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Germany

Scientists Find Brain Waves can Predict Epileptic Seizures

Scientists from the Bernstein Center at the University in Freiburg in Germany have taken a step forward in the quest to predict epileptic seizures by monitoring the pre-seizure changes in sufferers' brains. The research study was funded in part by the EPILEPSIAE (Evolving platform for improving living expectation of patients suffering from Ictal events) project, which received nearly three million euro under the 'Information and communication technologies' (ICT) theme of the EU's Seventh Framework Programme (FP7). The research was recently published in the journal *Epilepsia*.

Epilepsy is one of the most common serious brain disorders that affects about one percent of the world population. In Europe, nearly six million people suffer from this disorder and 15 million are expected to be diagnosed with epilepsy at some point in their lives.

Professor Jens Timmer, a physicist at the Freiburg Institute for Advanced Studies (FRIAS), explained that "in recent years, several methods have been developed to calculate predictive features from the electroencephalogram, which measures brain waves". However, for individual prediction methods no satisfactory performances had been observed before this study.

The study was based on electroencephalogram (EEG) results measured directly at the cortex from eight patients.

The scientists found that on average for all patients, a combination of methods yielded an increase in prediction performance by more than 50 percent.

"In our study, about every second seizure could be predicted correctly," Hinnerk Feldwisch-Drentrup from the Bernstein Center said, admitting however that the results from this study alone were not enough for the technique to be applied in real situations.

For further information, please visit: www.epilepsiae.eu

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