

Two first prize winners of the Bernstein-CorTec Award

Prof. Kerstin Kriegelstein, Rector of the University of Freiburg, presents the first edition of the newly established Bernstein-CorTec Prize for Computational Neuroscience and Neurotechnology to two young researchers, Júlia Gallinaro and Katharina Heining, in the afternoon of November 4, for Corona-reasons in virtual format.

The Bernstein-CorTec Prize honors outstanding scientific achievements in doctoral and master's theses in the field of computational neuroscience and neurotechnology. The prize is awarded annually, alternating between doctoral and master's theses. In the year 2020, the prize is awarded to doctoral theses.

The two award-winning doctoral theses deal with the following topics:

1. Júlia Gallinaro: Neurons wire together if they fire together. This applies both during development and in the adult brain. However, it is not known how these growth processes are regulated to achieve a robust self-organization of brain networks. Júlia Gallinaro has employed computer simulations and mathematical theory to study homeostatic control, which makes use of the principle of negative feedback, similar to a thermostat. Her surprising findings have since led to new experiments to further clarify the basic principles of brain wiring.

2. Katharina Heining describes in her dissertation new findings on epileptic activity in temporal lobe epilepsy in an animal model. She developed new methods to detect and classify patterns of epileptic activity and reconciles previously ambiguous findings. Based on these data, she found a systematic, context-dependent interaction between seizure frequency and the incidence of weak epileptic events. Using her classification of epileptic activity, she was also able to show a decreasing frequency of severe epileptic events with increasing degeneration of certain areas of the hippocampus.

Júlia Gallinaro is now pursuing her scientific interests as a postdoc at Imperial College in London. Katharina Heining is preparing further publications from her doctoral thesis, before applying for a postdoctoral position.

Award Lectures

Both awardees will present their research in an Extra Bernstein Seminar on February 16 at 17:15. Preceding their lectures, Dr. Jörn Rickert, CEO of CorTec and Founder and Sponsor of the Bernstein-CorTec Award will give a short introduction.

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