

# Special Issue

## Recent Outcomes and Future Challenges in Nuclear Astrophysics

### Message from the Guest Editors

In recent years, several new facilities have been built on the Earth's surface and underground, and new experimental techniques have been developed. Nevertheless, several topics are not yet fully understood: we still do not know the origin of the discrepancy between lithium isotope abundance in old stars, with respect to the values predicted by theory, or how some of the heavy elements are produced. Several crucial nuclear reactions are still unknown in the corresponding stellar energies of interest, or their determination is not precise enough to constrain the models. These, along with several other open questions, require further investigations. In this Special Issue, we would like to overview the status of nuclear astrophysics and how this subject interfaces with other research fields, such as astroparticle physics, gamma-ray astronomy, cosmology, isotopic abundances in meteorites or the detection of gravitational waves [...]. For further reading, please follow the [link](#) to the Special Issue Website.

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### Guest Editors

Dr. Giovanni Francesco Ciani

Dr. David Rapagnani

Dr. Eliana Masha

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### Deadline for manuscript submissions

closed (31 December 2024)



# Universe

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## About the Journal

### Message from the Editor-in-Chief

The multidisciplinary journal *Universe* is aiming to follow and, hopefully, to lead to the largest extent as possible the ever-self renovating threads which weave mathematical theories with our understanding of the magnificent natural world. On behalf of all the distinguished members of the Advisory and Editorial Boards, I extend my welcome to this journal and look forward to hearing from the interested contributors and learning about their valuable research.

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### Editor-in-Chief

Prof. Dr. Lorenzo Iorio  
Ministero dell' Istruzione e del Merito, Viale Unità di Italia 68, 70125 Bari,  
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