

1. Doctoral Research programme in Experimental Physics

2. **Academic year** 2013/2014

3. **Cycle** 29°

4. **Call deadline (date and time)** **25 November 2013 13:00**

5. **Director** Prof. Piersimone Marrocchesi (piersimone.marrocchesi@unisi.it)

6. **Department** of Environment, Earth and Physical Sciences

7. **Course start date** 1st January 2014

8. **Duration** 3 years

9. **Numbers of places** 7

10. **Numbers of grants** 5

11. **Grant details:**

1 scholarship - Funding body: Italian Ministry for Education, University and Research, Youth Fund (MIUR, Fondo Giovani)

1 scholarship - Funding body: University of Siena

1 scholarship – Funding body: Pisa Airport (Società Aeroporto Toscano (S.A.T.) Galileo Galilei S.p.A.) - Department of Physical, Earth and Environmental Sciences – Research project: The area of acoustical physics and its applications in relation to the acoustic impact of airport noise

1 scholarship – Funding body: Italian National Research Council (CNR)'s "Nello Carrara" Institute of Applied Physics (Istituto di Fisica Applicata) – Research project: The research will focus on aspects of experimental physics, with particular reference to the study and development of methodologies related to aerospace applications, including the extraction of fluorescence data from diffuse media.

1 scholarship – Funding body: INFN (Istituto Nazionale di Fisica Nucleare).

Number of places without grants 2

12. **Research tracks** Experimental Physics

13. **Research topics** Study of proton/antiproton interactions at the Fermilab Tevatron Collider in Chicago (international collaboration CDF) - TRAPRAD/FRANCIUM collaboration at Legnaro National Laboratory (Magnet Optical Trap) – Digital Radiographic Imaging with computer assisted diagnosis; magnetotherapy; high brilliance source project (LNF) – Mathematical models of complex systems (e.g. networks of biological or socio-economic systems), interdisciplinary project PRO-M and international schools - MAGIC collaboration with two Cherenkov telescopes installed at La Palma for the study of very high energy gamma rays – sensory R&D: pixelated silicon array, silicon photomultiplier array, GEM positioning systems (INFN funding) – Study of cosmic radiation on the International space station (CALET, funded by the Italian Space Agency with JAXA and NASA; AMS-02) – Optical magnetometry (EU project); study of ionic propulsion at AEROSPAZIO (POR funding – Region of Tuscany) – Study of proton/antiproton interactions at the Large Hadron Collider at CERN (international collaborations with TOTEM and CMS) – Study of atom-surface interactions (LIAD) in the presence of electromagnetic radiation and phenomena of alkaline dielectric adsorption-desorption.

14. **Website** for full details <http://www3.unisi.it/fisica/dottorato/>

15 Admission requirements

- Italian degree (*Laurea*) awarded according to the university rules prior to Ministerial Decree no. 509/99 (lasting at least 4 years)

- Italian second cycle degree (*Laurea Specialistica/Magistrale*) lasting 3+2 years or a single 5-year cycle)

- Academic qualification (degree) gained abroad, equivalent to an Italian qualification in length and content.

Applicants must be in possession of the admission requirements or gain their degree before 31 October 2012.

Academic qualifications obtained abroad

Academic qualifications obtained abroad, following courses lasting at least four years, must be recognized as second cycle degrees and permit admission to doctoral programmes in the country in which they were awarded.

Candidates with foreign academic qualifications must enclose with their printed or online application:

- a transcript in Italian or English (or translated into Italian or English). Those who have not yet been awarded their degree must provide a list of exams taken and grades awarded, translated into Italian or English;

- a copy of any documents of use to evaluate the recognisability of the qualification (e.g. diploma supplement, course contents, declaration of value).

Candidates with foreign academic qualifications will be admitted to the selection procedure conditionally and will be excluded from the Doctoral Research Programme if, following verification, their qualification is found not to comply with the requirements specified in the call. If successful, candidates must provide the documents specified in art. 5.

16. Application procedure

Applications must be made using the online procedure described on the following page <http://www.unisi.it/ricerca/dottorati-di-ricerca> clicking on the Doctoral Programme of interest **by the final deadline of 13:00 on 25 November 2013**

E-mail confirmation of successful registration of the application is sent automatically to the address indicated by the candidate in the application form.

Should it not be possible to use the online application procedure, applications can also be presented in one of the following ways:

- ☐ delivery by hand, by the final deadline of **13:00 on 25 November 2013**, to the: Divisione Corsi di III Livello – Dottorato, Collegio Santa Chiara, Via Valdimontone 1, 53100 Siena (opening hours: Mon/Wed/Fri. 9.00-13.00; Tues/Thurs 14.30 -16.30);
- ☐ by post, using recorded delivery with return receipt, to: Divisione Corsi di III Livello – Dottorato, Collegio Santa Chiara, Via Valdimontone 1, 53100 Siena. Candidates residing abroad can use any form of postage that provides legible proof of the date of dispatch.

In any case, applications and documents must be received by the University of Siena by the final deadline 13:00 on 25 November 2013. Only the date of receipt, not the date of postage, will be considered.

A printable version of the application form is available online at <http://www.unisi.it/ricerca/dottorati-di-ricerca> clicking on the Doctoral Programme of interest.

For applications made either online or in printed form, candidates must provide the “documents of use for evaluation”, as specified in the table (art. 1 of the doctoral programme call), by the call deadline.

In the case of online applications the abovementioned documents must be sent with the application, in electronic form. If the candidate making an online application is unable to send the abovementioned documents in electronic form, the documents must be delivered or sent in printed form according to the instructions and deadline specified above for the delivery/postage of printed applications. The abovementioned documents must be enclosed in a sealed envelope and the **slip containing the application details** received in the e-mail confirming registration of the application must be attached to the envelope.

Documents other than those stated herein as useful for evaluation and documents that arrive after the abovementioned final deadline of **25 November 2013** will not be taken into consideration.

In the case of applications presented in printed form, the abovementioned “documents of use for evaluation” must be delivered or posted in printed form according to the instructions and deadline specified above for the delivery/postage of printed applications.

Candidates must choose only one of the Research tracks possible within the Doctoral Programme they are applying for.

The University can, by reasoned decision, exclude candidates from the selection procedure at any time if they lack the admission requirements specified in this call.

17. Documents for evaluation

Documents required for evaluation are: 1) a) if the qualification was awarded (or will be awarded) in Italy: Curriculum vitae with self-certification in lieu of affidavit indicating exams taken and relative grades in the second cycle degree (Laurea vecchio ordinamento/Laurea specialistica/Laurea magistrale); b) if the qualification, equivalent to an Italian second cycle degree (see a) above) was awarded (or will be awarded) in a country other than Italy: Curriculum vitae with certificate indicating exams taken and relative grades; 2) Brief research project that the candidate intends to carry out and any qualifications deemed useful for the purposes of evaluation; 3) Abstract of the degree thesis (completed or under completion) specifying index or topics, introduction and conclusions; 4) 2 letters of reference and brief report of research activities carried out during preparation of thesis. These documents must be attached to the online application in electronic form. If the candidate is unable to provide the documents in electronic form, they must be presented in printed form (the two letters of presentation must be in a sealed envelope) together with the online or printed application.

18. Exam details

The selection procedure consists of: comparative evaluation of the candidates based on qualifications (including any scientific and technical publications, reports on scientific and technical work within a research project, presentations at national and international conferences) and documents presented, to ascertain candidates' aptitude for scientific research. The Commission may decide to invite students to take a written exam and/or interview. In this case the candidate will be informed exclusively by email (candidates must provide an email address with their application).

19. **Exam schedule**

Evaluation of qualifications. Written and/or oral exam: the Commission will select candidates who are required to take an oral and/or written exam and inform them via email.

20. **Enrolment of successful candidates and Documents required for enrolment**

There will be a single final ranking list, published on the following page: <http://www.unisi.it/ricerca/dottorati-di-ricerca> clicking on the Doctoral Programme of interest.

Successful candidates will not be notified in person.

Places may be reserved for graduates of foreign universities, foreign grant recipients, those participating in specific international mobility programmes, or recipients of research grants in the same scientific-disciplinary area as the research programme, depending on their place in the ranking list, and as long as the study or research grant has the same duration as the Doctoral Research programme (at least 3 years).

The simultaneous enrolment on a first or second cycle degree, postgraduate specialization course (except for medical specializations) or another Doctoral Programme is not permitted.

Doctoral students may attend medical specialization courses at the same time as the Doctoral Programme. In this case, the duration of the Doctoral Programme is reduced to a minimum of two years (art. 19, Law 240/2010).

Instructions for enrolment on the first year of the Doctoral Programme are published on the following page:

<http://www.unisi.it/ricerca/dottorati-di-ricerca> clicking on the Doctoral Programme of interest.

Without receiving further notice from the University, successful candidates must send the forms listed at <http://www.unisi.it/ricerca/dottorati-di-ricerca> clicking on the Doctoral Programme of interest **by the final deadline of 20/12/2013** to: Divisione Corsi di III livello – Dottorato, Collegio S. Chiara, Via Valdimontone 1, 53100 Siena (opening hours: Mon/Wed/Fri. 9.00-13.00; Tues/Thurs 14.30 -16.30) (Failure to do so will result in exclusion):

- enrolment form bearing a revenue stamp;
- study grant acceptance form (if applicable);
- request for canteen access card;
- request for a university e-mail address;
- signed photocopy of identity card/passport;
- copy of receipt for payment of regional tax (*Tassa Regionale per il Diritto allo Studio Universitario*);
- copy of receipt for payment of university fees;
- copy of visa in passport and residence permit (only for non-EU students).

Candidates who are admitted and hold a **foreign degree** (conferred at the end of a degree course lasting at least 4 years) which has not yet been recognized by an Italian University as equivalent to one of the Italian degrees required, must submit the following documents together with the enrolment form:

- photocopy of their original diploma and degree certificate with list of exams and grades, translated into Italian and legalized by the competent Italian authorities abroad (Italian Consulate or Embassy);

- **Declaration of Value “in loco”**, clearly stating that the academic qualification possessed gives access to Doctoral Research Programmes in the country in which it was awarded.

Candidates with foreign academic qualifications who cannot deliver the documents required at the time of enrolment will be enrolled conditionally and will be excluded from the Doctoral Programme if they fail to present said documents by the deadline set by the Administration. They will also be excluded if their qualifications are found not to comply with the requirements specified in the call.

Non-EU candidates who have passed the admission exam will be admitted to the courses as long as they have a permit to enter and reside in Italy and are legally residing in Italy (art. 39, par. 5, Legislative Decree. 25.07.1998 no. 286 as modified by art. 26 Law 30.07.2002 no. 189); they must present a copy of their passport and a valid residence permit issued by the competent authorities along with the enrolment form.

Non-EU citizens residing abroad must present a copy of their passport, entrance visa and residence permit for the purpose of study issued by the competent *Questura* (Police headquarters).

Successful candidates who do not complete the enrolment procedure by the deadline will be considered to have renounced their place.

Vacancies may be made available to the next candidates in the ranking list.

University fees

The annual enrolment fee is 300.00 (three hundred) Euros, to be paid at the time of enrolment. Payment can be made:

- through a branch of the bank Monte dei Paschi di Siena. The reason for payment (causale) must be specified as: "Dottorandi, Tasse Universitarie 2013/2014 + your name and surname";
- bank transfer to the following account. Account in the name of: Università degli Studi di Siena, Via Banchi di Sotto 55, Siena.

Bank: Monte dei Paschi di Siena, Agenzia n. 13, Piazza Amendola 4, 53100 Siena –
IBAN: IT16U0103014217000063269552

BIC CODE (for payments made outside Italy):
PASCITM1J25

The reason for payment (causale) must be specified as: "Dottorandi, Tasse Universitarie 2013/2014 + your name and surname".

Regional tax

Annual payment of a Regional Tax for the Right to University Study is required by Regional Law no. 4 of 3 January 2005. For the academic year the tax is 140.00 (one hundred and forty) Euros and can be paid as follows:

1) bank transfer to post office account in the name of: Azienda Regionale per il Diritto allo Studio Universitario

IBAN: IT60B0760114200000095810461

SWIFT CODE: BPPIITRRXXX

The reason for payment (causale) must be specified as:

"Dottorandi, Tassa Regionale DSU 2013/2014 + your name and surname";

2) Post Office payment ("bollettino postale" - within Italy): Italian Post Office Account no.: 95810461

in the name of: Azienda Regionale per il Diritto allo Studio Universitario – AOT Siena.

The reason for payment (causale) must be specified as:

"Dottorandi, Tassa Regionale DSU 2013/2014".

Also provide (pagamento eseguito da) your name, surname and full address.

Exemption from payment of taxes and fees

Students with certified disability equivalent to 66% or higher, are exempt from the payment of any taxes or fees.

Recipients of a research grant for the Doctoral Programme financed with funds from the Ministry for Education, University and Research (MIUR) are exempt from payment of university enrolment fees.

Research grants

Research grants are awarded on the basis of the ranking list formed following the admission exam.

The gross annual amount of the research grant is 13,638.47 Euros.

The amount of the grant is increased by 50% for any periods of study carried out abroad, which cannot, taken together, exceed half of the total course duration.

The grant will be paid for the whole duration of the course.

Payments are normally made in monthly instalments in arrears.

For any matters not covered by this summary, please consult the official competition call published at <http://www.unisi.it/ricerca/dottorati-di-ricerca> selecting the Doctoral Programme of interest, the University's Degree Course Regulations (Regolamento Didattico) and Regulations on Doctoral Programmes (Regolamento in materia di dottorati di ricerca).

N.B. The official call is published in Italian alone. This English summary of the call details is not valid for legal purposes. For full information, please consult the official call at <http://www.unisi.it/ricerca/dottorati-di-ricerca> selecting the Doctoral Programme of interest

Any amendments to the call will be published at the abovementioned internet address.