

IAA/IAF SPACE LIFE SCIENCES SYMPOSIUM (A1)  
Interactive Presentations (IP)Author: Ms. SANDYA RAO  
IndiaTHE STUDY ON EFFECT OF NEURONS IN SPACE FLIGHT AND CONDITIONS ON  
BRAIN/NEURONAL PLASTICITY AND CONNECTIVITY CELLS.**Abstract**

Notion Neuro Lab researches new concerns related to human health risks that occur during spaceflight are studied and discussed. To develop appropriate countermeasures number of experiments has been performed to determine biological effect of space condition on human body. NASA and other space faring nations are into extensive investigations to still studying the physiological and psychological tests before considering long-term spaceflights for humans towards other mars moons and other planetary exploration. During the experimentation it has been learned from studies human movement and oriental control in weightless conditions. We stress that when astronauts and cosmonauts return from extended space flight they do so with both physical plan and neural controller structurally and functionally altered. It has been observed that in micro-gravity that in weightlessness conditions equilibrium sensory organs such as eyes, head, arms, legs and whole posture movements thus transmitting misleading inputs to the nervous system. The cosmic radiations are known to induce oxidative stress as well as genomic and brain damage.

Our research paper studies a simultaneous microgravity and radiant exposures as neuron network model for space conditions and develops various experimental methods to analyze their combined and specific effect on vitro neuronal brain network model. Here primary neuronal network culture are established and exposed to computer generated/simulated space conditions to investigate neuronal remodeling as well as genomic repair/damage dynamics. This thesis studies and emphasizes on neuro plasticity and connectivity during the effect of space conditions. Notion labs deeply emphasizes on the work and analyses neural network modeling during spaceflight and thus bringing a strategies again these effects.

This study would bring in new frontier in mankind for exploration thus a new science exploration and technology in the field of cognitive neuroscience.

Keywords: - Ionizing Cosmic Radiation, Neuronal Network Analyses, Remodeling Microgravity Space Conditions DNA/ Genomic Damage/Repair Matures Neurons, Apoptosis, and Movement Control Orientation.