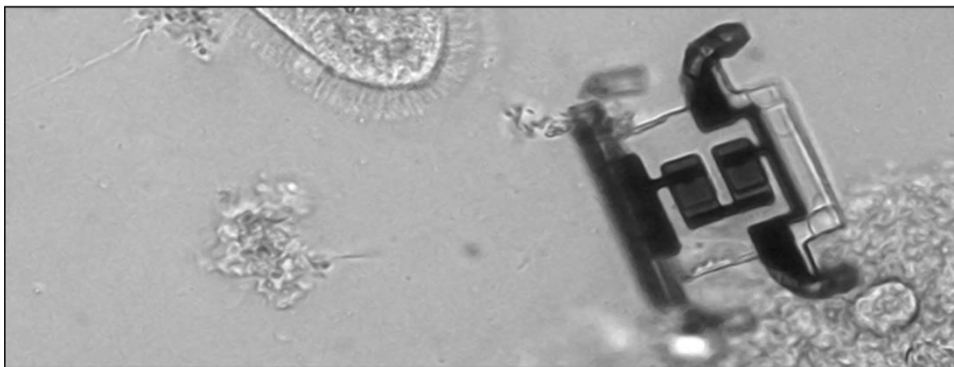
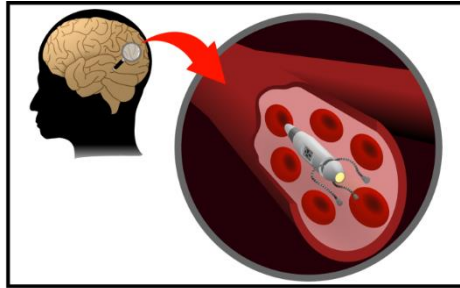
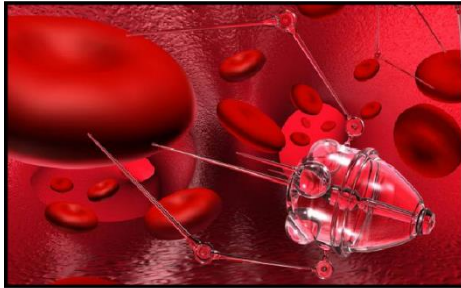


## BSc assignment: “Microwaves under the skin”

### Introduction

A variety of medical sensors are designed nowadays to be implanted directly into a human body. It is often desirable to be able to communicate, or locate, these sensors in a contactless way. One way of doing this is by using microwave signals. However, to get to the in-body sensor an EM wave has to go through a number of various tissues, such as skin, fat, and perhaps even bone. The ability of EM waves to penetrate body tissues however greatly depends on the frequency.



### Project description

In this project, we would like to investigate tissue penetration capability of EM waves at different frequencies. The study will be based on extensive laboratory measurements.

**Requirements:** You are a motivated student looking for a project topic in the field of microwave sensing. You have interest in practically-oriented work, have basic knowledge and interest in microwaves and EM propagation, and you enjoy working in the lab environment.

**Misc:** This work is done in collaboration with Surgical Robotics Group.

If you are interested in this topic, please contact **Dr. A. Lavrenko** at [a.lavrenko@utwente.nl](mailto:a.lavrenko@utwente.nl) or **Mr. Yu-Hsiang Lin** at [y.lin-1@utwente.nl](mailto:y.lin-1@utwente.nl).