

# Atmospheric Physics Exchange Program



## About the Exchange Program

It is important for atmospheric physicists to have an understanding not only of their regional weather and climatic conditions, but also of these conditions around the world. This increased knowledge results in further understanding of meteorological principles and the ability to apply them in different conditions. To help achieve this goal, in 2009 an exchange program between the University of La Réunion, France, and the University of Hamburg, Germany, was created in an effort to

give students first-hand experience of meteorology in another country, and the possibility to study a foreign language. Both the University of La Réunion and the University of Hamburg are leading institutions in the field of meteorology in their respective regions. The 6-month exchange typically takes place in the 3<sup>rd</sup> year of the curriculum but exchanges during the Master-Phase or PhD-Phase or internships are also envisaged. They require individual arrangements.

## About the Universities

**The University of Hamburg** is located in the centre of Hamburg, the second largest city of Germany with 1.8 million inhabitants. Hamburg University has identified atmospheric science as one of the university's priority research areas. The Meteorological Institute at the University of Hamburg is one of the largest academic units for meteorology in Germany. It is a member of the Center for Marine and Climate Research (ZMAW), and closely linked to the Max Planck Institute for Meteorology. Together with the German Computer Center for Climate Research (with which we share the building), the Institute is equipped with up-to-date computers ranging from a Super Computer to ordinary PCs. As the only meteorological institute in Germany, the institute operates a laboratory with several boundary layer wind tunnels equipped with advanced instrumentation. Hamburg University has a comprehensive atmospheric science program, and offers a wide range of subjects in meteorology and climatology. Courses teach essential meteorological theory and may have an experimental component that gives students practical experiences.

**The University of La Réunion** is located in the Indian Ocean. It is an overseas French Department with 800 000 inhabitants. Research within the Faculty of Science and Technologies is organized into eight laboratories covering subjects such as: marine and terrestrial biodiversity, electronics and energy transfer, atmospheric dynamics, medical biology, research on active principles, volcanology, soil hydrodynamics, and fundamental and applied research in mathematics and computer sciences. The Department of Physics has a comprehensive theoretical and technical science program, and offers a wide range of subjects in theoretical physics (mechanics, fluid mechanics, waves and propagation, electromagnetism, physical optics, thermal processes), electrical engineering and signal processing. Courses teach essential theoretical and technical science to 3<sup>rd</sup>-year Hamburg students and may have an experimental component that gives them practical experiences. Master-Phase or PhD-Phase students may also attend courses in environmental physics.

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### **Approved Exchange Courses**

The Department of Physics, University of La Réunion, and the Meteorological Institute, University of Hamburg,, have agreed on the following subjects and courses as a basis for exchanges of their students:

#### **La Réunion Year-3 Undergraduates at Hamburg**

Due to the differences in the academic calendar in Hamburg and at La Réunion, La Réunion students are advised to visit Hamburg during the German Spring/Summer (roughly 04/01-07/15) term. They should choose at least 4 subjects\* from the following list.

##### **Hamburg Spring/Summer Semester**

- 63-515 – Atmospheric Thermodynamics (Lectures)
- 63-515a – Atmospheric Thermodynamics (Exercises)
- 63-506 – Turbulence and Boundary Layer (Lectures)
- 63-506a –Turbulence and Boundary Layer (Exercises)
- 63-523 – Optics, Radiation, Remote Sensing (Lectures)
- 63-523a – Optics, Radiation, Remote Sensing (Exercises)
- 63-522 – Introd. to Theoretical Meteorology (Lectures)
- 63-522a – Introd. to Theoretical Meteorology (Exercises)

##### **Some possible electives**

- 63-562 - Seminar and Excursion “Atmospheric Boundary Layer”. The excursion is in summer to the island of “Fehmarn” off the German Baltic Coast.
- 63-510 – Synoptics (Exercises)
- 63.566 – Planet Simulator Workshop. Students will get hands-on experience with a global model.
- 63.555 - Introduction to Mesoscale Modeling
- 63.564 – Urban Climatology

#### **Hamburg Year-3 Undergraduates at La Réunion**

The application process starts usually in the 1<sup>st</sup> week of April with a meeting, which informs about all the exchange programs the Meteorological Institute is part of. Potential exchange students are requested to write an application letter which details their motivation, gives information about their language abilities and on the marks they received so far. Attached to this letter are a Curriculum Vitae and a copy of the final High School certificate. Applications are sent to the Meteorological Institute. Applicants selection will be carried out in close contact with Dr. Béatrice Morel and La Réunion’s International Office. Only students with marks clearly above average have a realistic chance to be accepted. The lectures Hamburg students should attend in La Réunion will be determined for each student individually by mutual agreement between the supervisors in La Réunion and Hamburg.

#### **Language Requirements**

Exchange students must have a good command of French or German, respectively.

Students who are unable to communicate in the language spoken at the host institution but are fluent in English can not be accepted to attend lectures but may qualify for internships.

#### **Additional Information**

Contact the student liaisons or go to <http://www.mi.uni-hamburg.de> for information on the University of Hamburg’s meteorology program or to <http://sciences.univ-reunion.fr> for information on the corresponding programs at the University of La Réunion.