



ERASMUS MUNDUS 2009-2013 Action 1

ERASMUS MUNDUS MASTERS COURSE in Astronomy and Astrophysics

Sonia Giovanna Temporin
on behalf of the

Project Coordinator: Prof. Sabine Schindler
Institute of Astro- and Particle Physics
University of Innsbruck

ERASMUS MUNDUS Masters Course in Astronomy and Astrophysics

<http://www.astromundus.eu>



astro
mundus
international
master

The first and only
ERASMUS MUNDUS Programme
Coordinated by an Austrian University!

- Best Master in Astrophysics world-wide
- Center of excellence involving
5 Universities in 4 Countries
- 40 students expected from
all over the world
- First edition starting in September 2010

AstroMundus Partner Universities:

- Institute of Astro and Particle Physics, University of Innsbruck, Austria (Coordinating Institution)
- Department of Astronomy, Faculty of Mathematics, University of Belgrade, Serbia.
- Department of Physics, Institute for Astrophysics, University of Goettingen, Germany.
- Department of Astronomy, University of Padua, Italy.
- Department of Physics, University of Rome "Tor Vergata", Italy.





The AstroMundus Programme

AstroMundus is a 2-years Erasmus Mundus Masters Course in Astronomy and Astrophysics.

The Course is based on the **synergy** between the Universities of Innsbruck, Padua, Rome, and Göttingen, and the University of Belgrade as a Third Country partner.

The **variety of expertise** present in the 5 participating institutions results in an increased offer of pathways for the students, spanning all branches of Astronomy and Astrophysics in the theoretical, observational, and computational domains.

Such a **complete offer** in the fast growing field of Astrophysics is **unique** at the European level (and beyond).

Main Objectives

- Providing top-ranked students with an excellent background in Astrophysics
- Introducing the students to the world of modern astrophysical research by training them to exploit ground-based and space-based instrumentation, data archives, and state-of-the-art supercomputers
- Integrating the students in the international scientific community and fostering their future career in this field
- Promote cultural exchanges between Third Country and European students and academics

Structure of the Masters Programme

- 4 semesters of studies → minimum 120 ECTS (European Credit Transfer System)
- Language of instruction: English, but optional courses of the host country language are part of the curriculum
- Entrance University: Innsbruck
- Role of Third Country partner: It fully participate in the programme
- Mobility: Students carry on their studies in at least 2 and up to 4 different institutions. Mobility of lecturers is foreseen and encouraged as an added value
- Master thesis: Joint supervision between different partner institutions is promoted
- Final degree: Joint Master degree (Master of Science) offered by all institutions where students carried on part of their Master studies, plus Diploma Supplement

Semester organisation

	1 st term	2 nd term	3 rd term	4 th term
Innsbruck	X			X
Padova		X		X
Rome		X	X	X
Göttingen			X	X
Belgrade			X	X
maximum fraction of students per site	n.a.	60%	40%	25%

Some example paths

- Innsbruck → Rome
 - Innsbruck → Rome → Rome → Innsbruck
 - Innsbruck → Padua → Belgrade → Innsbruck
 - Innsbruck → Padua → Göttingen → Göttingen
 - Innsbruck → Rome → Göttingen → Padua
 - Innsbruck → Padua → Göttingen → Belgrade
 - Innsbruck → Rome → Belgrade → Göttingen
- } minimum mobility
 } medium mobility
 } maximum mobility

Services offered to students

- Special lectures offered during the first semester to bring all students to a common level of knowledge
- Intensive tutoring at all sites: a half of the lecture hours of compulsory courses consists of lecturing with one tutor per each sub-group of typically 4 students
- A tutor per site is available for assistance during the master thesis (4th semester)
- At all sites, university offices for international relations are available to assist students with all issues concerning their stay in the host countries
- Social activities will be encouraged to favour contacts between foreign and local students
- Registration fees include an insurance provided by an international company and valid for the whole duration of the studies.
- A student handbook will be made available on the dedicated web site

Quality assessment

- Local assessment of quality at each site according with procedures already in place like dedicated questionnaires to students, councils composed of local professors and EM student representatives
- Consortium assessment of quality through Quality Evaluation Committee composed of one staff member per participating institution and EM student representatives
- External advisory board composed of 3 international experts of the field

Student selection

Selection Committee (SC): 1 member per participating institution

- Application form made available through the web site
- Applications in electronic form
- First screening of applications upon reception to check for missing documents

Selection criteria

- Previous Bachelor's degree or equivalent amount of knowledge in fields related to Physics and Astrophysics
- Proof of proficiency in the English language
- Motivation letter
- Curriculum Vitae
- Academic transcripts and content of the courses attended in previous studies
- Reference letters according to referee form provided on the web site

Evaluation of applications

- Screening and ranking of applications by each member of the SC
- Meeting of SC members to finalize ranking
- Interview (video-conference) of pre-selected students

