

## **Match of the vacancy within the Strategic Goals of the Department**

### **Global Strategic Goals of the Faculty of Engineering and Architecture at Ghent University**

New members of the Professorial Staff (i.e. Assistant Professors, Associate Professors, Full Professors and Senior Full Professors) are expected to develop (research) activities aimed at engineering applications or architecture and to join, as far as is possible, existing research groups rather than to separately create (very) small new and isolated research groups.

The research activities within the Faculty of Engineering and Architecture are only partially realized by employees that are funded directly by the government (Professorial Staff, Assisting Academic Personnel, and Administrative & Technical Personnel) or through research funds provided by the university itself. Indeed, a considerable share of research activities within the Faculty of Engineering and Architecture is realized by researchers that are funded through external national/Flemish or international resources (e.g. Research Foundation-Flanders (FWO), Flanders Innovation & Entrepreneurship (VLAIO), EU, contract research in cooperation with companies). While the latter concerns external funding, the research activities are in fact managed by internal Professorial Staff members that succeed in acquiring external funding based on their expertise and experience.

If the Faculty of Engineering and Architecture wants to safeguard its competitive position (internationally and nationally), it will continuously have to succeed in acquiring the necessary external funding. It is therefore the Faculty's strategy to preferably create vacancies in domains in which chances are high that such external funding can be acquired. This aspect is explicitly considered during the appointment procedure of Professorial Staff members within the Faculty of Engineering and Architecture.

### **Strategic Goals of the Department - match with the vacancy**

Human perception of sound in general and environmental sound in particular is a complex process. Fast growing computational capabilities of sensor nodes and back-end computers allow to use advanced computational models to separate auditory streams and identify sources and integrate basic psychoacoustic knowledge in the more comprehensive analysis of environmental sound, both at the level of sensors and at the level of modeling and prediction. The development of such models has been an important research focus at the Acoustics Group of the Department of Information Technology at Ghent University during the past decade. The unique position of the research group at the crossroads of information technology and acoustics and its strong links with psychology, audiology, and health experts, give it a strategic advantage.

Computational psychoacoustics will in future impact knowledge on the perceived quality of the living environment, the design of urban soundscapes, and on the understanding of the health impacts of noise exposure. It was therefore decided to strengthen the team with a 10% faculty position.

The part time faculty position will strengthen the growing research activities of the group in the area of the impact of sound on human health and well-being and its consequences for the design of outdoor soundscapes and urban planning in general. The research of the newly appointed faculty member will also have a strong link to the development of new measurement methodologies solidly grounded in knowledge on human perception of sound. In view of the positioning within the faculty of Engineering and Architecture, and the Department of Information Technology in particular, the emphasis for this position is on numerical and computational aspects and system design rather than on psychoacoustic experimentation. Basic experience and domain knowledge in the field of psychoacoustics is nevertheless required.

Although computational psychoacoustics can potentially be applied in many different areas, current research expertise and research projects at the Department of Information Technology are mainly situated in the area of environmental sound and its effects and therefore candidates are required to have experience and feeling with this application domain in general. Experimental and numerical expertise related to common sources of environmental noise such as traffic, is an asset.

International visibility and mobility of the candidate is appreciated in view of the strong international component of the envisaged research.