Implantable Neural Sensors for Brain-Machine Interface

Yoon-Kyu Song

Seoul National University, Graduate School of Convergence Science and Technology, Seoul, South Korea

Over the last few decades, there has been significant progress made towards our understanding of the mechanisms of brain functions and their role in neurological diseases. Among various neuro-technological tools contributing to this progress, brain–machine interfaces (BMI) with implantable neural sensors have played a key role by enabling the detection of neural activities at unprecedented spatio-temporal resolution from animals. Moreover, recent human clinical trials have extended the potential application of implantable neural sensors to the territory of human health.

In this presentation, I will talk about the recent developments in the field of brain-machine interfaces, with special emphasis on the implantable microsystem design. I will also discuss about the remaining challenges, and future directions of implantable neural sensors for brain–machine interfaces.