

# Vacancy

## Fully paid 4 years Ph.D. position

### ***Design, Characterization, and Modeling of the Next Generation Flexible and Stretchable Antennas***

During the past years antennas fabricated from textile materials have been designed for integration in so-called “wearable textile systems”. These systems aim at improving our quality of life by enhancing the functionalities of clothing through a combination of textiles and electronics. This new generation of garments has the ability to monitor the wearer’s biosignals and communicate these data with the environment in order to provide continuous information about a person’s state of health. Applications can be found in the E-health sector (monitoring the physical condition of patients or elderly people), civil protection (location tracking and evaluation of biosignals of e.g. firemen), or sports (performance evaluation). The wireless communication link between the garment or clothing and a base station is provided by the textile antennas, and because of their flexibility, these antennas do not restrict the movements of the person wearing them.

The aim of the proposed Ph.D. research is to accurately ***design, characterize, and model the next generation antennas***. These antennas will be manufactured using both flexible and stretchable materials, e.g. flex substrates, foams, and silicone. The materials’ special properties will improve the performance of existing wearable textile systems and also allow many new applications. The **automotive and space industry** have already shown a clear interest in these new generation high-tech communication systems.

At present a **fully paid 4 years Ph.D. position** is available in the above domain. Basic (graduate) knowledge in electromagnetics and high-frequency electronics is sufficient. The Ph.D. candidate will be provided with all tools necessary to perform state-of-the art research in the field: commercial as well as in-house developed electromagnetic field solvers, and extensive measurement facilities including a fully equipped anechoic antenna room.

The research will be performed at the Electromagnetics Group (EM) of the Department of Information Technology from Ghent University, Belgium, which focuses on all aspects of this research domain: from the study and system concept, all the way to the finishing of industrially acceptable prototypes and demonstrators. The EM group has an international reputation and has published over 200 international journal papers in the past 15 years.

Through intensive coaching by senior researchers and professors and close collaboration with the EM-Group’s academic and industrial partners, the candidate will be trained as a ***highly skilled scientist and design engineer***. Upon completion of the four years program, the Ph.D. graduate will be ready for a successful academic career or to hold an important position in a high-tech company.

Interested candidates are requested to send their curriculum to Dr. D. Vande Ginste ([dries.vande.ginste@intec.UGent.be](mailto:dries.vande.ginste@intec.UGent.be)), Prof. H. Rogier ([hendrik.rogier@UGent.be](mailto:hendrik.rogier@UGent.be)), or Prof. D. De Zutter (Fellow IEEE) ([daniel.dezutter@UGent.be](mailto:daniel.dezutter@UGent.be)). Please provide sufficient details on the EM and high-frequency electronics courses in your curriculum.