Title**: "Gravitational wave detection using Pulsar Timing Arrays"**
Location: INAF - Osservatorio Astronomico di Cagliari (Cagliari, Italy)
Application deadline: 31/01/2024 (before 23:59 local Italian time)
PI: Delphine Perrodin
Project financed by Large Grant INAF 2023
2 postdoctoral (Assegno di Ricerca) positions for 1 year each, renewable a second year
Start date: preferably between March and June 2024
Gross salary 28,000 euros/year corresponding to a net salary of 2000 euros/month

SCIENTIFIC PROGRAM
The selected candidates will work in the field of Pulsar Timing Arrays (PTAs) with the goal of detecting and studying low-frequency gravitational waves, within the European Pulsar Timing Array (EPTA) collaboration as well as the International Pulsar Timing Array (IPTA). The selected candidates will be able to contribute to PTA work from any of these points of view:
— installation of data acquisition systems for pulsar observations at radio telescopes
— analysis of pulsar timing data
— mitigation of the effects of the interstellar medium and/or the solar wind in pulsar data
— search for gravitational waves with PTAs
— search for a cosmological background of gravitational waves with PTAs
— search for gravitational waves in modified theories of gravity with PTAs
— synergies between PTAs and astrometry (Gaia) for the search for gravitational waves

PREFERRED EXPERIENCE
— Scientific experience in acquisition systems for acquiring pulsar data in the radio
— Scientific experience in the analysis of pulsar timing data
— Scientific experience in the study of the effects of the interstellar medium in pulsar data
— Scientific experience in the study of the effects of the solar wind in pulsar data
— Scientific experience in the field of gravitational waves
— Scientific experience in the field of theories of gravity
— Scientific experience in the field of cosmology

PREREQUISITES
A PhD in physics, astronomy or mathematics or a master's degree in physics, astronomy or mathematics + 3 years of documented research experience in physics/astronomy at the time of the application deadline.

INSTRUCTIONS
1) Application form: fill out Allegato/Annex A ***in Italian***, date and sign.

2) Curriculum Vitae written in Italian or English, with "Curriculum Vitae et Studiorum" written on top; dated and signed at the end.

Include the following text at the end of the CV:
"Le informazioni contenute nel presente "Curriculum vitae et studiorum" sono rese sotto la personale responsabilità del sottoscritto, ai sensi degli articoli 46 e 47 del Decreto del Presidente della Repubblica 28 dicembre 2000, numero 445, e successive modifiche e integrazioni, consapevole della responsabilità penale prevista dall'articolo 76 del medesimo Decreto per le ipotesi di falsità in atti e/o dichiarazioni mendaci."

3) Fill out Allegato B with the list of all obtained “titles” (in practice, you list everything you have in your CV., e.g. obtained degrees, work experiences, presented talks, outreach etc.)

4) List of all publications, dated and signed, and including:
Title of the publication, name of journal, year, list of authors, web address where we can find the article (make sure the articles are available in open access; if not, include your publications in your application as PDF attachments).

5) Research statement (~1 page), listing interests and research plans. Make sure to emphasize any experience you have in the aforementioned list of “preferred experience”.

6) ID document (e.g. passport) — signed

7) Copy of university degrees (e.g. bachelor’s, master’s and PhD degrees) for the degrees done outside of Italy (no need to attach a copy of Italian degrees)

8) If the candidate has not finished their PhD, or has done their PhD outside of Italy, include a certificate/letter that documents at least 3 years of scientific research after your master’s degree

The application (points 1-8) should be sent via certified email (PEC) or ordinary email (the email address used to send the application must belong to the candidate) before the deadline (31 January 2024) to the address: inafoacagliari@pcert.postecert.it
(send to this address ONLY and not include anyone else in CC)
No zipped files, attachments in PDF only, you can send several emails with the same title if needed.

With the subject:
A/R LARGE GRANT 2023 Domanda per Assegno Post Dottorato “Gravitational wave detection using Pulsar Timing Arrays” + first name + last name

9) 2 letters of recommendation sent directly by the letter writers (before the deadline) to:
inafoacagliari@pcert.postecert.it

With the subject:
"A/R LARGE GRANT 2023 - Lettera di referenze”.

The allegato C refers to university degrees obtained abroad (outside Italy). These documents will need to be submitted before the candidate can be officially hired, but are not needed by the application deadline. This will be clarified later with the winners of the competition.

The submitted qualifications will be evaluated out of 60 points. The candidates who score a minimum of 42 points (out of 60) will be invited to participate in an interview (that will most likely be conducted remotely) which will count for 40 points. The final score will thus be out of 100 points. All details regarding the application procedure, the evaluation of qualifications and the hiring process can be found in the competition announcement (“bando”).

For questions, please contact Delphine Perrodin at: delphine.perrodin@inaf.it