

**INAF
OSSERVATORIO ASTRONOMICO DI TRIESTE**

Concorso per il conferimento di n. 1 borsa di studio post-dottorato

Il Direttore,

- Visto il D.L. n. 138/2003;
- Visto il "Regolamento sull'organizzazione e funzionamento dell'Istituto Nazionale di Astrofisica", pubblicato sul S.O. della G.U. n.300 del 23/12/2004;
- Visto il "Regolamento sull'amministrazione, sulla contabilità e sull'attività contrattuale dell'Istituto Nazionale di Astrofisica", pubblicato sul S.O. della G.U. n.300 del 23/12/2004;
- Visto la circolare del 07/01/2005 del DSR INAF;
- Vista la nota prot. 32/05/DSR del 17/02/2005 emanata dal DSR INAF;
- Considerato che la borsa sarà finanziata con i fondi assegnati nel Bilancio 2010 sul Cap. 1.05.08 "Borse di studio, assegni di ricerca e finanziamento di dottorati" CRA 1.06.12.02.14 "Codex Espresso", centro di costo 1.04 /Osservatorio Astronomico di Trieste per un totale di Euro 66.000,00;

DECRETA:

Art. 1
PROGETTO DI RICERCA

E' indetta una selezione per titoli, eventualmente integrata da colloquio, per il conferimento di 1 borsa di studio *post-dottorato* della durata di 24 mesi per lo sviluppo di software per l'analisi dei dati degli spettrografi Espresso e Codex.

Le modalità di partecipazione alla selezione sono definite nell'allegato al presente decreto,

Trieste, 29 aprile 2010

IL DIRETTORE
Prof. Stefano CRISTIANI

Allegato n. 1/Attachment n.1

INTERNATIONAL POST-DOC FELLOWSHIP AT INAF – TRIESTE OBSERVATORY

INAF – Trieste Observatory (INAF-OATs) is awarding a post-doc fellowship to develop the data analysis software for the ESPRESSO/CODEX spectrographs.

Overview

CODEX is an ultra-stable optical high-resolution spectrograph proposed for the E-ELT. With its unique combination of light-collecting power and precision, CODEX will facilitate progress across a range of the burning science questions of our time. CODEX will make it possible to realize a long-held dream of cosmologists: to directly measure the acceleration of the Universe, believed to be driven by the mysterious dark energy, by monitoring the cosmological redshift drift of spectroscopic features at cosmological distances. The unique combination of precision and aperture will also allow the assembly of the first sizeable sample of earth-like planets in the habitable zones of their stars with the radial velocity technique that has proved to be so successful with HARPS. These are just two of the most spectacular scientific results anticipated for CODEX, which will be complemented by a wide range of spectacular science in stellar, galactic and extra-galactic Astronomy as well as Fundamental Physics.

The Echelle SPectrograph for Rocky Exoplanet- and Stable Spectroscopic Observations ESPRESSO is a new-generation spectrograph and the precursor of CODEX at ESO's VLT. The amazing 'spectroscopic' precision of this instrument will provide the community with new scientific capabilities, which are unique world- wide. To fulfill its expected performances ESPRESSO will use innovative techniques like the laser frequency comb calibration system.

The main scientific drivers for ESPRESSO are: the search for rocky extra-solar planets in the habitable zone of their host stars and the determination of the possible variability of physical constants. The capabilities of ESPRESSO will allow doing much more, such as extra-galactic spectroscopy, stellar abundances in neighboring galaxies, QSOs observation and cosmology. In particular, the foreseen 4-UT mode, in which all the four 8-m telescopes are connected incoherently to form a 16-m equivalent telescope, will allow reaching extremely faint objects.

Several people at OATs are involved in both projects and in particular in the development of the Data Analysis Software Tools. These tools will be specific to the scientific projects to be carried out with these instruments.

The successful candidate will work at the design of the data analysis software for the ESPRESSO/CODEX spectrographs in close collaboration with researchers with extensive expertise in spectroscopic data analysis at INAF-OATS and other institutions in the ESPRESSO/CODEX consortia.

Fellowship policies

Eligibility

This fellowship is intended for applicants of any nationality who have earned a Ph.D. in physics, astronomy, or engineering, or equivalent degree. Applicant is expected to have significant experience in data analysis software.

The successful candidates who have not yet received their doctoral degree at the time of the application must have a Ph.D. by the starting date of their fellowships. Candidates should submit their application by using the attached application form (see Attachment 2).

INAF-OATs is an Affirmative Action Institution. Women, Minorities and individuals with

disabilities are strongly encouraged.

2. Host institution

The Trieste Astronomical Observatory is part of INAF (www.inaf.it) and is one of the Italian observatories with the oldest tradition.

Research fields at INAF-OATs range from the study of stars and galaxies to cosmology, from fundamental and high-energy physics to astrobiology (see http://www.oats.inaf.it/astro/laricerca_prog_en.html). Technologic projects are focused mainly on instrumentation for some of the largest existing and future ground-based and space-born telescopes (e.g. the ESO Very Large Telescope; ALMA, the Atacama Millimeter Array; the E-ELT, European Extremely Large Telescope; the PLANCK and EUCLID satellites).

The area of Trieste offers a rich scientific environment, which includes the University of Trieste and Udine, SISSA, INFN, and ICTP. It also offers good computer facilities and access to supercomputer resources.

3. Salary and duration of the fellowship

The gross annual salary will be 30,000 EUR. The amount will be paid in monthly deferred installments, deducted the amount due to taxes regulations in accordance with the Italian law (if applicable). Travel funds will be available. No additional salary, or other remuneration may be accepted from any other appointment (such as teaching), fellowship, or similar grant during the period of the fellowship.

The appointment is for two years, with the possibility of extension depending on funding availability and performance. A review of scientific activity is requested at the end of the first year in order to confirm the support for the second year.

Application procedure

Qualified candidates are encouraged to send their application, by registered mail or express courier, to:

INAF-OATS DAS Post - doc fellowship
c/o INAF – Osservatorio Astronomico di Trieste
via G.B. Tiepolo, 11
34143 Trieste, Italy

no later than May 31st 2010. In addition, a copy of the application should be sent by e-mail at the address [cristiani\(at\)oats.inaf.it](mailto:cristiani(at)oats.inaf.it). Information requests can be addressed to: [dodorico\(at\)oats.inaf.it](mailto:dodorico(at)oats.inaf.it), [cristiani\(at\)oats.inaf.it](mailto:cristiani(at)oats.inaf.it)

Applications have to include the following documentation:

- application form;
- curriculum vitae;
- list of publications;
- summary of previous and current research (limited to three pages total, including references and figures)

Applicants should ask at least two referees to ensure they send letters of reference by May 31st 2010 to [cristiani\(at\)oats.inaf.it](mailto:cristiani(at)oats.inaf.it) or post to Stefano Cristiani, INAF-Trieste Astronomical

Observatory, via Tiepolo 11, I-34143 Trieste, Italy.

Selection and award of the fellowship

1. The Committee

The Committee, appointed by the Director of INAF–OATs, makes evaluations and recommendations in order to form a ranked list of candidates. The ranked list is approved by the Director and made public on the web site of the Observatory.

The valuable qualifications are:

- PhD degree and certificates of attendance of postgraduate courses;
- Research activity contracts at public and private institutions, fellowships or appointments;
- Scientific activities and publications.

After the selection process, to be completed by the end of June 2010, the successful candidate will be notified. He/She has to declare his/her acceptance by e-mail to [cristiani\(at\)oats.inaf.it](mailto:cristiani(at)oats.inaf.it) or registered mail or express courier within two weeks of the notification. In case of forfeit or declination of the fellowship, the grant can be awarded to another candidate within four months of the end of the selection process.

Fellowships should begin not later than October 1, 2010.

2. Visa requirements

Non-U.E. fellows will normally apply for an Italian visa sponsored by the host structure. More information can be seen on the INAF website www.inaf.it.

Allegato n. 2/ Attachment n.2

SCHEMA DI DOMANDA PER LA PARTECIPAZIONE AL CONCORSO/APPLICATION
FORM

Al Direttore/*To the Director of*
INAF – Osservatorio Astronomico di Trieste
Via Tiepolo, 11
34143 Trieste

Rif.: Bando di concorso per 1 borsa di studio post-dottorato “Data analysis software per gli spettrografi ESPRESSO/CODEX”

Ref.: 1 Post-doctoral fellowship in the area “Data analysis software for the ESPRESSO/CODEX spectrographs”

.... sottoscritt... (cognome)(nome)

The undersigned (Surname) (Forename(s)).....

nat... a Prov. il

Place of birth (Town/State).....

date of birth (dd/mm/yyyy).....

residente in Prov.indirizzo.....
.....

permanent residence address: (number/street/Town or city/postal code/ Country)
.....
.....

codice fiscale

Italian fiscal code number (if available)

chiede di essere ammesso al concorso per l'attribuzione di una borsa di studio post-dottorato, da usufruirsi presso l'Osservatorio Astronomico di Trieste.
hereby applies for the selection to the appointment to 1 (one) post-doctoral fellowship at the Astronomical Observatory of Trieste.

A tal fine dichiara, sotto la propria responsabilità:
Under his/her own responsibility the undersigned declares:

- di essere cittadino del Paese
- *his/her nationality is:*

- di non aver riportato condanne penali (in caso contrario precisare di quali condanne si tratti)
- *not to be under any penal sentence (if liable, please specify)*

- di trovarsi, nei riguardi degli obblighi militari di leva, nella seguente posizione:

.....

- *compulsory military service (liable/not liable)*.....

- di essere in possesso del titolo di dottore di ricerca in.....

conseguito ilpresso l'Università di

Titolo della tesi

- *to hold a doctoral degree in the field:*

Date of award:

University:.....

.....

Title of the thesis:

- di essere in possesso del diploma di laurea in.....

conseguito ilpresso l'Università

con la seguente votazione /

- *to hold a lower degree in*

date of award *University:*

.....

classification (if applicable):

Allega la seguente documentazione:

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The following documents are attached:

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Desidera che tutte le comunicazioni riguardanti il concorso le/gli siano inviate al seguente indirizzo:

Via.....
Città Prov. CAP
Tel. e-mail

Contact address concerning the fellowship application:

Street.....number.....
Town/city.....County/Province.....Postal code.....
Country Phone number.
e-mail

Luogo e data/Place and date

Firma/signature of the applicant

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