

# 4<sup>th</sup> International Conference and Exhibition on **Neurology & Therapeutics**

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## *Alessandro Morelli*

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### **Neural activity is pivotal for myelin growth**

A new paradigm other than insulator may arise for myelin, consistent to the fact that myelination is not continuous, as previously thought, and that myelin can aerobically synthesize ATP and deliver it to the axoplasm through gap-junctions. Myelination is triggered by neuronal activity, which in turn regulates myelin remodeling. It may be hypothesized that after birth, intense firing depletes axonal ATP causing a rise in Adenosine, that triggers myelination (through purinergic receptor signalling): only those neurons which are fed with ATP can survive. Anoxia causes memory loss: i.e. memory requires energy. It may represent a neural network energized by myelination.

### **Biography**

Alessandro Morelli (b. 1943) has studied enzyme Glucose-6-P-dehydrogenase and its molecular mechanism of senescence. He has been working in the field of phototransduction and molecular events in photoreceptor cells of vertebrate retina. He has discovered the protein FX, a NADP dependent enzyme catalyzing synthesis of GDP-L-fucose. He has been working on the effects of electromagnetic fields of extremely low frequency on the activity of enzymes involved in bioenergetic process. Recently he has studied the myelin energetic function in brain put in evidence the ATP extramitochondrial synthesis, with application in the study of Multiple Sclerosis and other neurodegenerative diseases.

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### **Notes:**