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Abstract

Photonics

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Abstract:

Photonics, the Science and Technology of light, together with optics are essential technologies for all nations. Photonics concentrates on 5 parts of highest economics including information technology and telecom, energy and environment, innovative manufacturing, defense and homeland safety and biomedicine. In a neuroscience research group, the following goals can be considered. Generation of circuit maps that differ in resolution from synapses to the total brain, production of a active image of the working brain, making relation among brain activity to behavior with interventional apparatuses that alter neural circuit dynamics and development of advanced equipment to comprehend the human brain and treat its disorders such as light sheet microscopy apparatus, planning a 'wearable' microscope, developing new protein configurations for neural imaging and control ("twitch" calcium indicator dye and channel rhodopsin ion channel control), advanced technologies for brain illnesses to reestablish visualization with retinal transplants, optical apparatuses (filters, fiber optics, custom objectives), laser sources, low noise cameras, precision motion mechanics, innovative microscope plans, big data 3D image analysis software and innovative protein light activators and sensors. Cooperative associations looking for unite industry, university and government to pinpoint and improve areas of photonics serious to preserving competitiveness and national security. In other words enhancement of industry academia neuroscience research groups' negotiation, advancement of collaboration doings, evolving devices for technology transfer and preparation through industry intern platforms.

Biography:

Interest lies broadly in the area of neuroscience. More specifically, during my doctoral studies I have worked on nerve regeneration. For my dissertation I was working on" Study of transected sciatic nerve repair by chitosan/Polyethylene oxide scaffold and human mesenchymal stem cells from Wharton's jelly in rats".

Recent Publications:

- Mehrnaz Moattari, Neurol Res. 2018.
- Mehrnaz Moattari, Ann Plast Surg 2018
- Mehrnaz Moattari , J Craniomaxillofac Surg, 2018
- Mehrnaz Moattari, J Chem Neuroanat,2018.
- Mehrnaz Moattari, Turk Neurosurg, 2017

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