3D Neuron Cluster Organoid – Artificial Intelligence using High-Speed Organic Neural Network

Cristian-Horia CONSTANTIN* and Marieta FURDUI

OncoGen - Genetical and Cellular Therapy for Cancer Treatments Research Center, Liviu Rebreanu Boulevard, no. 156, 300723 Timişoara, Romania
E-mails: crstian.constantin@oncogen.ro; marieta.furdui@oncogen.ro

* Author to whom correspondence should be addressed; Tel.: +40 724 589 122; +40 770 868 639

Abstract
Since the beginning of time, Humanity has relied on the careful analysis of nature to better understand the world around us. The same can be said of our current Bio-Technical Research Environment and our feeble Artificial Intelligence endeavors. We have always closely studied the biological world in order to find the best solutions and further develop technologies to help push the boundaries of medicine. In this regard, our Quantum Medicine department proposes the creation of a 3D human neuron cluster organoid that can be connected to and controlled using outside stimuli that rely on the visible light spectrum to encode and decode information directly. This process would imply the development of technologies for photonic encryption and decryption as well as low-current transformers to aid in neuron signal decoding and recoding. The scope of the project is to start using the neuron organoid as a biological neural net and observe the speed at which it learns and outputs solutions compared to traditional software Neural Networks. Our goal is to try and figure out the possibility of creating faster learning models and testing the actual speed of their learning capability, which would bring us closer to understanding the way information is structured and shared between different parts of the brain. In turn, this has the potential to yield a new type of artificial intelligence biohardware based on low power consumption that could aid in the future development of smart biotech and nano-biorobotics with fast AI systems. In conclusion, the aim of this project is to prove the programmability and learning capabilities of a 3-dimensional bio-neural-network organoid by using different data transmission mediums and new algorithms. Our common goal is the advancement of biomedical research to aid in humanity's medical and otherworldly endeavors and be the perfect launch platform for generations to come.

Keywords: Machine Learning; Deep Learning; Neural Analysis; Neurons; Organoid