The AstroMundus Consortium

Partner Universities:

- University of Innsbruck UIBK, Austria, Coordinator
- University of Belgrade UB, Serbia
- University of Göttingen UGOE, Germany
- University of Padova UniPD, Italy
- University of Rome Tor Vergata UToV, Italy

Associated Partners:

- Astronomical Observatory Belgrade AOB, Serbia
- Gran Sasso Science Institute GSSI, L'Aquila, Italy
- National Institute of Astrophysics INAF, Italy
- Max Planck Institute for Solar System Research MPS, Göttingen, Germany

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Inner side images: Hobby Eberly Telescope and University of Göttingen, credit: UGOE; AstroMundus Retreats 2017 and 2013, credit: S. Temporin



Erasmus+: Erasmus Mundus Joint Master Degree in **Astronomy & Astrophysics**

astro

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The 2-year international Master AstroMundus is jointly organized by 5 universities in 4 different countries, in collaboration with 4 associated research institutions. Its purpose is training talented students from all over the world to become excellent astrophysicists and highly skilled, versatile individuals.

www.astromundus.eu

Text and layout: S. G. Temporin

Cover image: The Milky Way - credit: ESO/S. Brunier



A jointly organized international Master

AstroMundus, founded in 2009 with the support of the European Union, is an excellence programme and the first Master in Astrophysics to be delivered jointly by a consortium of several universities in different countries. The joint curriculum starts with an introductory semester in Innsbruck followed by a flexible path through the consortium in the next 3 semesters. Courses are complemented by an intensive programme of tutoring. Students study in at least two and up to four, or - in the case of a joint Master thesis between two partner institutions - five consortium universities. Emphasis is put in providing students with a solid background in astrophysics and an excellent preparation in a wide range of topics and techniques at the forefront of modern research. Invited guest scholars further enrich the programme and increase the networking opportunities of the students.



A unique study programme in Astronomy & Astrophysics

Open to carefully selected, talented students from all over the world, AstroMundus offers training in most of the numerous sub-fields of the discipline. The programme spans the fields of Galactic Astrophysics (the Sun, the Solar system, the Milky Way, stellar astrophysics and evolution, the interstellar medium, Solar astrophysics and space weather, extrasolar planets), Extragalactic Astrophysics (galaxies, galaxy evolution, galaxy clusters, intra-cluster medium, star formation), Active Galactic Nuclei (including accretion theory, relativistic jets, modelling), Cosmology (including observational cosmology, galaxy surveys, gravitational lensing, very early universe), Particle Cosmology, Astroparticle Physics, Gravitational Waves, Observational Astrophysics from the ground and from space, Computational Astrophysics (N-body simulation, magneto-hydrodynamic simulations).

Such a wide scope is achieved thanks to an integrated approach that combines the individual scientific strengths of the five partner universities and complements them with the additional expertise and active contribution of the four associate research institutions.

During their Master studies, students have the unique opportunity to develop competences and skills in a very wide range of branches of Astronomy and Astrophysics, as well as a plethora of transversal skills that find application in a variety of fields within and outside academia. They gain direct experience of an international research environment, which optimally prepares them to their future work in the field of Astrophysics, whose fast development is increasingly based on large international collaborations.

The special course structure and the careful pre-selection of highly motivated, top-ranked students make AstroMundus a unique Master programme in the field of Astrophysics and a centre of excellence in the European space.



AstroMundus students and alumni

Over 8 course editions, the last two of which are currently ongoing, 124 students from 47 countries were enrolled in the course. Seventyseven students have already successfully graduated from the programme and close to 90% of them have obtained PhD or other academic positions at prestigious universities or research institutions around the world. Graduates who continued their career within the AstroMundus consortium, continued to contribute to the programme as tutors for the new generations of students. Several graduates already concluded their PhD and are continuing their scientific career at postdoctoral level. Some alumni have already co-authored a high number of scientific publications and are actively involved in large projects at the forefront of Astrophysical research, such as the detection of gravitational waves.

In some cases, AstroMundus alumni have opted for a career switch and are successfully exploiting the acquired technical, analytical and personal skills in the industrial and business sectors.



Countries where AstroMundus alumni obtained their first and second academic position



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