

# **NEUROACT: A collaborative training program to develop multi-electrode array (MEA) platforms to understand synaptic function and treat diseases of the nervous system**

<https://neurodegenerationresearch.eu/survey/neuroact-a-collaborative-training-program-to-develop-multi-electrode-array-mea-platforms-to-understand-synaptic-function-and-treat-diseases-of-the-nervous-system/>

**Principal Investigators**

**Institution**

**Contact information of lead PI**

**Country**

European Commission

**Title of project or programme**

NEUROACT: A collaborative training program to develop multi-electrode array (MEA) platforms to understand synaptic function and treat diseases of the nervous system

**Source of funding information**

European Commission FP7-Seventh Framework Programme

**Total sum awarded (Euro)**

€ 1,979,673

**Start date of award**

01/10/2012

**Total duration of award in years**

4.0

**The project/programme is most relevant to:**

Neurodegenerative disease in general

**Keywords**

**Research Abstract**

This project proposes unique research training opportunities by bringing together partners with complementary expertise in engineering, electrophysiology, molecular biology, cellular neuroscience, theoretical neuroscience, and advanced data analysis. Trainees will participate in the design and implementation of novel tools and platforms to advance current understanding of the molecular and microcircuit bases for nervous system function and to develop new drug

screening platforms and paradigms for diseases of the nervous system. The platform for electrophysiological studies will use multielectrode array (MEA) substrates, for which unique recording and analysis methods and cellular model systems will be developed. This collaborative endeavor brings together three active and highly talented partners who have proven themselves as rising leaders in their respective research fields. The exchanges between the Belgian academic group and Ayanda will afford research, development and training in advanced data analysis techniques, recording and analysis software, and novel materials for chronic neuron-interfacing electrodes. Collaboration between the academic team at the EPF Lausanne and Ayanda will yield new research and training opportunities to advance bioarray designs, improve their molecular application and detection capabilities, and establish rapid user-friendly protocols allowing the implementation of MEA-based systems to study the roles of individual genes on complex synaptic phenotypes. The mutually beneficial diversity and complementarities of the skills brought together in this collaborative project bodes a successful, productive and long-lasting relationship between its partners and trainees. Importantly, this joint venture addresses important unfulfilled needs for basic science and drug discovery in neurobiology with far-reaching potential benefits to both European industry and health research.

### **Lay Summary**

**Further information available at:**

#### **Types:**

Investments > €500k

#### **Member States:**

European Commission

#### **Diseases:**

Neurodegenerative disease in general

#### **Years:**

2016

#### **Database Categories:**

N/A

#### **Database Tags:**

N/A