



ScD, Professor Alexander Roitbak (1919-1991) – Distinguished Neuroscientist, was Corresponding Member of Academy of Science of USSA Academy and the Member of Scientific Council of Academy of Science of USSR (now, Russian Academy of Science). Alexander Roitbak was the follower of Academician Ivane Beritashvili, the Founder of Neuroscience in Georgia. In 1960, Professor Alexander Roitbak established the Laboratory of General Physiology of the Cerebral Cortex at the I. Beritashvili Institute of Physiology Georgian Academy of Sciences (now, I. Beritashvili Center of Experimental Physiology) and was the Head of this Laboratory until his death. Professor Roitbak made the major achievements in the field of Electrophysiology of Central Nervous System. During years, he investigated the Biology of Dendritic Potential and the Physiology of glia. Professor Roitbak was one of the first neuroscientists who described the role of Neuroglia in the Brain Electrophysiology. *According Professor Roitbak's hypothesis, neuroglia plays special role in conditioning reflex.* Broad scientific community around the World recognizes this hypothesis. Professor Roitbak was the member of numerous international scientific societies and the owner of a number of prestigious governmental awards. Professor Roitbak was the author of more than 260 scientific articles, absolute majority of which was published in foreign scientific journals. Professor Roitbak was the organizer of a number of international scientific symposiums: *Slow Electrical Potentials of the Nervous*

System (1966), *Mechanisms of Temporary Connections* (1975), and *Functions of Neuroglia* (1976, 1984, and 1989; with the support from IBRO). This was unique platform for scientists from Eastern, Central and Western Europe, as well as USA, to share the most recent knowledge in this newly emerging field of Neuroscience. Since the last meeting in 1989, the Physiology of Neuroglia has considered as a one of the most important branches of modern Neuroscience. On September 2019, International Symposium dedicated to the Memory of Professor Roitbak was held in Ivane Javakishvili Tbilisi State University (with support from IBRO, Georgian Branch of FENS, I. Javakhishvili Tbilisi State University, and some other scientific organizations).

Some of articles of Professor Roitbak are:

On the possible nature of the processes induced by unconditioned stimulation in the cerebral cortex. Roitbak AI. *Acta Neurobiol Exp (Wars)*. 1984;44(1):41-9.

Contribution of glia and neurons to the surface-negative potentials of the cerebral cortex during its electrical stimulation. Roitbak AI, Fanardjian VV, Melkonyan DS, Melkonyan AA. *Neuroscience*. 1987 Mar;20(3):1057-67.

Spreading depression resulting from cortical punctures. Roitbak AI, Bobrov AV. *Acta Neurobiol Exp (Wars)*. 1975;35(5-6):761-8.

Stimulus-evoked slow potential shifts and changes in $[K^+]_0$ of the frog optic tectum. Roitbak AI, Ocherashvili EV, Laming PR, Roitbak TA. *J Comp Physiol A*. 1992 Mar;170(3):327-33.

Changes in the concentration of extracellular potassium and the slow negative potential in the somatosensory area of the cortex in response to stimulation of the ventroposterolateral nucleus of the thalamus in the cat. Ocherashvili IV, Roitbak AI, Bobrov AV, Kapel' RG. *Neirofiziologia*. 1983;15(2):192-4.

Relationships between electrically induced slow negative potentials and changes in extracellular potassium concentrations in cerebral cortex of the cat. Ocherashvili E, Roitbak A. *Neurosci Lett*. 1992 Feb 17;136(1):72-4.

Changes in the concentration of intracellular potassium and the phenomenon of dendritic potential depression against a slow negative potential background in the cat cerebral cortex. Roitbak AI, Ocherashvili IV. *Neirofiziologia*. 1983;15(2):198-200

Slow surface negative potentials of the cortex and cortical inhibition. Roitbak AI. *Prog Brain Res*. 1968;22:123-37.

Depolarization of cortical glial cells in response to electrical stimulation of the cortical surface. Roitbak AI, Fanardjian VV. *Neuroscience*. 1981;6(12):2529-37.

A new hypothesis concerning the mechanism of formation of the conditioned reflex. Roitbak AI. *Acta Neurobiol Exp (Wars)*. 1970;30(2):81-94.

The specialized contact of an astrocyte containing a vesicle aggregation with the dendritic spine in the cerebral cortex of the cat. Lazriev IL, Roitbak AI. *Dokl Akad Nauk SSSR*. 1990;312(6):1483-5.

On the process of inhibition in the superficial neuropil of the cerebral cortex. Roitbak A, Ocherashvili I, Gedevanishvili G. *Physiol Bohemoslov*. 1985;34 Suppl:133-6.