



**UNIMORE**  
UNIVERSITÀ DEGLI STUDI DI  
MODENA E REGGIO EMILIA

**DIREZIONE ORGANIZZAZIONE, PROGRAMMAZIONE E SVILUPPO RISORSE UMANE**

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THE MANAGER

GIVEN the public selective procedure, based on qualifications and interview, for the assignment of no. 2 senior research grants at the Department of Physics, Informatics and Mathematics, Tutor: Professor Massimo GASPARI, announced with decree of 11 September 2024 – prot. no. 260043 – rep. no. 1381/2024 and published on the online noticeboard of the University of Modena and Reggio Emilia; GIVEN the mere clerical error in the articles 2 and 4 of the Notice; HAVING RECOGNIZED the need to provide;

DECREES

Article 2 of the Notice is modified as follows:

*Art. 2*

*Location, subject area, research title, general aims of research, tutor, interview program and title subjects*

*(Omissis)*

**Aims of research:**

Selected candidates will work on the modeling and analysis of astrophysical processes of cosmic haloes (including the intracluster, circumgalactic and interstellar medium) through state-of-the-art magnetohydrodynamic (MHD) simulations as part of the BlackHoleWeather (BHW) ERC Consolidator project - an initiative dedicated to revealing the feeding and feedback mechanisms of black holes across macro- and micro-scales (see Gaspari+20, Nature Astronomy). The research will also include the comparison of the simulations with multiband observations from the main telescopes (JWST, Chandra, XMM, HST, ALMA, MUSE).

The research aims to develop 3D MHD simulations using:

- modern adaptive grid codes (such as Athena++, GAMER and/or FLASH);
- high-performance computing, especially with GPU-based systems;
- astrophysical processes such as turbulence, magnetic fields, dust, cooling, and chemical networks.

With access to world-class resources and international collaborations with prestigious institutions like Princeton, MIT, and NTU, the BHW team is dedicated to advancing the frontiers of knowledge in black hole research and galaxy evolution.

*(Omissis)*

Article 4 of the Notice is modified as follows:

*Art. 4*  
*General admission requirements*

This selection is open to applicants who are in possession of a master's degree (DM 270/2004) belonging to the LM-17, LM-58 classes and equivalent by law or have completed a **PhD in Astronomy, Astrophysics or tied scientific areas (Physics, Informatics)** or an equivalent qualification abroad or those who to these supported with a professional scientific curriculum adequately sufficient to carry out research, (*omissis*).

Anything else established in the decree rep. no. 1381/2024 prot. no. 260043 dated 11 September 2024 cited in the introduction remains unchanged.

This decree is not subject to registration by the Court of Auditors, pursuant to art. 7 of law 9 May 1989, nr. 168.

Modena, 12 September 2024

**THE MANAGER**  
**(Doctor Maria Raffaella INGROSSO)**  
**Digitally signed under the law "D.Lgs. N. 82/2005"**