

CURRICULUM VITAE

Pawel M Boguszewski, Ph.D.

Department of Neurophysiology

Nencki Institute of Experimental Biology

3, Pasteur St., 02-093 Warsaw, Poland

Tel/Fax.: +48225892451

E-mail: pmbogusz@gmail.com; p.boguszewski@nencki.gov.pl

Web: <http://www.pmbogusz.net>

EDUCATION

- | | |
|------|---|
| 2004 | Ph.D. Nencki Institute of Experimental Biology, Warsaw, Poland; |
| 1996 | M.Sc. Warsaw University, Division of Biology; Warsaw, Poland; |

PROFESSIONAL EXPERIENCE

- | | |
|----------------|--|
| 1997 - 1999 | Research Assistant, Nencki Institute of Experimental Biology, Department of Neurophysiology, Laboratory of Limbic System. |
| 1999 - 2004 | Graduate Student, Nencki Institute of Experimental Biology, Department of Neurophysiology. |
| 2004 - 2005 | Research Associate, Nencki Institute of Experimental Biology, Department of Neurophysiology, Laboratory of Limbic System. |
| 2005 – 2008 | Postdoctoral Associate, Yale University, New Haven, CT, USA |
| 2008 – 2009 | Research Associate, Nencki Institute of Experimental Biology, Department of Neurophysiology, Laboratory of Limbic System. |
| 2009 – Present | Assistant Professor, Nencki Institute of Experimental Biology, Department of Neurophysiology, Laboratory of Limbic System. |
| 2009 – Present | Assistant Professor, Maria Grzegorzewska Academy of Special Education. |

FELLOWSHIPS AND AWARDS

- | | |
|------|---|
| 2004 | “Electrical activity and expression of <i>c-fos</i> evoked by novel environmental stimuli in limbic structures – a study on genetically selected rats of different emotional reactivity.” State Committee for Scientific Research grant (06171PO4/2004/26). Role on the project: investigator |
| 2003 | “Age-related changes in expression of c-Fos and ZIF/268 in aversive experimental conditions in rats.” Special award of the Nencki Institute for young researchers. Role on the project: principal investigator |
| 2002 | Conference fellowship from the Foundation for Polish Science for the FENS Forum 2002 in Paris. |
| 2002 | International Brain Research Organization fellowship to attend Summer School in Prague. |

- 2000 “Information transfer within the limbic and motor systems in the rat during various emotional-motivational states”. State Committee for Scientific Research grant (6 P04C 06819). Role on the project: investigator.
- 1999 Fellowship from The Leopold Kronenberg Foundation for HPLC-ED course in Nottingham University Medical School, UK.
- 1998 “Mechanisms of age-related changes in emotional and social behavior in rats.” State Committee for Scientific Research grant (6P04C 087 14). Role on the project: investigator.

PROFESSIONAL ACTIVITIES

- 1998 – 2003 Co-Coordinator of “Brain Awareness Week.”
- 1998 – 2003 Secretary of Polish section of The Dana Alliance for Brain Initiatives.
- 2003 Organizing Committee Member of Sixth International Congress of the Polish Neuroscience Society.
- 2003 – 2005 Co-Coordinator of initiatives within National Centre of Excellence BRAINS Project (Bringing Research Advances In Neurobiology to Society)
- 2005 Co-Coordinator of Workshop "From Knowledge to Prevention: Neurobiological and Psychosocial Aspects of Violence"
- 2005 Organizing Committee Member of 7th International Congress of the Polish Neuroscience Society.
- 1999 – Present Webmaster of the Polish Neuroscience Society website.
- 2004 – Present Co-Coordinator of National Centre of Excellence MIND – Brain and New Therapy Methods.
- 2008 – 2009 Organizing Committee Member of 9th International Congress of the Polish Neuroscience Society.
- 2009 Scientific and Organizing Committee Chair of Satellite Symposium at SfN Neuroscience 2009 “Measuring Social Behavior: Scientific Challenges, Test Paradigms and Tools”
- 2009 – Present Coordinator of Animal Behavior Research and Behavioral Phenotyping Laboratory, Nencki Institute of Experimental Biology.
- 2010 – Present Scientific Committee Chair of Nencki Institute Innovation Platform, Nencki Institute of Experimental Biology.
- 2010 – 2011 Co-Editor of *Acta Neurobiologiae Experimentalis*
- 2010 – Present Member of the Board of Referees of *Acta Neurobiologiae Experimentalis*
- 2011 – Present Nencki Institute of Experimental Biology Scientific Council Member in the term of 2011-2014
- 2009 Scientific and Organizing Committee Chair of Satellite Symposium at 10th International Congress of the Polish Neuroscience Society “Social interactions: beyond anxiety”

INVITED PRESENTATIONS

- 2009.10 "Various approaches to the automatic analysis of social behavior" at SfN Neuroscience 2009, Chicago.
- 2009.10 "Automation of animal behavior analysis in biomedical science 5 October 2010". 2nd Seminar on Behavioral Methods, Medical University of Silesia.
- 2010.10 "Multidimensional analysis of animal behavior mechanisms in biomedical research" at Scientific Session "Ethology and behavioral science", Polish Ethological Society and Warsaw University. Warsaw
- 2010.10 "Social interaction in rats as versatile research paradigm". 2nd Seminar on Behavioral Methods, Medical University of Silesia,
- 2011.09 „Social interaction in rodents: contemporary approach to animal behavior" at Satellite Symposium at 10th International Congress of the Polish Neuroscience Society. Łódź
- 2011.09 „Animal behavior mechanisms research – behavioral tests in biomedical sciences" at 2nd conference "Animal in scientific research" Warsaw University of Life Sciences - SGGW . Warsaw

PROFESSIONAL TRAINING

- Fundamentals of Teaching in the Sciences (Yale University, New Haven CT, USA – 2008)
- Fundamentals of Teaching Quantitative Reasoning & Social Science (Yale University, New Haven CT, USA – 2008)
- Fundamentals of Teaching Labs (Yale University, New Haven CT, USA – 2008)
- Responsible Conduct of Research for Postdocs, (Yale University, New Haven CT, USA – 2007)
- CED Training Days: Advanced EEG recording and analysis with Spike2 (Cambridge Electronics Design Training Days, Cambridge, UK – 2005)
- Contemporary approaches to the study of CNS function using electrophysiological, behavioral and imaging techniques (IBRO Summer School in Prague, 2002)
- HPLC-ED biochemical analysis course (Professor C.A. Marsden's laboratory, School of Biomedical Sciences, Nottingham University Medical School, Queen's Medical Center. UK – 1999)
- Behavioral experimentation and surgical procedures (Professor A. Romaniuk's laboratory, Department of Neurophysiology, University of Lodz, Poland – 1998)
- Courses in neuropharmacology (Mogilany Winter School, Poland – 1996, 2000, 2001)

SCIENTIFIC SOFTWARE DEVELOPED

- Software package for transformation and manipulation of EMG experimental data.
- Programs for automatic statistical analysis;
- EthoLog - program for registration and analysis of animal behavior, including social interactions. Replaced by BehaView ;
- TrackExplorer – program supporting analysis and behavioral data visualization for EthoVision 1.95 (Noldus, The Netherlands).

- BehaView - Free viewer made for playing digital movies with special options for easy marking and analysis behavioral events. (<http://www.pmbogusz.net/software>)
- BehaFreeze - Free software for analyzing freezing behavior and activity during fear conditioning. (project in progress)

MEMBERSHIPS AND AFFILIATIONS

Polish Neuroscience Society, Poland
Federation of European Neuroscience Societies
International Brain Research Organization.
New York Academy of Sciences
National Postdoctoral Association
Society for Neuroscience
European Brain and Behaviour Society

LANGUAGES

Polish - native
English - fluent.
Russian - basic

SELECTED PEER-REVIEWED PUBLICATIONS

Research Papers

1. Zagrodzka J., Boguszewski P. Emotional changes related to aging – behavioral and neurochemical studies. *Psychologia – Etologia – Genetyka*, 1999, 0; 67-79 (in Polish).
2. Zagrodzka J, Romaniuk A, Wieczorek M, Boguszewski P. Bicuculline administration into ventromedial hypothalamus: effects on fear and regional brain monoamines and GABA concentrations in rats. *Acta Neurobiol Exp.* 2000;60(3):333-43 [IF: 1.533; Cited: 5]
3. Boguszewski P, Zagrodzka J. Emotional changes related to age in rats-a behavioral analysis. *Behav Brain Res.* 2002 Jul 18;133(2):323-32. [IF: 3.393; Cited: 57]
4. Boguszewski P. Computer aided registration, analysis and modeling of animal behavior in biomedical science. *New Methods in Neurobiology* 2004, pp 41 48 (in Polish).
5. Boguszewski P., Zagrodzka J. Expression of c-Fos in response to stressogenic stimuli in the amygdala of old vs. young rats--a preliminary study. *Acta Neurobiol Exp.* 2005; 65(2):191-194. [IF: 1.533; Cited: 10]
6. Knapska E., Nikolaev E., Boguszewski P., Walasek G., Blaszczyk J., Kaczmarek L., Werka T. Between-subject transfer of emotional information evokes specific pattern of amygdala activation. *Proc Natl Acad Sci U S A.* 2006 Mar 7; 103(10):3858-62. [IF: 9.771; Cited: 18]
7. Meyza KZ, Boguszewski PM, Nikolaev E, Zagrodzka J. The effect of age on the dynamics and the level of c-Fos activation in response to acute restraint in Lewis rats. *Behav Brain Res.* 2007 Jun 18;180(2):183-9. [IF: 3.393; Cited: 6]
8. Bang S., Allen T.A. Jones L.K, Boguszewski P., Brown T.H. Asymmetrical stimulus generalization following differential fear conditioning, *Neurobiology of Learning and Memory* 2008, Jul; 90(1):200-16 [IF: 3.701; Cited: 9]
9. Kholodar-Smith DB, Boguszewski P, Brown TH. Auditory trace fear conditioning requires perirhinal cortex. *Neurobiol Learn Mem.* 2008 Oct; 90(3):537-43. [IF: 3.701; Cited: 10]
10. Meyza KZ, Boguszewski PM, Nikolaev E, Zagrodzka J. Diverse Sensitivity of RHA/Verh and RLA/Verh Rats to Emotional and Spatial Aspects of a Novel Environment as a Result of a Distinct Pattern of Neuronal Activation in the Fear/Anxiety Circuit. *Behav Genet.* 2009 Jan;39(1):48-61 [IF: 3.000; Cited: 5]
11. Meyza KZ, Boguszewski PM, Nikolaev E, Zagrodzka J. Age increases anxiety and reactivity of the fear/anxiety circuit in Lewis rats. *Behav Brain Res.* 2011 Nov 20;225(1):192-200. [IF: 3.393; Cited: 0]
12. Navaroli VL, Zhao Y, Boguszewski P, Brown TH. Muscarinic receptor activation enables persistent firing in pyramidal neurons from superficial layers of dorsal perirhinal cortex. *Hippocampus.* 2011 Sep 28. [IF: 4.609; Cited: 0]

Selected Abstracts

- Postnatal development of melatonin binding sites in the brain and primary lymphoid glands in chicken", J. Sotowska-Brochocka, E. Wolinska-Witort, M. Snochowski, P. Boguszewski, P. Wareski, K. Skwarlo-Sonta. V International Symposium PSBKIM UNESCO/PAN pt: "Molecular and Physiological aspects of organisms adaptation"; Abstracts, Kraków, 45-46, 1996.
- Effects of bicuculline injections into ventromedial hypothalamus on anxiety in rats. P. Boguszewski, M. Wieczorek, A. Romaniuk, J. Zagrodzka. European Journal of Neuroscience, Vol. 10 Sup. 10 1998 pp. 378
- Possibilities and restrictions of computer based video tracking system in the analysis of emotional behavior P. Boguszewski, J. Zagrodzka. Acta Neurobiol. Exp. 1999, 59; 225
- The effects of age on the level of fear and agonistic behavior in rats. P. Boguszewski, J. Zagrodzka, M. Wieczorek. European Journal of Neuroscience, Vol. 12 Sup. 11 2000 pp. 87
- Amygdala contribution into age-related changes studied in various emotional tests B. Lipa, J. Zagrodzka, P. Boguszewski, E. Nikolaev, L. Kaczmarek. European Journal of Neuroscience, Vol. 12 Sup. 11 2000 pp. 157
- Dantrolene as promising neuroprotectant in the rat model of birth asphyxia D. Makarewicz, P. Boguszewski, J.W. Lazarewicz, Reginaltreffen der AGNP vom 26-27 10.2000 in Postdam "Innovative Strategien in der Therapie psychiatrischer Erkrankungen" abstract's book p.56
- Neuroprotective acts of dantrolene in model of birth asphyxia in newborn rats. D. Makarewicz, P. Boguszewski, J.W. Lazarewicz V Neurochemistry Conference "Molecular basic of pathology and therapy neurological diseases" Warsaw 14 Dec. 2000
- Principal components analysis (PCA) as a method for assessing behavioral deficits in old rats. P. Boguszewski, J. Zagrodzka, Acta Neurobiol. Exp. 2001, 61 (3) pp 230
- Age-related changes in social behavior of rats as revealed by Principal Component Analysis, P. Boguszewski, J. Zagrodzka, FENS Abstr. vol 1, A042.6, 2002
- Complicated neuroprotective effects of dantrolene in vivo and in vitro. Makarewicz D, Ziemska E., Boguszewski p., Lazarewicz J.W. VI "eurochemistry Conference "Molecular basic of pathology and therapy neurological diseases" Warsaw 22 Nov. 2002
- The response to low stress novelty in RHA and RLA rats – behavioral and electrophysiological approach. Boguszewski P., Pisula W., Zagrodzka J. Acta Neurobiol. Exp. 2003 Vol 63(3),pp 277
- Zagrodzka J., Boguszewski P. Social interactions in young vs old rats – behavioral, biochemical, molecular approach. XVI World Meeting ISRA, Santorini 2004. pp. 70.
- Meyza K. Z., Boguszewski P. M., Nikolaev E. & Zagrodzka J. Neuronal activation in key parts of the fear/anxiety circuit after exposure to anxiogenic stimuli in young vs. old rats. FENS Abstr., vol.3, A219.11, 2006
- Knapska E., Nikolaev E., Boguszewski P. M., Walasek G., Blaszczyk J., Kaczmarek L. & Werka T. Between-subject transfer of emotional information evokes specific pattern of amygdala activation. FENS Abstr., vol.3, A199.14, 2006
- Bang S., Allen T. A., Jones L. K., Boguszewski P., Brown T. H. Asymmetrical generalization toward social alarm calls in rats given differential fear conditioning. Society for Neuroscience abstracts, 2006.

- Brown T. H., Leung V.L., Zhao Y., Boguszewski P. Graded Persistent Firing in Perirhinal Cortical Neurons: Cellular Mechanisms and Possible Role in Working Memory. Annual Winter Conference on the Neurobiology of Learning & Memory, Park City, Utah. 2007
- Boguszewski P.M., Leung V.L., Zhao Y., Brown T. H. Persistent-Firing Neurons in Layer II/III of Rat Perirhinal Cortex. Pavlovian Society Annual Meeting, Austin, TX. 2007
- Tankhiwale, A. A., Bang, S., Allen, T. A., Boguszewski, P. B., & Brown, T. H. Video analysis of unconditional and conditional freezing elicited by rat ultrasonic vocalizations. Pavlovian Society Annual Meeting, Austin, TX. 2007
- Boguszewski P.M., Bang S., Brown T. H. Machine analysis of conditional and unconditional freezing behavior in rats, Program No. 316.1. 2007 Neuroscience Meeting Planner. San Diego, CA: Society for Neuroscience, 2007
- Boguszewski P., Allen T. A., Brown T. H. CS-offset encoding in auditory fear conditioning. Program No. 93.5/TT34. 2008 Neuroscience Meeting Planner. Washington, DC: Society for Neuroscience, 2008.
- Tankhiwale, A. A., Bang S., Allen T. A., Boguszewski P., Brown T. H. Role of experience in eliciting fear responses to rat auditory social signals. Program No. 93.4/TT33. 2008 Neuroscience Meeting Planner. Washington, DC: Society for Neuroscience, 2008.
- The Power of Frequency Bands in Electrical Activity of Limbic Structures of the Roman High and Low Avoidance Rats Differs in Stress-dependent Manner, Meyza K., Boguszewski P., Olszewski M., Kasicki S., Zagrodzka J. *Acta Neurobiol. Exp.* 2009 Vol 69(3),pp 361
- K. Z. Meyza, P. M. Boguszewski, M. Olszewski, S. Kasicki, J. Zagrodzka. The frequency and power of theta band recorded from dorsal CA1 field of hippocampus is related to individual differences in emotional reactivity of the Roman High (RHA/Verh) and Low Avoidance (RLA/Verh) rats. Program No. 195.8. 2009 Neuroscience Meeting Planner. Chicago, IL: Society for Neuroscience, 2009. Online.
- S. Bang, V. L. Leung, Y. Zhao, P. Boguszewski, A. A. Tankhiwale, T. H. Brown. Role of perirhinal cortex in trace fear conditioning: Essential facts and theory. Program No. 384.11. 2009 Neuroscience Meeting Planner. Chicago, IL: Society for Neuroscience, 2009. Online.
- Ageing increases the role of anxiety in a strain-dependent manner in rats, Meyza K., Boguszewski P. M. & Zagrodzka J. Nencki Institute of Experimental Biology PAS, Warsaw, Poland, 7th FENS Forum, Amsterdam, July 3-7th 2010