Contribution ID: **1430** Type: **Oral (Student, Not in Competition) / Orale (Étudiant(e), pas dans la compétition)**

Laser Induced Neuro-Stimulation Analysis

Thursday 16 June 2016 14:30 (15 minutes)

This paper exploits the effectiveness of neuro-stimulation when induced with a near infrared laser (808 nm). We examine the absorption spectrum of fats, skin, neuromuscular tissues and bones when irradiated transcranially through animal models. Thereby, modelling irradiation time versus penetration depth for an optimal dose. The efficacy of high power laser on the viability and the ATP production of neuroblastoma cells (SH-SY-5Y) and cortical neurons are evaluated. The study highlights the correlation between Post-Traumatic Stress Disorder and Adenosine-tri-phosphate production. The MTT and luciferase-luciferin analysis explain the hypothesis of a healthy relationship between the stress disorder and the energy producing molecule. Hence, provide guidelines for prototyping the low cost and effective medical devices.It was found that the 1 second irradiation of neurons (invitro), led to an increase of ATP production by a factor of 3.5.

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Session Classification: R2-4 Biophotonics (DPMB-DAMOPC) / Biophotonique (DPMB-DPAMPC)

Track Classification: Physics in Medicine and Biology / Physique en médecine et en biologie (DPMB-DPMB)