

## **Ph.D. Student Position with the Institute of Telecommunications at Vienna University of Technology**

*Subject: Interference management in dense wireless networks*

The Communication Theory Group of the Institute of Telecommunications at Vienna University of Technology is offering a 3-year doctorate position in the area of interference management in wireless networks.

### **Ph.D. topic:**

Interference is the most serious performance impairment in today's wireless communication networks. Recent research results have highlighted the importance of interference coordination in such networks. The aim of the proposed thesis is to study and develop practical methods enabling interference coordination in a wireless network. The first axis of research is the development of robust and distributed interference management techniques. The second axis of research is the use of advanced channel state representations in order to cope with the problem of imperfect channel state information.

### **Required qualifications:**

A Master of Science degree in Electrical Engineering, Mathematics, Physics, or equivalent degree, is required. Furthermore, the candidate should have a strong mathematical background, with good analytical skills, and a working knowledge of MATLAB. Familiarity with one or several of the following topics is a plus:

- probability theory and Bayesian analysis,
- random matrix theory,
- information theory and coding,
- game theory.

### **Practical conditions:**

The host institution is based in Vienna, Austria. Vienna is a vibrant, international capital in the heart of Europe. With more than 70 scientific staff, the Institute of Telecommunications (<http://www.nt.tuwien.ac.at/>) is one of the largest in the Faculty of Electrical Engineering and Information Technology at Vienna University of Technology (<http://www.tuwien.ac.at/>), with a long tradition of excellence in teaching and research.

The working language is English. The position is funded for three years by a Future and Emerging Technologies project of the European Commission, starting in spring 2011. The thesis will be co-supervised by Prof. Gerald Matz and Dr. Maxime Guillaud. Annual gross income will be about 28.500 €.

### **Application:**

Applicants should send a CV, a motivation statement, a list of relevant courses including grades, reference letters, as well as any other relevant information to:

- Dr. Maxime Guillaud, [guillaud@tuwien.ac.at](mailto:guillaud@tuwien.ac.at), and
- Prof. Gerald Matz, [gerald.matz@nt.tuwien.ac.at](mailto:gerald.matz@nt.tuwien.ac.at).