by the candidate, with marks and a short description of their content;

3. up to 4/20 for

- a brief summary of the master thesis, if applicable

4. up to 3/20 for

a) two letters of recommendation by professors or experts in the relevant field of research to be emailed by the professors themselves to [Scuoladifisica@units.it](mailto:Scuoladifisica@units.it) (re: Letter for *surname – name*)

b) a statement of purpose

5. up to 3/20 for

- publications

- Qualifications Evaluation Form (unless this form is presented, qualifications and publications CANNOT be assessed by the Examining Board)

MINIMUM SCORE REQUIRED FOR QUALIFICATIONS/PUBLICATIONS:..... 10/20

ORAL EXAMINATION MARK OUT OF:..... 50

MINIMUM SCORE REQUIRED FOR INTERVIEW:..... 35/50

ABSOLUTE DEADLINE FOR RECEIVING CERTIFICATES:..... **31.10.2011 (by 12.00pm CET)**

ADDRESSES TO WHICH CERTIFICATES SHOULD BE SENT: by email (scanned in pdf only) to: [Scuoladifisica@units.it](mailto:Scuoladifisica@units.it) , "subject: Name Surname – certificates for the Doctoral School in Physics". Please request the receipt.

N.B.: the outcome of the assessment will be made public on **14.11.2011**: <http://www2.units.it/dott/en/> "Admission procedure" >> "Admission announcement and relative attachments" >> ATTACHMENT 3b - Physics >> "Eligible Candidates – Merit List"

EXAMINATION SCHEDULE:

- INTERVIEW (videoconferencing): **21.11.2011 starting at 9:00 am CET**. The interview may be arranged at any other time if agreed otherwise. Requests must be emailed before 17.11.2011 to [Scuoladifisica@units.it](mailto:Scuoladifisica@units.it) . The interview must be made before 6:00 pm CET 21 November.

CEFR LEVEL: B2

### CONTACT INFORMATION

DIRECTOR OF THE SCHOOL: Prof. Paolo Camerini - Dipartimento di Fisica - Università degli Studi di Trieste - tel.040/558.3379; fax 040/558.3350 e-mail [camerini@trieste.infn.it](mailto:camerini@trieste.infn.it)

VICE-DIRECTOR: Prof. Gaetano Senatore - Dipartimento di Fisica teorica - Università degli Studi di Trieste - tel. 040/2240278 fax 040/224601 e-mail [gaetano.senatore@ts.infn.it](mailto:gaetano.senatore@ts.infn.it)

WEB SITE: <http://physics.units.it/Ricerca/dottfisica.php>

SCIENTIFIC PROJECT: The PhD school in Physics of Trieste is integrated in a research and higher education system which is probably unique in Italy. The physics research activities spectrum at the Trieste University is very broad.

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# UNIVERSITÀ DEGLI STUDI DI TRIESTE

## Sezione Ricerca e Dottorati

### Ripartizione Dottorati

Besides a relevant theoretical and computational research activity, there is a wide community of experimental physicists belonging both to the university and to public and private research bodies who are actively engaged in fields ranging from fundamental nuclear and subnuclear physics to the physics of electronic devices and new materials, from the development of new machines (see e.g. the free electron laser source Fermi at Elettra) to medical physics, from nanotechnology to astroparticle physics and astronomy (both theoretical and experimental).

The synergy between the experimental activities and the theoretical and computational ones at the University, as well as with those in the laboratories present in town and at the Area di Ricerca (Area Science Park) and the ongoing collaboration with SISSA (International School for Advanced Studies) and the International Center for Theoretical Physics (ICTP) offer the students of the PhD School of Physics of Trieste a very rich and stimulating environment which is full of opportunities and with a range of possible research activities to join which is rare to find elsewhere.

An incomplete list can mention the local Synchrotron (Elettra), the free electron laser source (Fermi), the Trieste laboratories of the National Nuclear Physics Institute, the local section of the National Astrophysics Institute and the Observatory, the research and development lab "Istituto officina dei materiali" (CNR). In addition one has to consider the access to national and international laboratories where our research groups work, often with coordination responsibilities. Among these there is CERN (Geneva, CH) laboratory, the European Southern Observatory (ESO, Chile), the Fermilab laboratory (Illinois, USA).

**EDUCATIONAL AIMS AND RESEARCH TOPICS:** Graduate students in physics are actively engaged in research at the forefront of both fundamental and applied physics. The students can choose to work in Astrophysics, Condensed Matter Physics, Medical Physics, Sub-nuclear and Nuclear Physics, Theoretical physics. The goal of the Graduate School is to train flexible professionals who will easily find a job in different fields, including, and primarily, scientific research. Besides being individually trained in a specific research field, the students attend institutional curricular courses as well as courses focused on the topic of their doctoral theses for a total of at least 80 hours of lessons. They will also attend at least two national or international schools. Graduate students are encouraged as well to attend national and international conferences in order to present the results of their research. A list of available research topics is found at: <http://physics.units.it/Ricerca/ArgomentiDottorato.htm>. Some of the scholarships carry a title. The awardees of such scholarships are bound to perform research in a pre-assigned area/topic. Info on research topics and people to contact for further details can be found in <http://physics.units.it/Ricerca/dottfisica.php>.

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