

Master/Diploma Thesis:

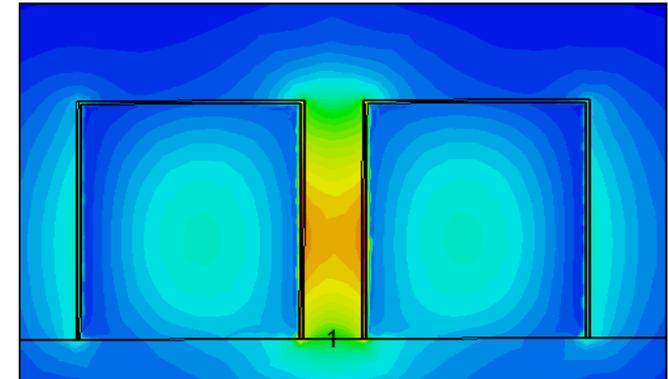
Waveguide-based biosensing for point of care diagnostics

Optical biosensors based on bio-functionalized waveguide structures enable label-free, ultra-sensitive detection of nanoparticles, viruses, and biomolecules.

To enable ultra sensitive detection, a large interaction length of the light with the biomolecules is needed. Therefore it is important to fabricate waveguide geometries that maximize the interaction with the analyte and to functionalize them for specific binding of the molecules of interest.

Your task:

- Develop and simulate a sensing structure.
- Fabricate and characterize the sensor element in cleanroom.
- Develop a functionalization protocol.
- Characterize and test final sensor element in our optics lab with low analyte concentrations.



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