

The Istituto Nazionale di Astrofisica – Osservatorio Astrofisico di Arcetri ([INAF-OAA](#)) is offering a 2-year postdoc position for preparation of spectral analysis to be conducted with the HRMOS spectrograph, in particular aiming to derive heavy element abundances and isotopic abundance ratios. The postdoctoral position is funded under the project **INAF Large Grant 2023** entitled "**Beyond metallicity: Exploiting the full POtential of CHEmical elements (EPOCH)**" - DD 110/2023

Deadline for the applications: **30/01/2024 - 23:59 CET**

## RESEARCH PROJECT

HRMOS will be one of the next instruments to be proposed to ESO for the VLT, filling the gap left by FLAMES and providing very-high resolution spectra of galactic stellar populations. The instrument's white paper can be found at <https://arxiv.org/abs/2312.08270>

The postdoc candidate will deal in the context of HRMOS with the operational preparation for the scientific exploitation of very high resolution spectra; the optimisation of methods for the measurement of heavy element abundances and their isotopic ratios by spectral synthesis using archive and proprietary spectra.

The activities will be carried out in preparation for the conceptual study for the realisation of HRMOS in collaboration with the scientific group (Laura Magrini, Sofia Randich, Germano Sacco, Lorenzo Spina, Elena Francosinii) and the technology group (Anna Brucalassi, Andrea Tozzi) of INAF-Osservatorio Astrofisico di Arcetri, together with the international HRMOS consortium.

## ELIGIBILITY

The appointment is expected to begin by **May 31<sup>th</sup>, 2024** and will be for **two years** in the first instance, and renewable afterwards, subject to funding availability and performance review.

The following skills are considered preferential qualifications:

documented experience in spectral analysis and/or in chemical evolution and/or in nucleosynthesis;

- ✓ Analysis of large databases;
- ✓ Machine learning techniques applied to spectroscopy;
- ✓ Computer and programming skills

## REQUIREMENTS

• PhD diploma in Astronomy, Physics, Mathematics, Engineering, Informatics or equivalent qualification (case A);

or

• Master degree plus three years of documented research activity in Astronomy, Physics, Mathematics, Engineering, Informatics or equivalent qualification (case B);

awarded by public or private Universities, Institutions, Research Organisations or Centres or other qualified research bodies, both in Italy and abroad, in the topics relevant to the scientific area and the research object of this call.

Applications must be sent before the deadline via e-mail to: [inafoaarcetri@pcert.postecert.it](mailto:inafoaarcetri@pcert.postecert.it)

In the email subject the applicant should make explicit reference to: "**Bando Large Grants EPOCH - Domanda per Assegno DD n. 110/2023**".

The application must include the following files in PDF format:

- ✓ the **Application Form (Annex A)**, dated and signed;
- ✓ the self-certification Form (**Annex B**), dated and signed;
- ✓ a copy of a valid **passport or ID**;
- ✓ the **curriculum vitae** dated and signed;
- ✓ the **list of research publications** dated and signed;
- ✓ a **research statement**, max. 2 pages, dated and signed;

- ✓ a copy of the **degree certificate**. In case of degrees awarded by a non-Italian institution, please include a copy of the certificate of your highest degree (PhD in case A, or Master degree in case B), and associated transcriptions of exams done (in case B);
- ✓ in case the candidate has not the PhD, she/he is invited to clearly describe the **three years of research activity** as indicated in the requirements;
- ✓ any other document, work, or publication the candidate considers useful to qualify her or his scientific curriculum;
- ✓ a **list** of all the submitted documents.

#### **REFERENCE LETTERS**

**Two reference letters** in PDF format must be sent by the referees (selected by the candidate) before the deadline to [inafoarcetri@pcert.postecert.it](mailto:inafoarcetri@pcert.postecert.it)

The subject field needs to include the string “**DD n.110/2023**” and the full name of the applicant.

For any scientific and administrative information, please send an email to [laura.magrini@inaf.it](mailto:laura.magrini@inaf.it)