



Joy Post Doctorate: Call for Research Proposals:

Joy aims to support and promote the emerging field of neuro-wellness. We are interested in research efforts that potentially impact human performance and well-being, improve regulation of emotions in personal and social context and increase mental and physical resilience under challenge – which are all different aspects of neuro-wellness. Neuro-wellness focuses on the research of improving or enhancing the resilience of the healthy brain towards stress, emotional imbalance and instability, and understanding their underlying mechanisms.

Joy's ultimate goal is to cultivate the advancements in neuroscience, related fields and technology for improving the everyday human experience and well-being by enhancing mental resilience and reducing mental vulnerability and allowing people to cope beneficially with difficulties and challenges of daily life. Joy's long-term goal is to create solutions catering individuals directly, with no need for FDA clearance or medical guidance/supervision

We are interested in research projects that will study different ways to effectively and safely stimulate the nervous system in non-invasive ways. The ultimate applicative target of the stimulation would be a non-clinical, generally healthy, human population, with the aim of claiming/proving mood enhancement or regulation. The successful candidate will be provided with fellowship funding as well as academic hosting and industry-oriented mentorship.

We are looking for outstanding research proposals concerning methodological, in-depth study of one of the sensory-based or other neuromodulation techniques. These may include, but are not limited to:

- **Acoustic neuromodulation:** Previous initial studies suggest acoustic neuromodulation and auditory entrainment can serve as a tool to affect cognition, creativity, anxiety levels and mood enhancement. Proposals in this area may include an in-depth study of existing acoustic neuromodulation schemes; a comparison between schemes or any other research idea to validate such techniques for applicative potential
- **Low intensity ultrasonic neuromodulation:** This technique has been shown to differentially stimulate and modulate brain circuit and activity across a broad range of acoustic stimulation parameters (frequency, intensity, pulse repetition and pulse duration). Demonstrated effective in evoking sensory potentials and also effect in eliciting visual sensations when targeted to the primary visual cortex. Was shown to affect mental state and mood elevation; proposals in this area will further characterize effects on mood and emotional state.
- **Peripheral Nerve Modulation:** examine the effect of such modulation on brain activity, behavior, information processing, attention and cognition.



- **Odor-based, visual & photobiomodulation, and tactile-based neuromodulation:** Proposals in these understudied areas may include protocol development, characterization of the effects of one of the neuromodulation techniques on mood and cognition.
- **Neurofeedback:** Proposals in this field will focus on a specific application for improving wellness, and will aim to involve bio-neuro signal modulation mechanisms as a feedback probe in a brain computer interface setup, with the ultimate goal of enhancing accessibility of the method for mechanism based wellness training/empowering.
- Proposals related **to combinations of the above neuromodulation methods** and additional neuromodulation techniques (such as electric, magnetic, nano-material-enabled and thermal) will also be considered.
- **Targeting HRV-coherence:** this research project aims to find effective protocols to reach HRV coherence using neuromodulation.

Candidate Requirements:

- PhD degree from a leading institution
- Good publication record
- Background in neurobiology
- Ability to critically and objectively interpret scientific information
- Strong programming and statistics background

Deadline for submitting applications: Dec 1, 2018

To apply, please submit your CV, a brief cover letter and a detailed description of a proposed research project (up to 3 pages) to hagit@joyventures.com