SPECIAL PHYSICS LECTURE

Ramakrishna Mission Vivekananda Educational and Research Institute

(Declared by Govt. of India as Deemed to be University under Section 3 of the UGC Act, 1956)

January 22, 2020

15:30h - 16:30h

Brainwave entrainment

Punit Parmananda

IIT Bombay, Mumbai

Abstract: *The phenomenon of the entrainment of human brainwaves to a predetermined aperiodic stimulus is endeavored. Initially, the periodic entrainment of the brainwaves was studied using two different stimuli in the form of periodic auditory and visual signals. The entrainment with the periodic visual stimulation was consistently observed, whereas the auditory entrainment was inconclusive. Thereafter, the entrainment to a bi-frequency photic signal is studied. Finally, the evolution of brainwaves as a result of an aperiodic photic stimulation was attempted, wherein an entrainment to the predetermined aperiodic pattern was observed. This guided modification of brainwaves may find possible applications in suppressing some types of epilepsy and in biofeedback.*

Short Bio: Punit Parmananda graduated in physics from St. Stephens College, University of Delhi. He did his Masters and Ph.D. from Ohio University, USA. Subsequently, he received a Humboldt Research Fellowship to do his postdoctorate with Prof. Gerhard Ertl (Nobel Prize in Chemistry, 2007) at Fritz-Haber-Institut der Max-Planck-Gesellschaft Berlin, Germany. Currently, he is Institute Chair Professor at Indian Institute of Technology, Bombay. His research interest lies in the field of experimental nonlinear dynamics.

ORGANIZER

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VENUE

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