

***Experimental Optics and Photonics: implementation of Neuromorphic computing in Quantum Dot emitter networks.***

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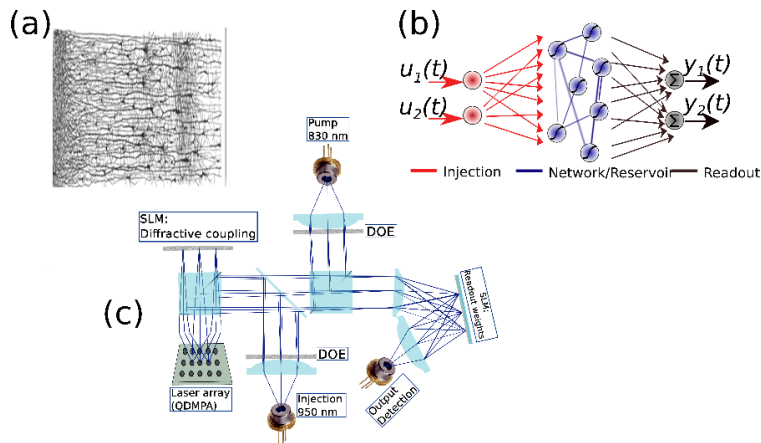


Figure 1 (a) Neural network of the human brain (Ramon y Cajal). (b) Neuromorphic computing concept Reservoir Computing. (c) Experimental implementation in Quantum Dot Micro Pillar arrays.

We are looking for two highly motivated PhD students for a project in the area of functional micro and nanophotonics. Interested candidates should have a strong experimental background in semiconductor and / or freespace optics. The PhD positions are part of an international project with partners at the TU Berlin (Germany), femto-st (UFC) Besancon (France), and the IFISC (UIB) Palma de Mallorca (Spain). Funding for 3 years is provided via the Volkswagen Foundation under the NeuroQNet project. One position

is available at the femto-st as well as the IFISC institute. Work involves active collaboration between both groups, including mutual visiting periods at both institutions.

The NeuroQNet's project main objective is to realize Neuromorphic Computing in networks of quantum dot emitters. The network architecture of the human brain, Fig. 1 (a), is the inspiration of such information processing concepts. Neuromorphic computing, schematically illustrated in Fig. 1 (b), is based on a simplified implementation of this network architecture. Such information processing systems are of essential importance in multiple modern applications. The NeuroQNet project, Fig. 1 (c), targets the first full scale hardware implementation in photonic dynamical systems.

Further information about the project can be found under:

<http://portal.volkswagenstiftung.de/search/projectDetails.do?ref=91053>

Interested candidates please contact

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