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Institute of Information and Communication Technologies awarded 2M€ for neurotechnology research

Assoc. Prof. Dr. Dimiter Prodanov, together with the Institute of Information and Communication Technologies (IICT) of the Bulgarian Academy of Sciences, will receive 2M€ from the European Commission to establish a new research group at IICT. The grant is awarded under the ERA Chair program of Horizon Europe. This is one of only 4 such projects starting in Bulgaria in 2023. ERA Chairs support universities or research organizations to attract and maintain exceptional researchers and innovators and help excellent scientists and their teams to become game changers in their field. The project will start on Feb 1 2023 and will run until 31 Jan 2028.

A Brain-Computer Interface (BCI) is a technology that collects brain signals and transmits them to an external device that outputs commands. Insight into the interaction between BCI implants and the brain tissue will help maximize the potential of the technology. The EU-funded VIBraTE (Grant no 101086815) project aims to support the establishment of a BCI lab at the Institute of Information and Communication Technologies in Bulgaria. Among the objectives of the lab will be to model and investigate the properties, geometry, and mechanical effects of the interaction of the brain with the implanted electrodes. The project will improve the international research visibility of the Institute in the field of neurotechnology. The ERA Chair is expected to catalyze the formation of a Bulgarian high-tech technology cluster in neurotechnology.

The project leader, Assoc. Prof. Dimiter Prodanov shares a position with the Interuniversity Microelectronics Centre (Imec) in Leuven, Belgium, which is one of the globally leading research organizations in the area of nanoelectronics and digital technologies. Dimiter Prodanov obtained an MD from the Medical University – Sofia in 1999 and a Ph.D. in Neuroscience from Twente University, Enschede, the Netherlands in 2006. In 2006 he was awarded a John G Nicholls fellowship from the International Brain Research Organization (IBRO) to continue his research in Neuroscience at the Catholic University of Louvain, Belgium. In 2007-2008 he conducted a postdoctoral study at the University of Liege, Belgium in the therapeutic applications of vagus nerve stimulation and pathophysiology of migraine. Since 2008 Dimiter Prodanov joined Imec as a senior scientist, where he conducted research in the development of deep brain stimulation and high-density recordings from the brain. Since 2013 Dimiter Prodanov is an affiliated researcher in Neuroelectronics Research Flanders. Assoc. Prof. Prodanov is interested in nanotechnology, computational biology, and therapeutic modulation of brain activity. His technical interests include applications of computer algebra tools and numerical algorithms to modeling biophysical phenomena and image processing. Since 2003 he is an active contributor to the public-domain imaging program ImageJ. Since 2009 he has been actively engaged in the emerging discipline of Neuroinformatics. He authored more than 60 scientific articles, 6 book chapters, and 2 patents.

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