

CALL FOR APPLICATIONS

for Astronomy and Astrophysics

PhD Positions in Astronomy

Call for Applications
Deadline: November 15th, 2011

International Max Planck Research School (IMPRS) for Astronomy and Astrophysics at the Universities of Bonn and Cologne



MAX-PLANCK-GESELLSCHAFT



universität**bonn**

General

The International Max Planck Research School (IMPRS) for Astronomy and Astrophysics, is funded by the German Max Planck Society and is operated by the Max-Planck-Institut für Radioastronomie (MPIfR) in collaboration with the Argelander-Institut für Astronomie (AIfA) of the University of Bonn and the I. Physikalisches Institut at the University of Cologne. It offers three-year financed PhD courses. The official language is English. Currently it hosts roughly 40 students from 17 countries around the world.

IMPRS
astronomy &
astrophysics
Bonn and Cologne

Fields of Research

The IMPRS for Astronomy and Astrophysics offers a broad spectrum of topics in observational and theoretical, galactic and extragalactic astrophysics, observational and theoretical cosmology, fundamental physics with astronomical tools and instrumentation.

Some examples:

- AGN Astrophysics – Structure and Kinematics of AGN Jets
- Extragalactic Relativistic Flows – Multi-band Blazar Astrophysics
- Multi-frequency AGN Polarimetry – VLBI Studies of AGNs
- Infrared Interferometry of Disks and Jets of Young Stars
- Protoplanetary Disks – Radiative Transfer Modeling – Galactic Masers
- Infra-Red Interferometry of AGN – Gravitational Lensing
- Galactic and Extragalactic Magnetic Fields – High Precision Astrometry
- Stellar Astrophysics and Stellar Evolution
- Supermassive Binary Black Holes in AGN
- Stellar Population Studies – Astro-chemistry
- Galactic Dynamics – Binary Pulsars – Neutron Stars
- Experimental tests of gravity – Transient Radio Sky
- Faraday Galaxy Tomography – Radio Pulsars
- Gravitational Wave Detection with Pulsar Timing
- Stellar Cluster Dynamics – Dark Matter
- Galactic Center Studies.

Besides the expertise in radio astronomy of the MPIfR the IMPRS for Astronomy and Astrophysics provides the opportunity for scientific activity in almost all fields of contemporary astrophysics, techniques and energy bands.

Training

The IMPRS for Astronomy and Astrophysics offers a competitive PhD program on the basis of a tightly structured curriculum, including:

- Advanced lectures on fundamental astrophysical fields
- Soft skill seminars (e.g. presentation skills, time management, scientific reading)
- Weekly students seminars
- Annual, “students-only” workshop where they develop team activities aside from their main research interests
- Colloquia at the three hosting institutions given by experts from all over the globe
- University courses
- Thesis committees monitor the progress of each student and provide scientific feedback to the PhD course

Furthermore, the students are strongly encouraged and funded to travel to international schools, conferences and the best observing facilities around the world. They are exposed to the most advanced techniques and methods using state-of-the-art earth-bound or space observatories, such as the unique 100-m radio telescope in Effelsberg and the most advanced instruments in millimeter, sub-millimeter and high-energy bands, such as the APEX 12 m telescope, the Large Binocular Telescope and many more.

The call for applications is open until November 15, 2011. Encouraged to apply are students with a M.Sc. degree or diploma (including a written thesis) in Physics or closely related subjects. Solid astrophysical background is highly favored.

More details on the IMPRS program and the admission requirements and process can be found at the IMPRS website:

www.mpifr.de/imprs | www.youtube.com/user/imprstube

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