BIOGRAPHICAL SKETCH	POSITION TITLE
NAME **Zhadin Mikhail N.**	Principal Scientific Worker of Institute of Cell Biophysics of Russian Academy of Sciences, Pushchino, Moscow Region, Russian Federation

EDUCATION/TRAINING:

INSTITUTION AND LOCATION	DEGREE	YEARs	FIELD OF STUDY
Moscow State University, Physical Faculty, Department of Nuclear Physics		1953-1960	Mathematics and Physics
Scientific Council of Institute of Biological Physics of the Academy of Sciences of USSR in Pushchino, Moscow Region	Candidate of Physical and Mathematical Sciences	1970	Biophysics
Scientific Council of Institute of Biological Physics of the Academy of Sciences of USSR in Pushchino, Moscow Region	Doctor of of Biological Sciences	1982	Biophysics
High Attestational Comission at Council of Ministers of USSR	Professor	1982	Biophysics
Russian Academy of Natural Sciences	Corresponding Member	1996	Informatics and Cybernetics
Government of Russian Federation	Honored Scientist of the Russian Federation	2006	Biophysics

Personal data

Institute of Cell Biophysics RAS
Pushchino Moscow region
Russia 142290
011-7-(4967)-739-100

Mk-n "V"24, apt.6
Pushchino Moscow region
Russia 142290
007- (4967)-733-043 (private)
E-mail zhadin@online.stack.net

Date of birth: March 12, 1935
Place of birth: Leningrad, USSR
Nationality: Russia
Marital status: **Married, one son**

RESEARCH AND PROFESSIONAL EXPERIENCE:

Present position:

Principal scientist of Institute of Cell Biophysics of the Russian Academy of Sciences, Pushchino, Moscow Region, 2005 - present time.

Previous employment:

1960-1960 Timpton-Utchur Complex Expedition, Yakut ASSR, engineer.
1961-1963 Research Institute N 88, Senior engineer.
1963-1968 Research Institute of high nervous activity and neurophysiology of USSR Academy of sciences. Jiunior scientific worker. Moscow.

1968-989 Research Institute of Biological Physics of USSR Academy of sciences. Jiunior and then higher scientific worker. Pushchino, Moscow Region.
1985-1989 Deputy director of the same Institute of Biological Physics.
1990-2005 Head of Laboratory of Neurocybernetics of the Institute of Cell Biophysics of the Russian Academy of Sciences.
1990-1994 Deputy director of the same Institute of Cell Biophysics.
2008-present time Principal scientific worker in the same Institute of Cell Biophysics,

Experience:

The scientific experience concerned:

- Biophysiological mechanisms of EEG formation;
- Synaptic mechanisms of learning and memory;
- Synaptic and molecular mechanisms of multiple sclerosis.
- Physical mechanisms of biological action of combined static and alternating weak magnetic fields;
- Quantum electrodynamical mechanisms in aqueous solutions of different alpha amino acids and in protein molecules formations and functioning.

Publications of Mikhail N. Zhadin.

230 scientific publications, including 3 books.

List of the most important publications:

1. Livanov M.N., Zhadin M.N., Kreytzer G.P., Trush V.D. 1966. Using of computer for controlled electrophysiological experiment. Biophysics, 9, 2, 306-313 (In Russian).
2. Zhadin M.N.1969. Mechanisms of synchronization of the brain potentials . 1. The model with independent sourses. 1969. Biophysics, 14, 1, 696-703 (In Russian).
3. Zhadin M.N.1969. Mechanisms of synchronization of the brain potentials . 2. The model with dependent sourses. 1969. Biophysics, 14, 5, 897-904 (In Russian).
4. Livanov M.N., Zhadin M.N., Korol'kova T.A., Kreytzer G.P., Trush V.D. 1969. Investigation of average level of synchronization of the brain potentials in rabbits. Journal of Higher Nervous Activity, 19, 6, 996-1002 (In Russian).
5. Zhadin M.N.1972. Mechanisms of synchronization of the brain potentials . 3. The effects of synchronization of of the brain potentials immediately derived from the cortex. 1972. Biophysics, 17, 2, 283-289 (In Russian).
6. Aslanov A.S., Zhadin M.N., Efremova T.M., Korol'kova T.A., Trush V.D. 1973. Space Synchronization in the Neocortex. Moscow: Publishing House "Science" (In Russian).
7. Zhadin M.N.1973. Mechanisms of synchronization of the brain potentials .4. On the space distribution of intercellular relations in the cortex. Biophysics, 18, 6, 1084-1088 (In Russian).
8. Zhadin M.N.1978. Influence of the dorsal hippocampus curvature on the form of electrical field generated by it. Biophysics, 23, 1, 138-144 (In Russian).
9. Bobkova N.V., Zhadin M.N. 1978. To the question on electroencephalogram genesis. Biophysics, 23, 133-138, 1978. (In Russian).
10. Rudnev Yu. L., Zhadin M.N., Prikhod'ko N.N., Bobkova N.V. 1980. Effect of repetitive stimulation on cortical single unit activity. Neuroscience and Behavioral Physiology, 10, 1, 69-76.

11. Zhadin M.N. 1982. Rhythmic Processes in the Neocortex. Brain. Pushchino Publishing House (In Russian.
12. Zhadin M.N. 1984. Rhythmic processes in the cerebral cortex. Journal of Theoretical Biology, 108, 565-595.
13. Zhadin M.N. 1984. Biophysical Mechanisms of Electroencephalogram Formation. Moscow: Publishing House “Science” (In Russian).

14. Yakupova L.P., Karnup S.V., Zhadin M.N. 1983. Degree of uniformity of forms of statistical dependence between the EEG and spike trains of neurons. Neuroscience and Behavioral Physiology, 13, 1, 44-50.
15. Zhadin M.N. 1984. Rhythmic processes in the cerebral cortex. Journ. Theor. Biol. 108, 565-595.
16. Zhadin M.N. 1984. Biophysical Mechanisms of Electroencephalogram Formation. Moscow: Science, Publishing House “Science” (In Russian).
17. Zhadin M.N. 1984. Theoretical analysis of conditioning process and signicance of electrographic correlates of learning process.In “Neurophysiological Mechanisms of Memory and Learning”, Publishing House of Academy of Sciences of the USSR, 88-118. .
18. Karnup S.V., Bortnik A.T., Zhadin M.N. 1985. Structure of background neuronal activity in thin slices of guinea pig neocortex. Neurophysiology, 19, 441-449.
19. Zhadin M.N., Bakharev B.V., Yakupova L.P. 1987. Cross-correlation analysis of the background impulse activity of cells located at various distances in the visual cortex of the alert rabbit. Neurocsi. Behav. Physiol., 17, 1, 33-39.
20. Zhadin M.N. 1987. Electrophysiological manifestations of the monoaminergic systems' effects on the cerebral cortex. Neuroscience and Behav. Physiology, 17, 2, 152-160.
21. Zhadin M.N. 1988. On normalization of the cross-correlation function of pulse activity. Studia Biophysica, 128, 95 - 103.
22. Zhadin M.N., Fesenko E.E. 1990. Ionic cyclotron resonance in biomolecules. Biomedical Science, 1, 245-250.
23. Zhadin M.N. 1991. Biophysical mechanisms of the EEG formation. In "Mathematical Approaches to Brain Functioning Diagnostics", I. Dvorak, A. Holden (eds), Manchester - New York: Manchester Univ. Press, 13-29.
24. Zhadin M.N. 1994. Formation of the rhythmic processes in the bioelectrical activity of the cerebral cortex. Biophysics, 39, 1, 133-150.
25. Novikov V.V., Zhadin M.N. 1994, Combined action of weak constant and variable low-frequency magnetic fields on ionic currents in aqueous solutions of amino acids. Biophysics, 39, 1, 41-45.
26. Zhadin M.N. 1995. Collective behaviour of cortical neurons on prolonged exposure to reinforcement. Biophysics, 40, 3, 631-634.
27. Zhadin M.N. 1996. Effect of magnetic fields on the motion of an ion in a macromolecule: Theoretical analysis. Biophysics, 41, 4, 843-860.
28. Zhadin M.N. 1996. Rhythmicity in the EEG and global stabilization of the average level of excitation in the cerebral cortex. Behavioral and Brain Sciences, 19, 2, 309-310.
29. Agladze N.N., Zhadin M.N., Ignatyev D.A. 1996. Electrical activity of the isolated rabbit cerebral cortex after direct application of acetylcholine. Neurosci. and Behav. Physiology, 26, 6, 500-506.
30. Bakharev B.V., Zhadin M.N. 1997. The inluence of inhibito-inhibitory connections and the form of postsynaptic potentials on the formation of rhythmic processes in the cerebral cortex: Analysis of the approximate equation of the electroencephalogram. Biophysics, 42, 229-237.

31. Zhadin M.N. 1998. Combined action of static and alternating magnetic fields on ion motion in a macromolecule: Theoretical aspects. Bioelectromagnetics, 19, 5, 279-292.
32. Zhadin M.N. 1999, Physical mechanisms of action of weak static and alternating magnetic fields on biosystems. In "Electromagnetic Fields. Biological Action and Hygienic Standardization". M.H. Repacholi, N.B. Rubtsova, A.M. Muts (Eds), Geneva: World Health Organization
, pp. 247-261.
33. Zhadin M.N., Novikov V.V., Barnes F.S., Pergola N. 1998. Combined action of static and alternating magnetic fields on ionic current in aqueous glutamic acid solution. Bioelectromagnetics, 19, 1, 41-45.
34. Zhadin M.N. 2000. LTP and reinforcement: Possible role of the monoaminergic systems. Behavioral and Brain Sciences, 23, 2, 287-288.
35. Zhadin M., Giuliani L. 2006. Some problem in modern bioelectromagnetics. Electromagnetic Biology and Medicine. 25, 4, 227-243.
36. Zhadin M., Barnes F., Giuliani L. 2007. Response to "a few remarks on 'combined action of DC and AC magnetic fields on ion motion in macromolecules" by Binhi / Bioelectromagnetics. 28, 5, 412-413.
37. Giuliani L., Grimaldi S., Lisi A., D'Emilia E., Bobkova N., Zhadin M. 2008. Action of combined magnetic fields on aqueous solution of glutamic acid: the further development of investigations. Biomagnetic Research and Technology. 6:1.

13.