Itinerary and Activities

Participate in summer 2008 in the Summer Research Internship at the University of Karlsruhe in southwest Germany. This is a three-month, paid summer internship from May 15 to August 15, 2008. The program is funded by the National Science Foundation, International Education & Research in Engineering (IREE) program. Highlights include:

- Work on an engineering research project in environmental fluid mechanics and obtain 3 credits of technical elective in CVEN or OCEN 485.
- Get paid to spend your summer in Europe, including air fare, on-campus housing, food allowance and a monthly stipend (see Expenses Paid inside).
- Make friends in a multi-cultural setting. The host program, the Institute for Hydromechanics at the University of Karlsruhe, has student researchers from many countries around the globe, including Chile, Spain, Italy, Indonesia, and others.
- Experience the German language, culture, cuisine, and landscape. Karlsruhe is a major, international city in Baden-Württemberg, Germany, boasting a rich cultural and technical heritage.
- Take planned excursions to important local cultural and political sights. Trips include the European Union Parliament in Strasbourg, France, the Baden-Württemberg Legislature in Stuttgart, and the German Supreme Court in Karlsruhe.
- Travel throughout Europe. Karlsruhe is situated on the main train lines connecting Stuttgart, Freiburg, Frankfurt, and Strasbourg. Most major European cities are within striking distance on a weekend.

To learn more about this exciting summer research internship, visit our web page at http://ceprofs.civil.tamu.edu/ssocolofsky/summer/

And be sure to turn in an application before November 5, 2007.
Summer Research Internship: Germany

Oxygen Gas Transfer

Oxygenated natural waters, such as rivers, lakes, reservoirs, estuaries, and the open ocean are vital to the survival of aquatic organisms, especially fish and aquatic fauna. Anthropogenic and natural forces often result in anoxic conditions in certain ecosystem niches, and natural and artificial oxygenation is needed to correct the problem. This project studies oxygen transfer from engineered bubble plumes as well as natural gas exchange through nighttime cooling using a laser-based technique in an turbulent flow tank.

Sediment Transport

Sediment transport, including the flocculation and suspension of colloidal sediments, is an important process in natural rivers and coastal flows that is little understood by modern science. It is important, among other reasons, both for transporting needed nutrients to aquatic habitats and also for understanding the morphology change of rivers and coasts. This project studies the dynamics of suspension and suspended flow using optical measurement methods in a grid-stirred turbulent tank.

Tidal Exchange Flow

Shallow tidal flows through inlets are known to generate large-scale vortex-like structures that control the exchange of passive constituents, such as nutrients, salinity, pollutants and biological tracers. This project studies for formation of these large-scale structures using dye and particle velocimetry and a large-scale tidal flow tank.

Spend Your Summer in Germany

Have you always wanted to travel internationally? Do you want to combine travel in Europe with a quality summer internship experience? Is financial support and lack of foreign language training a concern? Then this program is for you!

This summer, the Zachry Department of Civil Engineering and the Ocean Engineering Program at Texas A&M University are offering a three-month, expenses paid summer research internship at the University of Karlsruhe in southwestern Germany.

The University of Karlsruhe is a top-rated engineering and technical business university in Germany, and the internship will be in collaboration with the Institute for Hydromechanics (ifH), a world-class academic program in the Civil Engineering Department there.

Each student will participate in a research project similar to those highlighted in the panel at the left. These are current research projects being conducted in Germany. You will receive quality training in the laboratory techniques required for your project and close supervision throughout the research internship. These projects were selected for their strong importance in environmental fluid mechanics and their very visual, intuitive appeal.

The program also focuses on a wide range of cultural and travel experiences outlined on the back panel of this flyer. So plan now for an exciting summer research experience!

Requirements

Students must be in good academic standing in the Zachry Department of Civil Engineering or the Ocean Engineering Program and have completed the CVEN 311 Fluid Dynamics course by the end of the Fall Semester, 2007.

To apply for the program, you must fill out an application available at http://ceprofs.civil.tamu.edu/ssocolofsky/summer/. Students will be selected by November 15, 2007. If you are selected, you must take one semester of German language at TAMU in the Spring Semester 2008. The summer research internship itself will count as 3 credits of technical elective (CVEN or OCEN 485). Thus, the language requirement will not get you behind on your technical coursework. Please note that there are a limited number of positions available.

Expenses Paid

This exchange program is funded by the National Science Foundation (NSF) through the International Research & Education in Engineering (IREE) program. Students selected for the research internship will receive full air fare, on-campus housing, $18 per day food allowance, and $1200 per month stipend. The Germany program is a three month program from May 15 to August 15, 2008. Students will also receive support to participate in the IREE 2008 Conference in Washington, D.C. in the following fall. At the IREE conference, students will present their experiences in a national forum and meet other students who participated in programs around the globe.