

# Prof. Maria Asplund

Institut für Mikrosystemtechnik - IMTEK  
Albert-Ludwigs Universität, Freiburg



## *The great challenges of small devices for electrically interfacing biology*

### **Abstract**

Next generation of neural interfaces should have high resolution in recording and stimulation, be perfectly tissue integrated and remain stable over indefinite time frames. We do not yet know how to fully realize this vision, but in the meantime are starting to better understand wherein the real challenges lie. In my talk I will discuss how small scale neural interfaces offer great potential for large scale interfacing with neurons. I will outline how refined electrode materials, optimized surface chemistry or bioactivity, or overall improvement of the systems including their structural biocompatibility all need to be part of the solution