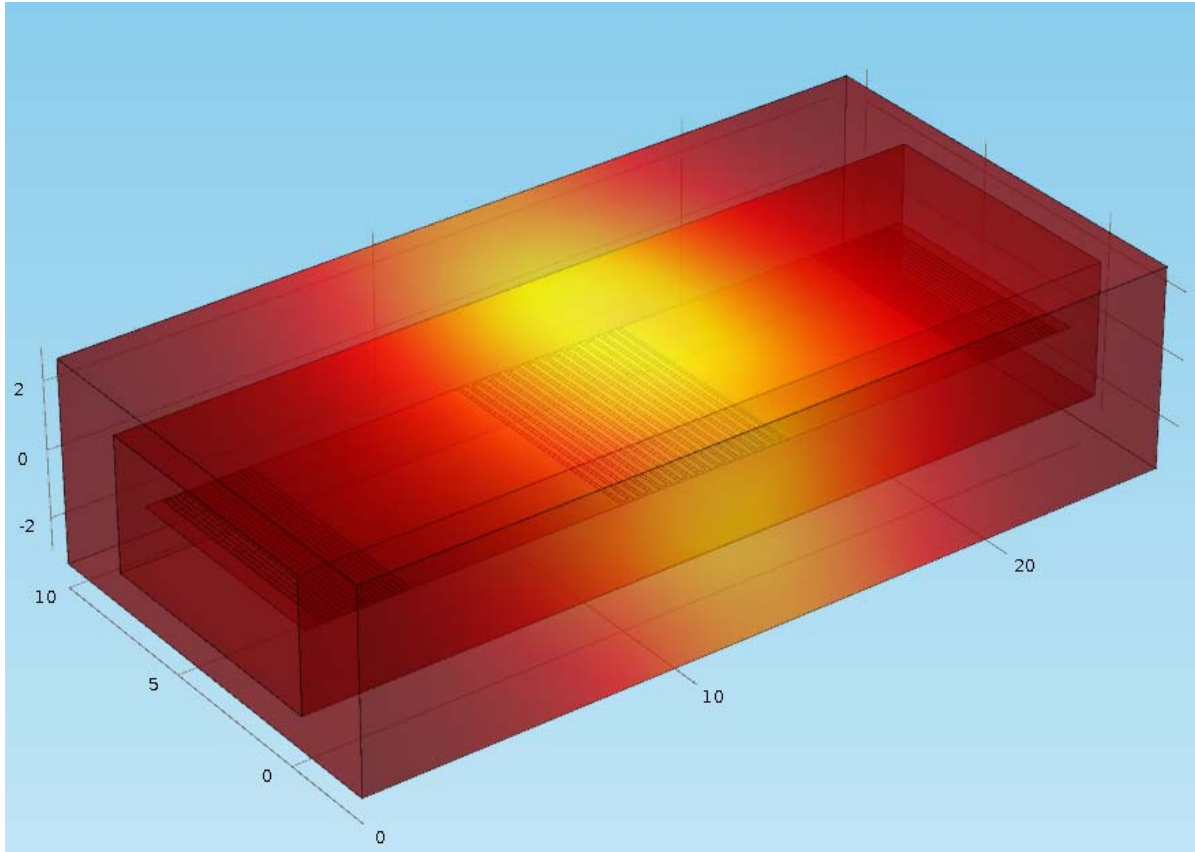


## Project « MuchSens »

### Membranes, channels and chambers with integrated three dimensional shaped flow sensors



An important aspect of our program is sample preparation, and control of the cell and tissue microenvironment. The systems developed in the consortium will have to prepare biofluids and analytes (filtration, preconcentration) prior to their interaction with biosensors, or to bring nutrients to the cells and to collect the metabolites to analyse their reactions to the exposure to drugs or chemicals. Therefore, the controlled sourcing and draining of specific liquids will be the task of **membranes** and **flow sensors**.

The membranes will contain functionalities (e.g. conductive sites and selective material transport via controlled thickness, pore sizes and surface energy).

The control of the cell liquid interaction will be carried out via integrated flow sensors, electrodes or optical measurements.

The flow sensors will be very thin, flexible, with integrated flexible electronics including a telemetric antenna enabling communication with the outside world.