

## Master thesis Uncertainty Quantification for electromagnetic stimulation chambers

### **Project description:**

Often commercial software as COMSOL or CST studio is used to solve Partial Differential Equations (PDE).

We develop an open-source workflow based on SALOME, GMSH and FeniCS to assess the EM fields in stimulation chambers. A crucial part in modelling these fields is the estimation of uncertainties arising due to large variations in experimental data.

The main goal of the master thesis is to get familiar with Uncertainty Quantification techniques. Subsequently, those techniques shall be applied on input from experimental measurements and integrated in the automated workflow.

### **Requirements:**

Sound knowledge of C/C++ or Python.

First experiences with UNIX-like systems.

Interest in statistics.

### **Code of Conduct**

Please be aware that you should reach out to the supervisor only if you agree with the following basic rules:

- You should have an intrinsic motivation to pursue this project. Please explain it upon contacting the supervisor.
- You should not miss appointments without informing the supervisor beforehand (i.e., the latest a few hours before the appointment).
- You should not miss submission deadlines. By missing these deadlines, you may eventually submit a preliminary result and get a worse grade.