



SCUOLA INTERNAZIONALE SUPERIORE DI STUDI AVANZATI

**TRANSLATION OF ANNOUNCEMENT FOR 7 RESEARCH POSITIONS  
(Decree n. 208 dated 13.07.2011)**

Art. 1

A public selection, based on the evaluation of project proposals and academic qualifications, is hereby announced for 7 research positions in the **Scientific Area of Physical Sciences (Area 02 Scienze fisiche)** at the International School for Advanced Studies (SISSA) in Trieste as specified in the following list Admission requirements, the required experiences and the eventual oral examination are specified in the Annex 1, n. 1-7:

List of positions:

Settore scientifico disciplinare: FIS/05 Astronomia ed astrofisica  
n.3 research positions at Astrophysics Sector

Settori scientifico disciplinari: FIS/05 Astronomia ed astrofisica  
FIS/02 Fisica teorica modelli e metodi  
matematici  
n.1 research position at Astrophysics Sector (Astroparticle Physics)

Settore scientifico disciplinare: FIS/02 Fisica teorica modelli e metodi  
matematici  
n.1 research position at Elementary Particle Theory Sector

Settore scientifico disciplinare: FIS/03 Fisica della materia  
n.2 research positions at Condensed Matter Sector

Art. 2

Candidates must be in possession of a scientific-professional curriculum which enables them to carry out research activity and meet the further requirements specified in the Annex 1. Personnel with permanent positions in Italian Universities, Astronomical and Astrophysical Observatories and Public Research Institutions (in accordance to the Italian law DPCM of 30.12.93, art. 8), E.N.E.A. and A.S.I., or in Institutions which confer scientific degrees considered equivalent to PhD (in accordance to the Italian law DPR no. 382/80, art.74) are excluded from applying.

In accordance to the Italian law 240/10, art.18 candidates having a family relationship or other degree of kinship with the following persons are also excluded from applying:

- SISSA Professors belonging to the Sectors which are offering the positions
- Director of SISSA;
- Administrative Director of SISSA
- Member of the Council of Administration of SISSA (see Annex A)



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The research fellowship is awarded through a private contract which does not give any right regarding access for employment in the Universities.

### Art. 3

The research fellowship is worth Euro 23.760,00 gross per year and includes contributions to be paid by the contractor. The fellowship is paid monthly. The fiscal and social security treatment of the research fellowship is in accordance with Italian law no. 476/84, art.4 and Italian law no. 335/95, art.2, par. 26 and followings. The School provides accident and third-party insurance that covers the research fellow while carrying out research for the School. The insurance premium is deducted from the fellowship.

### Art. 4

The fellowships cannot be held contemporaneously with other fellowships of whatever kind, except those awarded by Italian or foreign Institutes with the aim of integrating the training or research activity of the fellowship holders through a period abroad. The Senate of the School can authorize fellowship holders to carry out other professional activities if they are compatible with the research position, are not in conflict of interest with the same position and are not prejudicial to the School. Fellowship holders willing to carry out external activity in a continuous way, if compatible with their research assignments, and following a written approval by the scientist responsible for the research project, can participate in research assignments commissioned by SISSA for third parties (in accordance with the art. 66 of the Italian D.P.R. 382/80) and in the division of the earnings coming from this activity, in accordance with the regulations. Fellowship holders can not be enrolled in University Degree courses, PhD courses with fellowship or medical school of specialization in Italy or in a foreign country. The research fellowship holder, who is a State employee, must be given unpaid leave for the period of the fellowship.

### Art. 5

The academic requirements for admission to the competitive selection mentioned above on art. 1 are specified in the annex 1, positions 1 to 7. The selection is based on the evaluation carried out on the project proposal submitted to the examining board, as well as on academic qualifications and publications of the applicant. Before the beginning of the evaluations the examining board will define the evaluation criteria for academic qualifications and publications and for the interview, if foreseen. The academic qualifications evaluation criteria, which can be specified by the examining board coherently to international parameters, will value the relevance, the importance and the quality of:

- proven research activity;
- academic titles (University Degree, PhD, specialization degrees or other certificates of attendance regarding post-degree specialization courses in Italy or in foreign countries frequency);
- Other qualifications



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The academic qualifications must be relevant with the positions offered or with similar research field and must be in possession of the applicants at the expiry date of the public announcement.

### Art. 6

The examining board is nominated by the Director of SISSA, according to the proposal of the concerned Sector Councils. It is composed of a maximum of five members representative for the Scientific Area of Physical Sciences (*Area 02 Scienze fisiche*).

At the end of the evaluations the examining board will draw up a report, including the evaluation criteria, the total mark obtained by each candidate and a classification of those considered eligible relevant to each scientific field of interest (*Settore Scientifico Disciplinare*).

The interview, if any, is normally carried out at SISSA.

Candidates living out of Italy or 500 km far from SISSA can sit a telematic oral examination using workstations located in Universities or Italian diplomatic offices. The identity of the applicants must in this case be certified by the personnel of the workstation or through telematic location. The applicant's identity will be afterwards verified when the contract will be signed. Candidates willing to apply to the telematic procedure must specify it in the application form.

The procedure results and the final classification will be approved by Director Decree. The eligible candidate will undertake a research contract with SISSA in accordance with Italian Law no. 240/10, art. 22.

The classification will not give any rights to further procedures.

### Art. 7

Applications, which must be consistent with the attached form ("application"), have to be addressed to the Director of SISSA and **must reach the School**, via Bonomea, 265, 34136-Trieste, **no later than August 16, 2011, at 1:00 p.m.**

The application form with the original signature must be sent:

1. by registered letter;
2. by fax (no. 0403787240) if accompanied by a copy of a legible and valid identity document or
3. -by delivery to Human Resources Office (Sissa, Via Bonomea 265 – Trieste, rooms 203-204, second floor). from 8:30 a.m. to 2:30 p.m., except the date of expiration: 1 p.m.)

Applications sent by electronic mail will not be accepted.

In their applications candidates will have to indicate:

- a) their full particulars, date and place of birth, home address, the address where they wish to receive communications regarding their application and a telephone number. Changes in this information should be rapidly communicated to the Direction of the School;
- b) the specific position (n. 1 to 7) to which the applicant wishes to submit a research project proposal. Who wishes to apply to different positions will have to submit specific applications each accompanied by relevant academic qualifications and publications. No reference to academic qualifications or publications submitted in the present or previous applications is admitted.



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- c) the University Degree obtained, indicating the date it was awarded, the mark obtained and the University which awarded it, the title of the degree thesis and the name of the supervisor;
- d) the title of the eventual PhD Degree obtained, indicating the date it was awarded, the University which awarded it, the title of the PhD Degree thesis and the name of the supervisor;
- e) any other academic qualifications which prove, in particular for candidates who do not have a PhD Degree, their scientific curriculum.
- f) the complete list of the titles and publications to be submitted to the examining board. This list must be prepared in accordance with international formats and must specify all the authors. Copy of the titles (e.g. University Degree) and publications have to be included with the application or in alternative, sent to the following e-mail address: [assegni.ricerca@sissa.it](mailto:assegni.ricerca@sissa.it).

We remind that the application can be sent only as specified by point 1,2 and 3 of this article.

The SISSA Administration does not assume any responsibility for any missing, late or incomplete transmission of documentation connected to the selection process due to postal, telegraphic or computer problems for which SISSA is not at fault.

The SISSA Administration does not assume any responsibility for the loss of correspondence due to an incorrect address indicated by the candidate or due to a late, or lack of communication of address change in the application; mistakes by third parties in delivering correspondence by post or telegramme, fortuitous events or reasons of force majeure.

Within three months of the examination, candidates must meet the expenses of the documents retrieved and of the publications submitted. After this period SISSA cannot be held responsible in any way for these documents and publications.

### Art. 8

After budget verification is carried out, the suitable candidate will receive notification of the award of the research contract by registered letter. Within 20 days from the above-mentioned communication, they will have to send a declaration of acceptance to the Direction of SISSA. Within 30 days from the beginning of the research activity at SISSA, Italian and European Community candidates or non-European Community citizens resident in Italy will have to send to the Direction of SISSA the following documents:

- A) personal declaration of birth, citizenship and residence or presentation of an identity document not yet expired; non-European Community citizens have to show their passport;
- B) personal declaration and copy of documents attesting: 1) the possession of a PhD Degree or 2) the completion of a three-year PhD course or 3) the possession of a University Degree including the mark obtained and the date in which the degree was awarded or 4) the possession of an equivalent academic qualification;
- C) copy of the fiscal code issued in Italy;

Non-European Community citizens authorized to sojourn in Italy owing to the conventions between Italy and their own country have to send the same over-mentioned documents.

Non-European Community citizens regularly sojourning in Italy can use a substitute declaration exclusively for personal qualities and events certified and attested by public Italian subjects.

In any different case the above stated information have to be documented by a personal declaration and by relative photocopies within 30 days from the beginning of the research



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activity at S.I.S.S.A. Within 60 days from the beginning of their research activity winners have to produce a declaration concerning the information requested in points A, B and C issued by the foreign competent authorities with a translation in Italian authenticated by the Italian Consulate abroad.

The School reserves the right to verify all personal declarations.

Should a letter of acceptance not be received, or the above documents not be presented in time or a candidate refuse the position, the research fellowship could be offered to the next candidate eligible in the classification list in accordance with a resolution of the Senate of the School. The starting date of the fellowship shall be agreed with the scientist responsible in the Sector for the research fellowship.

### Art. 9

The contract holders undertake to carry out research activity as foreseen in the contract and in accordance with the research program of the Sector. The research activity is carried out in the frame of the research project for which the applicant has been selected. Every year the fellowship holders must present a report of the activity carried out in the previous year to the Council of the Sector. In major case of non-compliance the contract can be terminated, by decision of the School Senate and on proposal of the Council of the Sector, heard the counterpart.

The contract is automatically resolved in the following cases:

4. lack or unjustified delay in the starting of the research activity
5. unjustified suspension of the activity for more than 15 days
6. serious violation of the incompatibilities established for the award of the research fellowship
7. negative evaluation of the research activity expressed by the Council of the Sector

An authorized absence of up to 30 days a year does not require the fellowship to be suspended or the absence to be recuperated at a later date.

At least 30 days of advanced notice must be given in case of resignation, in which case no penalty will be applied.

### Art. 10

The total duration of the research fellowship and the eventual renewals must not exceed 4 years with the same person. To this end, the period in which the person has been enrolled in PhD courses (without grant) is not taken into account. In accordance with Italian Law no. 240/10 one person can not be awarded research fellowship or temporary researcher contracts with SISSA or other universities, public, private or telematic nor with other person as specified by art. 1 of the Italian law no. 240/10 for a period exceeding 12 years. To this end the periods of absence due to maternity leave or state of illness are not taken into account.

The research contract renewal is decided by the School Senate and, as for the financial coverage, by the Council of Administration, on the basis of the evaluation of the research activity carried out by the contract holder, the state of the art of the research programme, following request of the scientist responsible in the Sector for the research activity.



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Art. 11

SISSA, in accordance with the Italian D.Lgs. 30.06.2003 n.196, undertakes to respect the privacy of all personal data provided by the candidates: all data will be used only for the purposes of the selection and for the drawing up of the relevant contract.

Trieste, 13.07.2011



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Annex 1

Area 02 Scienze fisiche

*Settore scientifico disciplinare.: FIS/05 Astronomia ed astrofisica*  
*Astrophysics Sector of SISSA*

**POSITION NO. 1**

Scientific focus of the research activity: Extragalactic Astrophysics: quasar surveys

Responsible scientist: Prof. Luigi Danese

Members of the research group: members of the Astrophysics Sector

Duration of the research fellowship: 24 months, renewable for 12 months

Requirements for the admission to the competitive selection:

- University Degree in Physics or Astrophysics or equivalent foreign degree;
- PhD in Physics or Astrophysics

**POSITION N.2**

Scientific focus of the research activity: Co-evolution of galaxies and supermassive black holes

Responsible scientist: Prof. Annalisa Celotti

Members of the research group: members of the Astrophysics Sector

Duration of the research fellowship: 24 months, renewable

Requirements for the admission to the competitive selection:

- University Degree in Physics or Astrophysics or equivalent foreign degree;
- PhD in Physics or Astrophysics

**POSITION N.3**

Scientific focus of the research activity: Evolution of nuclear activity in radio galaxies

Responsible scientist: Prof. Annalisa Celotti

Selection procedure: academic qualifications

Members of the research group: members of the Astrophysics Sector

Duration of the research fellowship: 24 months, renewable

Requirements for the admission to the competitive selection:

- University Degree in Physics or Astrophysics or equivalent foreign degree;
- PhD in Physics or Astrophysics



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*Settori scientifico disciplinari.: FIS/05 Astronomia ed astrofisica  
FIS/02 Fisica teorica modelli e metodi matematici  
Astrophysics Sector of SISSA (Astroparticle Physics)*

**POSITION N.4**

Scientific focus of the research activity: Constraints on the dark cosmological components with the large scale structure

Responsible scientist: Prof. Carlo Baccigalupi

Members of the research group: Prof. Stefano Liberati, Prof. Piero Ullio

Duration of the research fellowship: 24 months, renewable

Requirements for the admission to the competitive selection:

- University Degree in Physics;
- Previous experience in the scientific field of the research activity

*Settore scientifico disciplinare.: FIS/02 Fisica teorica modelli e metodi matematici  
Elementary Particle Theory Sector of SISSA*

**POSITION N. 5**

Scientific focus of the research activity: AdS/CFT duality and its applications to condensed matter systems

Responsible scientist: Prof. Matteo Bertolini

Members of the research group: Prof. Matteo Bertolini, Prof. Lorianò Bonora, Prof. Roberto Iengo, Prof. Sergio Cecotti, Prof. Marco Serone, Dr. Giulio Bonelli

Duration of the research fellowship: 12 months

Requirements for the admission to the competitive selection:

- PhD in Physics;
- Previous experience in the field of theoretical high energy physics, with particular reference to string theory, the physics of black holes and AdS/CFT correspondence





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*Settore scientifico disciplinare: FIS/03 Fisica della materia*  
*Condensed Matter Sector of SISSA*

**POSITION N.6**

Scientific focus of the research activity: Theoretical studies of clusters for low-temperature nitrogen fixation and/or ammonia decomposition

Responsible scientist: Prof. Stefano de Gironcoli

Members of the research group: professors of the Condensed Matter Sector

Duration of the research fellowship: 12 months

Requirements for the admission to the competitive selection:

- University Degree in Physics or Chemistry or Material Sciences;
- PhD in Physics or Chemistry or Material Sciences;
- Previous experience in the field of numerical simulation on calculations from first principles

**POSITION N.7**

Scientific focus of the research activity: Simulation of chemical processes relevant for the catalytic activity of hydrogen production

Responsible scientist: Prof. Alessandro Laio, Dr. Stefano Fabris

Members of the research group: Prof. Alessandro Laio, Prof. Stefano Baroni, Prof. Stefano de Gironcoli, Dr. Stefano Fabris

Duration of the research fellowship: 12 months, renewable

Requirements for the admission to the competitive selection:

- University Degree in Physics or Chemistry or Materials Engineering or equivalent Italian or foreign Degree ;  
To have completed three years of post-doctoral research in Physics or Chemistry or Materials Engineering or equivalent in Italian or foreign universities or to have previous experience at international laboratories/research institutions
- Previous experience in the field of first-principles simulations of chemical and physical processes and materials for production of hydrogen

Additional requirements:

Knowledge of English



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Annex A

ASTROPHYSICS SECTOR

PROFESSORS ( <i>PRIMA FASCIA</i> )	PROFESSORS ( <i>SECONDA FASCIA</i> )	RESEARCHER
Prof. Anna Lisa Celotti	Prof. Carlo Baccigalupi	Dr. Antonio Lanza
Prof. Luigi Danese	Prof. Stefano Liberati	Dr. Roberto Percacci
	Prof. John Miller	Dr. Francesca Perrotta
	Prof. Paolo Salucci	Dr. Riccardo Valdarnini

ELEMENTARY PARTICLES THEORY SECTOR

PROFESSORS ( <i>PRIMA FASCIA</i> )	PROFESSORS ( <i>SECONDA FASCIA</i> )	RESEARCHER
Prof. Lorianò Bonora	Prof. Matteo Bertolini	Dr. Giulio Bonelli
Prof. Roberto Inigo	Prof. Sergio Cecotti	
Prof. Giuseppe Mussardo	Prof. Gesualdo Delfino	
Prof. Serguey Petcov	Prof. Andrea Romanino	
	Prof. Marco Serone	
	Prof. Piero Ullio	

CONDENSED MATTER SECTOR

PROFESSORS ( <i>PRIMA FASCIA</i> )	PROFESSORS ( <i>SECONDA FASCIA</i> )	RESEARCHER
Prof. Stefano Baroni	Prof. Andrea Dal Corso	
Prof. Stefano Fantoni	Prof. Michele Fabrizio	
Prof. Sandro Sorella	Prof. Stefano De Gironcoli	
Prof. Erio Tosatti	Prof. Giuseppe Santoro	

SISSA Director:  
 SISSA Administrative Director :  
 Member of SISSA Council of Administration :

Prof. Guido Martinelli  
 Dr. Luca Bardi  
 SISSA Director – Prof. Guido Martinelli  
 Prof. Gianni Dal Maso  
 Administrative Director - Dr. Luca Bardi  
 Prof. Sergio Cecotti  
 Prof. Anna Maria Menini  
 Prof. Giuseppe Mussardo  
 Prof. Cesare Reina  
 Dr. Vera Breda  
 Dr. Jamir Marino  
 Dr. Alessandra Cifra  
 Prof. Rinaldo Rui  
 Fabio Fratnik  
 Prof. Giorgio Rossi  
 Prof. Claudia Razza