

Living Brain Foundation
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Jerzy Zbigniew Achimowicz, Professor of neuroscience

https://www.researchgate.net/profile/Jerzy_Achimowicz

Education

- Jul 1980 – Apr 1988* **Warsaw University of Technology**
Ph.D., Biomedical Engineering
Warsaw, Poland
- Sep 1971 – Sep 1979* **Military University of Technology**
M.Sc., quantum electronics and solid state physics
Warsaw, Poland
- Oct 1969 – Oct 1971* **Maria Curie-Skłodowska University in Lublin**
BSc, physics
Lublin, Poland

Thesis

Jerzy Z. Achimowicz: *"Phase based methods for brain research"* - *Fazowe metody badania mozgu (autoreferat habilitacyjny)*. 08/2000, Degree: Doctor of Science in Neurophysiology, Supervisor: Andrzej wrobel

Research Experience

- Jan 1991 – Sep 1993* **University of California, School of Medicine, San Diego,**
University of California, San Diego, Department of Neurosciences
San Diego, USA
I was Ted Bullock posdoc.
- Aug 1976 – present* **Application of DSP for Central and Autonomic Nervous Systems
Diagnostics**
Wojskowy Instytut Medycyny Lotniczej, Flight Safety
Warsaw, Poland
Application of phase DSP of EEG, ERP , HR, ECG, BP, PV etc for objective
evaluation of pilot/astronaut psychophysiological State
- Jan 1976 – Apr 2016* **Head of Department**

Wojskowy Instytut Medycyny Lotniczej, Department of Flight Safety
Warsaw, Poland

Statistics

RG Score 17.13
Publications 113
Reads 5,616
Citations 479

Awards & Grants

Aug 2000 Award: Doctor of Science Degree in Biology, Neurophysiology
Aug 1996 Award: II Prize of Minister for Defence for Design and implementation of "NEUROSCAN"
Sep 1991 Scholarship: Postdoctoral Fellowship in Theodore Bullock Neurobiology Unit, UCSD, SIO
Jun 1986 Grant: European Patent for NEUROSCAN "System and method for EEG mapping"

Skills & Activities

Skills Cognitive Neuroscience, Electroencephalography., Evoked Potentials, Brain, Engineering, Applied and Computational Mathematics, Parallel and Distributed Computing, Signal, Image and Video Processing, Programming in MATLAB, System Integration, Neuroscience, Medicine, Aviation Safety, Human Factors, Ergonomics, Safety Management, Systems Engineering, EEG, Biofeedback, Interpersonal Communication, Quantum Algorithms, Supramolecular Chemistry, Quantum Optics and Quantum Information, Biomedical Signal Processing, Solid State, Protein Synthesis, mRNA Expression, DNA model and coding, Cognitive Science, Artificial Consciousness, Molecular Biology, Neural Correlates of Consciousness, Biotechnology, Neuropsychology, Neurology, BCI, Neuroimaging, Safety, Human-Computer Interaction, Parallel Computing, EEG Signal Processing, Independent Component Analysis, ERP, ICA, Neural Signal Processing, Brain Connectivity, Brain Imaging, Magnetoencephalography, Brain Dynamics, Eeg-Coherence, Functional Neuroimaging, Brain Mapping, Cognitive Neuropsychology, Functional Connectivity, System Modeling, Electroencephalography Phase Synchronization, Multimodal Imaging, Event-Related Potentials, Combinatorial Chemistry, Mitochondria, Genetic Code, Attention, Psychophysiology, Telemedicine, Aerospace, Nonionizing Radiation, P300 Event-Related Potentials, EEG/ERP, Neurofeedback, Mitochondrial DNA,

Aviation, Epilepsy, Introns, Mars, Astronauts, Psychophysiological Disorders, Psychosis Psychotherapy, Space, NASA, Exons, Nasal Absorption, Visual Evoked Potentials

Languages English, Russian

Scientific Memberships

Interests Numerical weather forecasting, supercomputing, DNA code, quantum biology and computing, supramolecular biology Quantum Theory of Immortality and Reincarnation (QTIR) everything related to EMF and life

Publication Highlights

[authors]: [title]. [details]

Books

Book Chapters

Journal Publications

Rafał Bąkowski, Jerzy Achimowicz, Andrzej Mazur: *Current status of Early Warning Systems for severe environmental threats in the Polish National Meteorological Service*. 12/2014; 2(2014):35-42., DOI:10.26491/mhwm/36432

Rafał Bąkowski, Andrzej Mazur, Jerzy Achimowicz: *Aktualne kierunki rozwoju systemów wczesnego ostrzegania przed nadzwyczajnymi zagrożeniami*.

Jerzy Zbigniew Achimowicz: *mtDNA_Praharshit_Achimowicz*.

Olaf Trusczyński, Grzegorz Nowicki, Jerzy Achimowicz: *NEW TELEMEDICAL APPROACH TO PILOT AND ASTRONAUT PSYCHOPHYSIOLOGICAL STATUS MONITORING AND IMPACT OF AUGMENTED COGNITION ON FLIGHT SAFETY*.

J. Achimowicz: *On the Phase Method for Visually Evoked Potential Variability Analysis*. *Acta Physiologica* 01/1999;

T H Bullock, J Z Achimowicz, R B Duckrow, S S Spencer, V J Iragui-Madoz: *Bicoherence of Intracranial EEG in Sleep, Wakefulness and Seizures*. *Electroencephalography and Clinical Neurophysiology* 12/1997; 103(6):661-78., DOI:10.1016/S0013-4694(97)00087-4

T H Bullock, M C McClune, J Z Achimowicz, V J Iragui-Madoz, R B Duckrow, S S Spencer: *Temporal Fluctuations in Coherence of Brain Waves*. *Proceedings of the National Academy of Sciences* 01/1996; 92(25):11568-72., DOI:10.1073/pnas.92.25.11568

T.H. Bullock, M.C. McClune, J.Z. Achimowicz, V.J. Iragui-Madoz, R.B. Duckrow, S.S. Spencer: *EEG coherence has structure in the millimeter domain: subdural and hippocampal recordings from epileptic*

patients. *Electroencephalography and Clinical Neurophysiology* 09/1995; 95(3):161-77.,
DOI:10.1016/0013-4694(95)93347-A

Theodore H. Bullock, Jerzy Z. Achimowicz: *A Comparative Survey Of Oscillatory Brain Activity, especially gamma-band rhythms..* DOI:10.1007/978-1-4899-1307-4_3

A Wróbel, J Achimowicz, P Musiał, E Kublik: *Rapid phase shift of evoked potentials in barrel cortex accompanies conditioning.* *Acta neurobiologiae experimentalis* 02/1995; 55(2):147.

J Z Achimowicz: *Variability analysis of visual evoked potentials in humans by pattern recognition in phase domain.* *Acta neurobiologiae experimentalis* 02/1995; 55(3):177-91.

Theodore H. Bullock, Sacit Karamürsel, Jerzy Z. Achimowicz, Michael C. McClune, Canan Başar-Eroglu: *Dynamic properties of human visual evoked and omitted stimulus potentials.* *Electroencephalography and Clinical Neurophysiology* 07/1994; 91(1):42-53., DOI:10.1016/0013-4694(94)90017-5

J.Z. Achimowicz, T.H. Bullock: *Nonlinear properties of local field potentials in brain: Implications for biological neural network modelling.*

J. Achimowicz: *On the deterministic brain states revealed by VEP classification in phase domain.*

Jerzy Achimowicz: *The Functional Brain States Band Model And The Dynamics of Sensory Cognitive Evoked Potentials.* DOI:10.1109/IEMBS.1991.683996

J Miszczak, J Achimowicz: *Application of brain electric activity mapping for analysis of discharge propagation in epileptic patients.* *Acta physiologica Polonica* 11/1986; 37(6):252-61.

J. Achimowicz: *Quantum solid state mechanisms of biological effects of electromagnetic radiation with emphasis on local superconductivity.* *Radio Science* 09/1982; 17(5S)., DOI:10.1029/RS017i05Sp0023S

J Achimowicz, K Kazimierski, K Wojcik: *Possibility of genetic coding of amino acid sequences by coherent electronic states in nucleotide chains.* *Physiological chemistry and physics* 02/1981; 13(2):171-3.

J Miszczak, J Achimowicz: *PAPER 295 HYBRID ANALYSIS OF SPONTANEOUS BRAIN ACTIVITY IN DIFFERENT STATES OF CONSCIOUS EXPERIENCE.* *Archeological Papers of the American Anthropological Association* 01/1979;

J. Achimowicz, A. Cader, L. Pannert, E. Wojcik: *Quantum cooperative mechanism of enzymatic activity.* *Physics Letters A* 03/1977; 60(4):383-384., DOI:10.1016/0375-9601(77)90137-2

Patents

Conference Proceedings

Jerzy Zbigniew Achimowicz: *"The Phase Coupling of Ultradian Rhythms as the Synthetic Index of Psychophysiological Status of Human in Extreme Environment of Airspace"* 2017 International Experimental Biology and Medicine Conference *BIOLOGICAL CLOCKS: MECHANISMS AND APPLICATION* 5-8th of October 2017, Rijeca, Croatia. 2017 International Experimental Biology and

Medicine Conference BIOLOGICAL CLOCKS: MECHANISMS AND APPLICATION, Rijeka, Croatia; 10/2017

Jerzy Zbigniew Achimowicz: *Final draft of first call of the 2nd international workshop on flight safety*. 2018 international workshop on flight safety; 03/2017

Jerzy Achimowicz, Jachimow@wiml Waw Pl: *Life Sciences as Related to Space (F) Human Deconditioning and Counter-measures: Research Update from Spaceflight and Analog Environments (F5.4) ON THE NEW TELEMEDICAL APPROACH TO PILOT/ASTRONAUT PSY- CHOPHYSIOLOGICAL STATUS MONITORING AND BIOFEEDBACK TRAIN- ING IMPACT ON FLIGHT SAFETY IN MARS MANNED MISION*. COSPAR 2014 - MOSCOW 2014 Committee on Space Research, Moscow, Russia; 10/2014

Maciej Smietanowski, Kamil Lorenc, Ewa Zalewska, Olaf Truszczynski, Grzegorz Nowicki, Jerzy Achimowicz: *COSPAR 2014 Moscow "On the possible high +Gz tolerance increase by multimodal brain imaging controlled respiratory AFTE biofeedback training exercise"*. COSPAR 2014 General Assembly, Moscow, Lomonosow University; 08/2014

Praharshit Sharma, Jerzy Achimowicz: *Justification of Achimowicz's result for Genetic codon length in the specific case of Mitochondrial DNA by using Combinatorics*. Academia.edu, <http://www.academia.edu/6156747>; 02/2014, DOI:10.13140/2.1.1982.5606

Jerzy Achimowicz, Olaf Truszczynski, Grzegorz Nowicki: *Psychophysiological aspects of human integration with C3 systems (Communication, Control and Command) and operations safety*. VI Conference on Radioelectronic Systems, sponsored by URSI and PAN, Jachranka k Warszawy, Poland; 11/2013

Jerzy Zbigniew Achimowicz, Olaf Truszczynski, grzegorz Nowicki: *Presentation on "Psychophysiological aspects of flight safety in aviation and manned space long term missions"*. "The past and future of POLAND in SPACE", Muzeum Techniki, PKiN, Warsaw, POLAND, 22nd of November, 2013; 11/2013

Jerzy Achimowicz: *Opening Address at WIML-NASA Workshop on Flight Safety*. 1st International WIM-NASA Workshop on Flight Safety in Aerospace Operations; 09/2011

Jerzy Achimowicz, Olaf Truszczynski: *Psychophysiological Aspects of Flight Safety in Aerospace Operations - Proceedings of the 1st International Workshop NASA & WIML*. International Workshop on Psychophysiological Aspects of Flight Safety in Aerospace Operations; 09/2011

Jerzy Zbigniew Achimowicz: *Om the new method for psychophysiological status assessment in pilots and astronauts*. A men in Extreme Environment, Warsaw, Poland; 10/2008

Jerzy Achimowicz: *INSTITUTE OF METEOROLOGY AND WATER MANAGEMENT. WARSAW, POLAND CENTRE FOR DEVELOPMENT OF NUMERICAL WEATHER FORECASTS The Effect of errors in radar data on the Quality of 3D Simple Adjoint Velocity Retrievals*. COSMO Consortium General Meeting, Cracow, Poland; 09/2008

Jerzy Zbigniew Achimowicz: *on the new synthetic method..... Human in Adverse Environment*, WIML; 08/2008

Technical Reports

Jerzy Zbigniew Achimowicz: *ESA NEUROSPAT REPORT with Achimowicz participation*. Report number:
ESA NEUROSPAT REPORT, Affiliation: ESA, DOI:10.13140/RG.2.2.14406.68160