



INPE

Postgraduate Program

Master and Doctorate Courses

Excellence in training highly qualified masters and doctorates

INPE started its postgraduate program in 1968 and gradually built a solid tradition of excellence in its masters and doctorate courses. There are seven programs: Applied Computing; Astrophysics; Earth System Science (only doctorate); Meteorology; Remote Sensing; Space Engineering and Technology; Space Geophysics.

In addition to the constant search for quality, the topics of the postgraduate studies are aligned with INPE's mission of promoting knowledge and Research and Development activities for the benefit of society's social and economic well-being, based on sustainable socio-environmental development.

INPE's international partnerships have always maintained links with its postgraduate studies. In 2018, the Institute was selected by the Coordination for the Improvement of Higher Education Personnel (CAPES) to participate in the Institutional Internationalization Program (PrInt).

INPE's inclusion in PrInt, in the areas of space science and technology and the terrestrial environment, expanded international collaboration and exchange possibilities, promoting greater quality in the academic training of its different programs.

Astrophysics

The research areas of the INPE Postgraduate Course in Astrophysics are related to stellar astrophysics, extragalactic astrophysics, cosmology, exoplanets, cosmic microwave background, X-rays and gamma-rays astrophysical sources, gravitational waves, interstellar medium, and solar physics. The Course is also enrolled in instrumental development.

Research groups:

Cosmology
Gravitational waves
Heliophysics
High-energy astrophysics
Optical and infrared astronomy
Radio astronomy

More information on::

<http://www.inpe.br/posgraduacao/ast/>



Space Geophysics

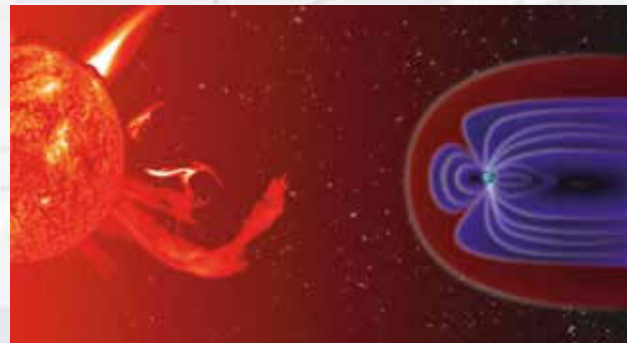
The Space Geophysics Postgraduate Course (GES) aims to train personnel at academic Master and Doctoral levels with a preferential undergraduate background in exact sciences and engineering. The purpose is to enable them to work in the areas of teaching, research, and their applications in research institutes, universities, and companies, in subjects involving the development of space research or direct knowledge of science or associated technology. The research topics are intimately related to the area of Heliophysics. There are two areas of concentration: Science of the Solar-Terrestrial Environment and Atmospheric Sciences. The course is Grade 6 at CAPES for more than 10 years, which makes it a CAPES Excellence Program member.

Research Topics:

- Magnetosphere and Heliosphere
- Geomagnetism
- Physics of the Ionosphere
- Atmospheric Airglow
- Transient Luminous Events
- Physics of the Upper Atmosphere
- Chemistry of the Atmosphere
- Atmospheric Electricity

More information on::

<http://www.inpe.br/posgraduacao/ges/>



Space Engineering and Technology

The Postgraduate Course in Space Engineering and Technology has four research areas covering the whole process involved in the development of space, aerospace and terrestrial engineering solutions, aiming at scientific training in critical disciplines in the space field areas such as propulsion, space mechanics and satellite control, thermal, materials and sensors, dependability, on-board computing, technologies in imaging cameras, space radiation, electronic equipment projects for space use, among others. It also develops and researches protocols for satellite operations and project management in the space area. The course is taught at the Master and Doctorate level and contributes to the training of highly specialized professionals to meet the demand of INPE, the Ministry of Defense, institutes of the Department of Aerospace Science and Technology (DCTA) of the Air Force and Public Civil Organizations in the space area, companies linked to the national aerospace sector and Brazilian Universities.

Research areas:

- Space Mechanics and Control
- Materials and Sensors Science and Technology
- Space Systems Engineering and Management
- Combustion and Propulsion

More Information on:

<http://www.inpe.br/posgraduacao/ete/>



Applied Computing

The Postgraduate course in Applied Computing, created in 1968, was the second program created in Brazil in the area of Computer Science, integrating research in applied computing and computational modeling with different disciplines needed in the scope of space sciences, technologies and applications, generating scientific and technological innovations. Since its creation, the program has been training generations of highly qualified specialists, who contribute to maintaining and solidifying INPE's position as one of the main centers of excellence in Space Sciences and Technologies in the international scene.

Research Lines:

- Geoinformatics and Geospatial Data Science
- Artificial Intelligence for Space Applications
- Computational Modeling of Natural Phenomena

More information:

<http://www.inpe.br/posgraduacao/cap/>



Meteorology

The postgraduate course in meteorology of the Brazilian National Institute for Space Research (INPE) aims at graduating masters and doctors with advanced understanding of physical and dynamical processes of the earth system. It is classified as a course of Academic Excellence by CAPES, the Brazilian Higher Education Improvement Coordination.

The course supports the mission of INPE's Center for Weather Forecasting and Climate Studies at providing the country with the state of the art in numerical weather and climate forecasts for the benefits of our society.

Research topics:

- Observational and numerical modeling of the weather and climate systems
- Remote sensing of the atmosphere
- Interactions between ocean and atmosphere
- Interactions between biosphere and atmosphere
- Air pollution
- Climate change and variability

More information:

<http://www.inpe.br/posgraduacao/met/>



Remote Sensing

Remote Sensing is one of the most important sources of information about the Earth's surface. With satellite data, we can understand how environmental, social and economic changes shape the present and future states of our planet. Our goal is to offer international-level postgraduate training and deliver high quality science for the benefit of society. Our course (master and doctorate) is qualified as an Excellence Program by CAPES (with Grade 7, the highest possible score). Join us at INPE, the reference center for Earth Observation in South America.

Research topics:

- Remote Sensing applied to agricultural activity
- Remote Sensing applied to forest resources
- Remote Sensing applied to terrestrial ecosystems and sustainable development
- Remote Sensing and geotechnologies applied to the study and monitoring of aquatic systems
- Remote sensing of oceans and atmosphere
- Remote sensing in studies of patterns, processes and actors in land use and land cover dynamics
- Remote sensing and integrated spatial analysis in population, space and environment studies
- Remote sensing and geotechnologies applied to territorial and urban planning and management
- Remote sensing applied to geosciences
- Remote sensing applied to geomorphology
- Image processing and analysis for Earth Observation
- Basic studies of new remote sensing data missions and imaging technologies

More Information:

<http://www.inpe.br/posgraduacao/ser/>



Earth System Science

Today, in the country, there is a shortage of postgraduate programs that train professionals at the doctoral level qualified to contribute as researchers or science managers in face of the great challenges posed by global environmental changes. Doctors in Earth System Science should, based on scientific-technological development, meet the social and institutional demands related to the identification and quantification of the impacts and vulnerabilities of society and natural systems, in face of contemporary environmental changes, and thus provide guidance for planning on measures of adaptation.

Research Areas:

- Urban Systems, Land Use Patterns, Health and Environment
- Environmental Biogeochemistry
- Climate Projections
- Ecohydrology
- Biosphere-Atmosphere Interaction
- Social and Environmental Systems: analysis, synthesis and modeling
- Hydrology and Natural Disasters
- Energy from Renewable Sources
- Atmospheric Electricity
- Terra-ME: Computational Environment Multi-paradigm for the development of Integrated Nature-Society Models

More information:

<http://pg.ccst.inpe.br/>





APPLY NOW:

WWW.INPE.BR/POSGRADUACAO/INSCRICOES.PHP

Periods and dates of registration, selection, registration, beginning of classes, among other information, can be checked on INPE post-graduation program web site: www.inpe.br/posgraduacao

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