

With the rapid progress of wireless technologies, communication links are entering the field of medical devices to a much greater extent than ever before. Based on the long-standing experience of IT'IS in the near-field simulation and measurement of EM fields close to the body, new antenna solutions shall be developed for short-range wireless links. Example applications span from pacemakers and telemetry/supervisory devices to hearing aids.

## **Antenna Development for On-body and In-body Communications (PhD)**

### **Job Profile:**

The aim of this project is to develop antennas for on-body and even in-body devices, with a special focus on maintaining radiation efficiency and an application-specific radiation pattern within human tissues. At the same time, unwanted RF exposure of the tissue surrounding the antenna and the resulting energy loss shall be minimized.

The technical solution will require antenna simulations with a leading edge 3-D field simulation tool (SEMCAD), the design of miniaturized impedance matching circuits, and practical prototype building and testing. The ideal candidate should therefore enjoy working with computer simulation tools and RF measurement instrumentation.

We offer challenging research activities in a team of more than 20 electrical engineers, physicists and computer engineers. IT'IS cooperates with prominent research laboratories, medical device makers and mobile device manufacturers worldwide. PhD degrees are obtained through our cooperation with ETH Zurich.

### **Education:**

We look for an experimentally talented individual with his own initiative having a university degree in electrical engineering or in a similar field. Specialization in some of the fields is expected: RF electronics, antenna design, field simulation, RF measurement.

Are you interested? We look forward to receiving your application (complete resume materials including references, as a pdf file). For further information or to discuss the scope of this position please contact Dr. Myles Capstick ([greatjobs@itis.ethz.ch](mailto:greatjobs@itis.ethz.ch) or phone +41 44 245 9696).

Please send your application to:

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