SICHH is the successful recipient of a 2018 Novartis FreeNovation grant: Artificial intelligence as a tool to detect and predict epileptic seizures

Winner of a 2018 Novartis FreeNovation programme grant, the Swiss Integrative Center for Human Health SA (SICHH) uses artificial intelligence to detect and predict epileptic seizures through wearable sensors.

Roughly 38 million people worldwide suffer from epilepsy, making it the most frequent chronic neurological disorder according to WHO. This disorder is characterised by seizures which sometimes involve jerking movements or convulsions. For most patients, no warning signs are apparent prior to a seizure. For approximately 30% of patients, no effective drug treatment is currently available. The project conducted by SICHH aims to develop a software package which can predict seizures and therefore prevent accidents, which are sometimes fatal, from occurring. Used in wearable sensors such as smart bracelets, such a solution would bring about monitoring options that today are possible only in hospitals through the use of complex devices such as the electroencephalogram (EEG).

“Our team of researchers is developing a predictive algorithm based on recent advances in artificial intelligence. This algorithm will allow us to identify the warning signs of the onset of a seizure by combining various physiological measurements”, explains Dr Isabelle Dupanloup Duperret, project leader and Head of Digital Health at SICHH. “The second phase of the project will embed the predictive software in wearable sensors. This simple portable system will be of great benefit to patients, their families and caregivers”, says Duperret.

Through the FreeNovation programme, the Novartis pharmaceutical group assists pioneers in promoting creative and unconventional scientific projects. Dr Jean-Marc Brunner, CEO of SICHH, adds: “It is an honour for SICHH to be among the recipients of FreeNovation funding for our research programme. This programme is perfectly matched to SICHH’s innovation approach of skills integration and confirms the important role played by the centre within the innovation ecosystem.”

About the Swiss Integrative Center for Human Health SA

SICHH is a unique technological competence centre in the health sector. Its purpose is to step up the innovation capacity of Swiss companies by conducting research projects and proposing integrative research and development (R&D) solutions. Based in the blueFACTORY innovation park, SICHH boasts high-tech platforms in the fields of genomics, proteomics, materials characterisation, digital health and complex data analysis. Acting as a bridge between academic research and the private sector, SICHH supports innovative players in the fields of medtech, biotech, foodtech and all other areas related to human health.
Contact
Swiss Integrative Center for Human Health SA
Claudia Ansermot
Communication Manager

+41 26 300 65 03
claudia.ansermot@sichh.ch