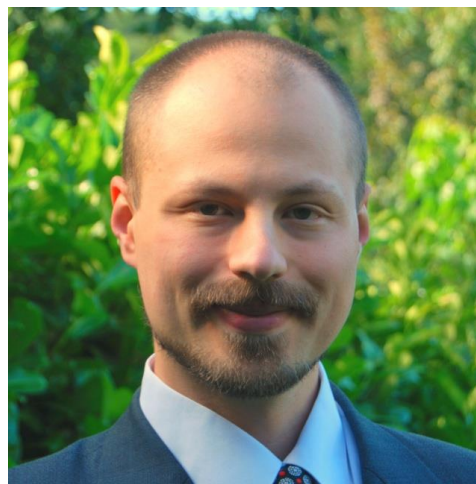


# Volodymyr BOGDANOV

## Postdoctoral Researcher

Universite de Lyon,  
Ecole Nationale des Travaux Publics de l'Etat,  
Laboratoire Génie Civil et Bâtiment,  
3 rue Maurice Audin, 69518 Vaulx-en-Velin, France

Institutional e-mail [volodymyr.bogdanov@entpe.fr](mailto:volodymyr.bogdanov@entpe.fr)  
e-mail: [vlabogd@yahoo.com](mailto:vlabogd@yahoo.com)  
phone +33(0) 6.13.11.37.95  
skype: vlabogd



## WEB resources:

<https://scholar.google.fr/citations?user=cauhZOYAAAAJ&hl=en>  
[https://www.researchgate.net/profile/Volodymyr\\_Bogdanov](https://www.researchgate.net/profile/Volodymyr_Bogdanov)  
<https://www.linkedin.com/in/volodymyrbogdanov/>



## Education

- 1997-2002 M. Sc, biologist–physiologist, the teacher of biology, obtained at the Taras Shevchenko National University of Kyiv, Ukraine  
2002-2005 PhD degree in Human and Animal Physiology, obtained at the Taras Shevchenko National University of Kyiv, Ukraine (PhD diploma issued 9.02.2006)

## Title of PhD thesis

Investigation of relationship between human individual typological features and skin electrophysiological characteristics

## Employment and Research Experience

- 2004-2006 Part-time researcher at Nato programme “Security through science collaborative linkage grant”  
2005-2006 Technician, Taras Shevchenko National University of Kyiv, Ukraine  
2006-2010 Junior researcher, Human and Animal Physiology Department, Biological Faculty, Taras Shevchenko National University of Kyiv, Ukraine  
2008-2011 Post-doctoral researcher, Giga Neurosciences, University of Liège (FNRS grant), Belgium  
2011-2013 Research associate, Department of Neurology, University of Utah (International Headache Society research fellowship), USA  
2013-2015 Post-doctoral researcher, NutriNeuro Lab, University of Bordeaux 2, France  
2015-2016 Post-doctoral researcher, CERCO, CNRS, Toulouse, France  
2016-2018 Post-doctoral researcher, Centre de Recherche en Neurosciences de Lyon, Inserm U1028 - CNRS UMR5292, France

2018 - Qualification MCF-2018-69-18269309552 (qualified as Maître de Conférences in Neuroscience)

## Teaching experience

- 2003 Human Anatomy (Taras Shevchenko National University of Kyiv)  
2003-2004, 2006-2007 Human and Animal Physiology (Taras Shevchenko National University of Kyiv)

- Kyiv)
- 2007 Principles of Research and Grantsmanship for Students (Taras Shevchenko National University of Kyiv)
- 2011 Basics of fMRI data analysis with SPM8: a 4 day practical workshop by Volodymyr B. Bogdanov, University of Liege (11 – 14th of October 2011, Taras Shevchenko National University of Kyiv, Ukraine).
- 2012 Basic Research of Descending Analgesia Pathway: Pain Research Didactic at Pain Research Center, Department of Anesthesiology, School of Medicine, University of Utah (2nd of November 2012, Salt Lake City, USA)
- 2013 Toward a naturalistic model of migraine aura: New Scientists in Headache Presentations (28th of June, 2013, International Headache Congress, Boston, Massachusetts, USA)
- 2015 Basics of fMRI data analysis with SPM12 (Kiev, Ukraine)
- 2016 Practical Course "Oculomotor functions" for first year master program "Integrative nervous functions" at University Toulouse 3 Paul Sabatier
- 2017 The Psychtoolbox: on-line practical course for master students, (Taras Shevchenko National University of Kyiv)

#### SPM12 playlist



#### Psychtoolbox playlist



### Tutoring of students

- 2007 **Dmitry GORLOV**, doctoral student of the Taras Shevchenko National University of Kyiv. I supervised development of a paradigms and psychophysiological experimental work electrodermal reactivity under affective stimulation in subjects with different emotional empathy.
- 2010 **Thomas GAVRAY**, master student of the University of Liege. I supervised experiments on psychological testing and recording electrophysiological data in a conditioned pain modulation experiment in human subjects.
- 2011 **Alessandro VIGANO**, doctoral student of the University of Liege. I supervised fMRI experiments on and analysis of electrophysiological data in the field of pain research. One paper is published in co-authorship with him and the other one with him as a first author is under preparation.
- 2011 **Arnaud LOMBARD**, master student of the University of Liege. I supervised his training in analysis of histological data on cFos expression in rat periaqueductal gray matter after spreading depression. A paper is published based on the obtained results; the student participated in writing the manuscript and is a coauthor.
- 2012 **Matthew Caleb FAGEN**, master student of the University of Utah. I supervised his training in animal experimental physiology and behaviour studies.
- 2013 **Khaled M. KRISHT**, doctoral student of the University of Utah. I supervised his training in small animal surgery, electrophysiology and optical imaging of brain circulation.
- 2014 **Laura THOMAS**, doctoral student of the University of Bordeaux II Segalen. I supervised her behavioral study of episodic memory and its alterations in obesity in human subjects.
- 2017 **Kevin LAÏS**, master student of the University of Lyon I, I supervise his studies of episodic contextual memory study, including matlab programming, data analysis and presentation of results.

### Grants and awards

- Affiliate Members' Grant from The Physiological Society, UK (2004)
- Affiliate Members' Grant from The Physiological Society, UK to attend the IUPS meeting in San Diego (2005)

- IUPS travel award from the International Union of the Physiological Sciences (2005)
- Nato programme security through science collaborative linkage grant (2005)
- American Psychosomatic Society (APS) International Travel Assistance Award (2007)
- Travel grant of the International Headache Society Trainee and Residents Sub-committee (2007)
- Society for Psychophysiological Research travel grant for Eastern Europe and developing countries in Asia (2007)
- Federation of European Physiological Societies travel grant (2007)
- National Fund for Scientific Research of Belgium, postdoctoral fellowship (2008-2009)
- Prize for the Highest Scoring Abstract presented at the European Headache and Migraine Trust International Congress 2008
- Subsidy for functioning by the Fond of Leon Fredericq (Fons Léon Fredericq), Liège University (2008)
- European Federation of Neurological Societies travel grant (2009)
- Travel grant from European Neurological Society (2009)
- Mandat de post doctorant étranger from the Fond of Leon Fredericq, Liege University (2009)
- Poster prize at Belgian Brain Congress (2010)
- International Headache Society research fellowship (2012)
- Travel grant to attend the 2015 International Headache Congress, Valence, Spain (2015)

### Selected publications, journal impact factor indicated (for complete list see APPENDIX I)

- Bogdanov VB, Bogdanova OV, Gorlov DS, Gorgo YuP, Dirckx JJJ, Makarchuk MY, Schoenen J, Critchley H *Alexithymia and Empathy Predict Changes in Autonomic Arousal During Affective Stimulation // Cognitive and Behavioral Neurology*, 2013 Sep;26(3):121-32. 1.1
- Bogdanova OV, Abdullah O, Kanekar S, Bogdanov VB, Prescott AP, Renshaw PF *Neurochemical Alterations In Frontal Cortex Of The Rat After One Week Of Hypobaric Hypoxia // Behavioural Brain Research*, 2014, 263 (2014) 203–209. 3.4
- Bogdanov VB, Bogdanova OV, Lombard A, Chauvel V, Multon S, Kot LI, Makarchuk MYu and Schoenen J *Cortical spreading depression decreases FOS expression in rat periaqueductal gray matter // Neuroscience Letters* 2015 Jan 12;585:138-43. 2.1
- Bogdanov VB, Viganò A, Bogdanova OV, Noirhomme Q, Guy N, Laureys S, Renshaw PF, Dallel R, Phillips C, Schoenen J *Cerebral responses and role of the prefrontal cortex in conditioned pain modulation: an fMRI study in healthy subjects // Behavioural Brain Research* 2015 Mar 15; 281:187-98. 3.4
- Bogdanov VB, Middleton NA, Theriot JJ, Parker PD, Abdullah OM, Ju YS, Hartings JA, Brennan KC *Susceptibility of Primary Sensory Cortex to Spreading Depolarizations // The Journal of Neuroscience*, 27 April 2016, 36(17): 4733-4743. 6.3
- Kaufmann D, Theriot J, Zyuzin J, Service C.A., Chang J., Tang Y.T., Bogdanov V.B., Multon S., Schoenen J., Ju Y.S., Brennan K.C. *Heterogeneous incidence and propagation of spreading depolarizations // Journal of Cerebral Blood Flow & Metabolism*, 2017 May;37(5):1748-1762. 5.4
- Volodymyr B. Bogdanov, Olena V. Bogdanova, Alessandro Viganò, Quentin Noirhomme, Steven Laureys, Radhouane Dallel, Christophe Phillips, Jean Schoenen *Increased cerebral responses to high salience stimuli in ictal episodic migraine and medication overuse headache subjects // Cephalgia*, 2019 Feb 20:333102418825359. doi: 10.1177/0333102418825359. [Epub ahead of print] 3.9

### Scientific interests

Human neurophysiology, individual differences, emotions and behaviour, autonomic reactions, pain, migraine and brain trauma, reward, vision, attention and memory.

### Previous research results

- The distribution of skin potential level in facial skin in humans is related to gender, age and

emotional arousal, fatigue. Palmar skin potential level is increased under emotional stimulations, and this increase is higher in human subjects with high trait empathy or high personal alexithymia.

- Pars flaccida of tympanic membrane from gerbils and rabbits is sensitive to 0.1 Hz slight oscillations of atmospheric pressure.
- Propagation of KCl-induced cortical spreading depression is inhibited with daily treatment with antimigraine prophylaxis anticonvulsants valproate and lamotrigine but not with energy metabolic enhancer riboflavin. Rats with more anxiety-like behaviour have higher susceptibility to KCl induced cortical spreading depression. Cortical spreading depression has a predilection for superficial cortical layers and primary somatosensory barrel cortex in rodents.
- Counterirritation pain inhibition is decreased during habituation to the action of test-pain stimuli. Heterotopic cold-induced analgesia is related to greater prefrontal and ACC BOLD responses to the onsets of cold conditioning. Salience matrix is overactivated in migraine and MOH patients.
- The discovered link between decreased ghrelin and attenuated behaviour responsiveness accompanied by hyperactivation of several brain areas confirms ghrelin function in regulation of behaviour and its neurophysiological correlates in obesity.
- The later ERP components of EEG response on peripheral visual stimuli are sensitive for straight-ahead or eccentric location of the stimuli. The C2 and C3 components of ERP on visual stimuli sensitive for attention and complexity of the task then C1 is more sensitive for physical characteristics of the signal.
- Fronto-parietal EEG inter-subjects synchronization during watching of naturalistic videos predicts subsequent memory recall.

### Research skills

- Functional magnetic resonance imaging, fMRI
- Diffusion tensor imaging, DTI
- Voxel-based morphometry, VBM
- Electroencephalography, EEG
- Event-related potentials, ERP
- Electrooculography, EOG
- Electrodermal activity, EDA
- Heart rate variability, HRV
- Psychophysical, psychological and behaviour assessments
- Middle ear pressure and tympanic membrane displacement (animal ex-vivo model)
- Local field potentials/ion-sensitive electrodes in rodents
- Intrinsic optical imaging in rodents
- Open field test in rodents
- Immunohistochemical evaluation of protein expression in the cortex

### Computational skills

MatLab, Statistica, Spike 2, SPM, FSL, MRICron, ImageJ, Cogent2000, PsychToolbox, e-Prime2

### Languages

English (good), French (basic), Russian (native) and Ukrainian (native)

### Workshops and teaching courses attended

- Career Development Workshop: Introduction to Scientific Writing (7th March, 2007), American Psychosomatic Society, Bucharest, Hungary
- Experimental Human & Animal Models in Headache Research Teaching Course (28th June, 2007), International Headache Society, Stockholm, Sweden
- Mechano-transduction and Nociception, PENS Workshop (25th-30th August, 2007), Bucharest, Romania
- The ERP Mini Boot Camp by Steve J. Luck, PhD, Professor, Center for Mind and Brain,

- University California, Davis, CA, USA (16th-17th October, 2007), Society for Psychophysiological Research, Savannah, GA, USA
- 12th CIMO WINTER SCHOOL “Regulatory systems: from basic research to disease prevention” (March 31st - April 6th 2008), Tvärminne, Finland
  - Fresh Insights into Pathophysiology of Primary and Secondary Headache Disorders (September 10th, 2009 ), International Headache Society, Philadelphia, PA, USA
  - Advanced fMRI Signal Processing Using Statistical Parametric Mapping (SPM) by Christian Büchel, University Medical Center Hamburg-Eppendorf (October 21st) 49th Society for Psychophysiological Research, Berlin, Germany
  - Combining fMRI and EEG by Christophe Philips, University of Liege (November 2010) Marie Curie Initial Training Network NeuroPhysics & NWO MBIC Graduate School
  - Laboratory animals science (FELASA course for level 3 specialists, 80 hours) (2010) Ghent University, Belgium.
  - Grant Writing Workshop: the NIH by Gary C. Schoenwolf, Ph.D. (February 2012), University of Utah, USA
  - 2nd Joint Symposium IHS / IASP from April 23 – 26, 2014, Siena, Italy
  - Global Approaches for Collaboration and Networking: workshop at the Neuroscience 2017, Annual SfN meeting, November 2017, Washington DS, USA
  - How to be Successful in a Career in Academia: workshop at the Neuroscience 2017, Annual SfN meeting, November 2017, Washington DS, USA
  - Evidence-Based Approaches to Teaching Neuroscience: workshop at the Neuroscience 2017, Annual SfN meeting, November 2017, Washington DS, USA

#### Selected conference reports, for complete list see Appendix II

- *Relationships of collective and self-appraisals of behavioural features and sensory thresholds* : 65th Annual Scientific Meeting of American Psychosomatic Society, **2007**, Budapest, Hungary.
- *Study of correlation between skin potential level and menstrual cycle phases* : 13th Congress of the International Headache Society, **2007**, Stockholm, Sweden.
- *Differences in modality and localization of cutaneous threshold sensations under alternating current stimulation* : Joint meeting of The Slovak Physiological Society, The Physiological Society and the Federation of European Physiological Societies, **2007**, Bratislava, Slovakia.
- *Emotional stress, gender and age effects on facial skin potential distribution* : 47th annual meeting of The Society for Psychophysiological Research, **2007**, Savannah, Georgia, USA.
- *Relationship between alexithymia or empathy and changes of skin potential level during affective stimulation* : Belgian Brain Congress, **2008**, Kursaal – Ostende, Belgium.
- *Alexithymia, empathy and differences of skin potential level amplitudes under affective stimulation* : 49th Annual Meeting of The Society for Psychophysiological Research, **2009**, Berlin, Germany.
- *Susceptibility to cortical spreading depression is correlated with anxiety-like behavior in rat* : Belgian Brain Congress, **2010**, Brussels, Belgium.
- *Skin potential response under affective stimulation and psychosomatic disorders* : Belgian Brain Congress, **2010**, Brussels, Belgium.
- *DNIC provocation approach for further study of its impairment in medication-overuse headache* Belgian Brain Congress, **2010**, Brussels, Belgium.
- *Brain correlates of individual differences in diffuse noxious inhibitory controls – a combined electrophysiological and fMRI study* : 9th Bi-Annual Meeting of Belgian Society for Neuroscience, **2011**, Leuven, Belgium.
- *Preferential susceptibility and propagation of spreading depression in superficial cortical*

layers. American Headache Society 54th Annual Scientific Meeting, 2012, Los Angeles, USA

- *Preference of Cortical Spreading Depression for Sensory Cortex* 2013 International Headache Congress, **2013**, Boston, USA
- *Pain matrix activation by sustained noxious-innocuous thermal stimuli transitions: A comparative fMRI study in episodic migraine, medication overuse headache and healthy volunteers*, 2015 International Headache Congress, **2015**, Valence, Spain
- *Fronto-parietal EEG inter-subjects synchronization during watching of naturalistic videos predicts subsequent memory recall*, Annual Society for Neuroscience meeting, **2017**, Washington DC, USA

#### Peer reviewing

Brain, International Journal of Psychophysiology, Neuroscience Letters, Cephalgia, Headache, Acta Neurologica Belgica

## APPENDIX I. Complete list of publications

International peer-reviewed (PubMed); journal impact factor indicated.

- 1 Didyk LA, Bogdanov VB, Lysenko VA, Didyk NP, Gorgo YuP, Dirckx JJJ *The effects of slight pressure oscillations in the far infrasound frequency range on the pars flaccida in gerbil and rabbit ears* // **Int J Biometeorol.** 2007 Jan;51(3):221-31. 2.1
- 2 Didyk LA, Dirckx JJJ, Bogdanov VB, Lysenko VA, Gorgo YuP *The mechanical reaction of the pars flaccida of the eardrum to rapid air pressure oscillations modeling different levels of atmospheric disturbances* // **Hear Res.** 2007 Jan;223(1-2):20-8. 2.8
- 3 Didyk LA, Gorgo YP, Dirckx JJ, Bogdanov VB, Buytaert JA, Lysenko VA, Didyk NP, Vershygora AV, Erygina VT. *Atmospheric pressure fluctuations in the far infrasound range and emergency transport events coded as circulatory system diseases* // **Int J Biometeorol.** 2008 Sep;52(7):553-61. 2.1
- 4 Bogdanova OV, Kot LI, Lavrova KV, Bogdanov VB, Sloan EK, Beregova TV, Ostapchenko LI *Modulation of protein tyrosine phosphorylation in gastric mucosa during re-epithelization processes* // **World J Biol Chem** 2010 November 26; 1(11): 338-347 N/A
- 5 Bogdanov VB, Multon S, Chauvel V, Bogdanova OV, Prodanov D, Makarchuk MY, Schoenen J. *Migraine preventive drugs differentially affect cortical spreading depression in rat* // **Neurobiol Dis.** 2011 Feb;41(2):430-5. Epub 2010 Oct 23. 5.2
- 6 Bogdanov VB, Bogdanova OV, Koulchitsky SV, Chauvel V, Multon S, Makarchuk Myu, Brennan KC, Renshaw PF, Schoenen J *Behavior in the open field predicts the number of KCl-induced cortical spreading depressions in rats* // **Behavioural Brain Research**, Volume 236, 1 January 2013, Pages 90–93. 3.4
- 7 Bogdanov VB, Bogdanova OV, Gorlov DS, Gorgo YuP, Dirckx JJJ, Makarchuk MY, Schoenen J, Critchley H *Alexithymia and Empathy Predict Changes in Autonomic Arousal During Affective Stimulation* // **Cognitive and Behavioral Neurology**, 2013 Sep;26(3):121-32. 1.1
- 8 Bogdanova OV, Abdullah O, Kanekar S, Bogdanov VB, Prescott AP, Renshaw PF *Neurochemical Alterations In Frontal Cortex Of The Rat After One Week Of Hypobaric Hypoxia* // **Behavioural Brain Research**, 2014, 263 (2014) 203–209. 3.4
- 9 Bogdanov VB, Bogdanova OV, Lombard A, Chauvel V, Multon S, Kot LI, Makarchuk MYu and Schoenen J *Cortical spreading depression decreases FOS expression in rat periaqueductal gray matter* // **Neuroscience Letters** 2014 Nov 20 2.1
- 10 Bogdanov VB, Viganò A, Bogdanova OV, Noirhomme Q, Guy N, Laureys S, Renshaw PF, Dallel R, Phillips C, Schoenen J *Cerebral responses and role of the prefrontal cortex in conditioned pain modulation: an fMRI study in healthy subjects* // **Behavioural Brain Research** 2015 Mar 15;281:187-98 3.4
- 11 Bogdanov VB, Middleton NA, Theriot JJ, Parker PD, Abdullah OM, Ju YS, Hartings JA, Brennan KC *Susceptibility of Primary Sensory Cortex to Spreading Depolarizations* // **The Journal of Neuroscience**, 27 April 2016, 36(17): 4733-4743 6.3
12. Kaufmann D, Theriot J, Zyuzin J, Service C.A., Chang J., Tang Y.T., Bogdanov V.B., Multon S., Schoenen J., Ju Y.S., Brennan K.C. *Heterogeneous incidence and propagation of spreading depolarizations* // **Journal of Cerebral Blood Flow & Metabolism**, 2017 May;37(5):1748-1762. 5.4

13. Volodymyr B. Bogdanov, Olena V. Bogdanova, Alessandro Viganò, Quentin Noirhomme, Steven Laureys, Radhouane Dallel, Christophe Phillips, Jean Schoenen *Increased cerebral responses to high salience stimuli in ictal episodic migraine and medication overuse headache subjects // Cephalalgia*, accepted for publication 23 NOV 2018 3.9
14. Volodymyr B. Bogdanov, Olena V. Bogdanova, Lucile Capuron *Reward-related cerebral activity in obesity is related to low ghrelin levels // Under submission*
15. Olena V. Bogdanova, Volodymyr B. Bogdanov, Jean-Baptiste Durand, Benoit Cottureau, Yves Trotter *Visual event-related potentials sensitivity to straight-ahead stimuli location // Under submission*
16. Olena V BOGDANOVA, Volodymyr B. Bogdanov, Fadila Hadj-Bouziane *Optically expanded emotional expressions facilitate affective mirroring // Under preparation*

### Local issues

1. Gorgo Yu. P., Bogdanov V. B. Features of latent periods of sensory-motor reaction under the influence of different signal intensity// **Visnyk. Collected articles of Kyiv international University. Series: Psychology** – 2002, - №1– P. 150-158. [in Ukrainian]
2. Gorgo Yu. P., Bogdanov V. B. Measuring of quantitative characteristics of latent periods of sensory-motor reaction under the influence of different signal intensity// **Visnyk of Cherkas University**, - 2003, Vol. –39 – P. 35-41. [in Ukrainian]
3. Gorgo Yu. P., Bogdanov V. B. Relationship of latent periods of sensory-motor reaction with biophysical characteristics of skin in estimation of functional state of human// **Prirodnichiy almanakh**, Herson, Ukraine – 2002, - №2– P. 50-60. [in Ukrainian]
4. Gorgo Yu. P., Miroshnik T.G., Bogdanov V. B., Kharkovluk N. V. Changes of human at the adaptative period to antarctics// *Fiziologichniy zhurnal* – 2003. – Vol. 49, № 3 – P. 90-94. (Horho IuP, Miroshnyk TH, Bohdanov VB, Kharkovliuk NV. [Functional state in people during adaptation period in Antarctic region] [translated in English]**Fiziol Zh.** 2003; 49(3): 90-4. PMID: 12918256)
5. Gorgo Yu. P., Miroshnik T.G., Bogdanov V. B., Kharkovluk N. V., Iljin V. M. Analises of impact on human functional state in the Antarctic region// **Ukains'kij Antarktichnij Zurnal** –2003 - №1– P. 123-128. [translated in English]
6. Fedorchuk S. V., Chikina L.V., Bogdanov V. B., Gorgo Yu. P. Psychophysiological indexes of the human mental activity// **Visnyk of Kyiv Univ. Biol.** – 2003. - Vol. 40. – P. 78-80. [in Ukrainian]
7. Bogdanov V.B., Gorgo Yu. P. Time dynamics of latent periods of simple visual-motor reaction // **Visnyk of Kyiv Univ. Biol.** – 2003. - Vol. 41. – P. 135-137. [in Ukrainian]
8. Bogdanov V. B., Gorlov D.S., Fedorchuk S.V., Gorgo Yu. P. Relationships of sensorymotor reaction time and static human skin electric potentials distribution // **Visnyk of Kyiv Univ. probl. reg. phys. funct.** – 2004. - Vol. 9. – P. 16-17[in Ukrainian]
9. Bogdanov V. B., Chikina L.V., Fedorchuk S.V., Yena A.I., Gorgo Yu. P. Distribution of static electric potential in facial biologically-active zones as an informative index// **Sborn. nauch. tr.** /Edit. Kazakov V.N. – Kiev: KVIZ, 2004. – P. 70-75. [in Ukrainian]
10. Bogdanov V.B., Gorlov D.S., Gorgo Yu. P. The influence of an alternating current of different frequencies on somatosensoral sensitivity of a man // **Visnyk of Kyiv Univ. Biol** – 2004. - Vol. 42. – P. 36-37[in Ukrainian]
11. Bogdanov V.B., Gorlov D.S., Gorgo Yu. P. Individual features of visual sensory-motor reaction latent periods upon different sensory thresholds// **Visnyk of Kyiv Univ. probl. reg. phys. funct.** – 2005. - Vol. 10. – P. 21-23 [in Ukrainian]
12. Sharafi R, Gorlov D, Bogdanov V, Gorgo Yu, Korobejnikov G The spatial distribution of human skin static electric potential induced by environmental factors// **Pedagogics**,



- psychology and bio-medical problems physical education and sport** (ed. Ermakov SS, Ed.), Kharkiv - 2008. - №1 – P. 165-167. [translated in English]
13. Kutsenko TV, Makarchuk MY, Bogdanov VB Methodological recommendations for practical « Physiology of sensory systems » Kyiv, Phitosociocentre 2010 – 43 p [in Ukrainian]  
Методичні вказівки до практикуму “Фізіологія сенсорних систем”/ Куценко Т.В., Макаручук М.Ю., Богданов В.Б. – Київ, Фітосоціоцентр, 2010 – 43с.
  14. Tukaiev S. V., Fedorchuk S. V., Chikina L. V., Gerasko T. I., Zyma I. G., Zaichenko A. M., Havrylets Yu. D., Rizun V. V., Bogdanov V. B., Gorgo Yu. P. The skin potential level of facial biologically active zones as indicators of response to negative TV news depending on the level of emotional burnout in students // *Visnyk of Cherkas University*, - 2016, Vol. –N2 – P. 108-121. [in Ukrainian]

## Appendix II: Complete list of participation in scientific meetings

1. Bogdanov V. B., Jan T. E., Gorgo Yu. P. Spontaneous changes in simple sensory-motor reaction period in different ages // **II Ukrainian conference of young scientists, institution of Gerontology, abstracts** - 2001 –P. 15-16 - Kyiv, Ukraine. [in Ukrainian]
2. Bogdanov V. B., Gorgo Yu. P. Typological features of latent periods of human sensory-motor reaction // **Informational and negentropy therapy, abstracts** – 2001, – №1, -P. 15-16. - Kyiv, Ukraine. [in Ukrainian]
3. Gorgo Yu. P., Bogdanov V. B. The effect of mental work on changes of latent periods of sensory-motor reaction and skewness of static electric potential in forehead biologically active zones // **Informational and negentropy therapy, abstracts** – – 2001, – №1, -P. 33-34. - Kyiv, Ukraine. [in Ukrainian]
4. Gorgo Yu. P., Bogdanov V. B. Latent periods of human sensory-motor reaction and sensitivity threshold of electrical alternating current effect at the conditions of different features of irritants // **Informational and negentropy therapy** – 2001, – №1, -P. 35-36. - Kyiv, Ukraine. [in Ukrainian]
5. Bogdanov V. B, Gorgo Yu. P. Typological features of latent periods of parameters of human sensory-motor reaction of young people // **III Ukrainian conference of young scientists, institution of Gerontology, abstracts** - 2002 –P. 20-22 - Kyiv, Ukraine. [in Ukrainian]
6. Bogdanov V. B Relationship of human latent periods of sensory-motor reaction and electrosensitivity thresholds // **II Ukrainian conference of students and postgraduates “Biological Research of Ukrainian Young Scientists”, abstracts** – 2002, - №1, –P. 6-7. - Kyiv, Ukraine. [in Ukrainian]
7. Bogdanov V. B., Miroshnik T.G., Gorgo Yu. P., Specifics of mass sole and individual multiple measures in psychophysiological experiments // **Ukrainian science conference in department of human and animal physiology of Kiev national University, abstracts** - 2002 –P. 22. - Kyiv, Ukraine. [in Ukrainian]
8. Bogdanov V. B., Gorgo Yu. P. Skin sensitivity threshold of different frequency’s electrical alternating current effect // **III meeting of Ukrainian Biophysical Society, abstracts**, - 2002 – C. 229-230. - Lviv, Ukraine [in Ukrainian]
9. Bogdanov V. B., Gorgo Yu. P. Investigation of relationship between human psychophysiological and electrobiophysical features of skin // **Informational and negentropy therapy, abstracts** – 2002, – №1, -P. 10-12. - Kyiv, Ukraine. [in Ukrainian]
10. Gorgo Yu. P., Bogdanov V.B. Electrobiophysical characteristics of human skin under effect of different frequency’s electrical alternating current // **Informational and negentropy therapy, abstracts** – 2003, – №1, -P. 23-27. - Kyiv, Ukraine. [in Ukrainian]
11. Andriychuk Yu. M., Kharkovluc N. V., Miroshnik T.G., Bogdanov V.B., Gorgo Yu. P. Changes of functional state of human organism in the period of adaptation to conditions of Antarctic expedition // **IV Ukrainian conference of young scientists, institution of Gerontology, abstracts** – 2003 – P. 8-9. [in Ukrainian]
12. Bogdanov V. B., Fedorchuk S. V., Gorlov D.S., Zaichenko A.M., Gorgo Yu. P. Peculiarities

- of threshold perception of the effect by alternating electrical current of different frequencies on human skin // **Informational and negentropy therapy, abstracts** – 2003, – №1, -P. 19. – Kiev, Ukraine. [in Ukrainian]
13. Gorlov D.S., Gorgo Yu. P., Bogdanov V. B. Modification of algorithm of registration of static electric potentials in biologically-active zones. // **Informational and negentropy therapy, abstracts**– 2003, – №1, -P. 31. – Kyiv, Ukraine. [in Ukrainian]
  14. Litvinov N. Ya., Bogdanov V.B., Gorgo Yu. P. Insects as physical fields detectors // **Informational and negentropy therapy, abstracts** – 2003, – №1, -P. 76. – Kyiv, Ukraine. [in Ukrainian]
  15. Bogdanov V. B., Yena A. I., Gorgo Yu. P. Changes of latent of human simple sensory-motor reaction under condition of mental work // **Ukrainian science symposia “Features of development psychophysiological functions in ontogenesis”, abstracts.** : - 2003 - P. 8 – Cherkasy, Ukraine. [in Ukrainian]
  16. Bogdanov V.B., Gorgo. Yu. P. Simple sensory-motor response period relation with individual skin electrophysiological features // **Proc. Scient. Meet. of The Physiol. Soc. Univ. of Cambr.**, - Cambridge (Great Britain), - 2003 – P. 65.
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### Referees:

**Yves Trotter**, PhD, CNRS Director of Research  
Team leader, Space and 3D context (ECO-3D)  
CNRS CERCO UMR 5549  
Pavillon Baudot CHU Purpan, BP 25202  
31052 Toulouse Cedex  
Phone: +33 5 62 74 45 47; Fax : +33 5 62 74 61 17  
e-mail: [yves.trotter@cnrs.fr](mailto:yves.trotter@cnrs.fr)

**Jean Schoenen** MD, PhD  
Department of Neurology. Liège University  
CHR Citadelle, Boulevard du Douzième de Ligne 1, 4000 Liège, Belgium.  
Tel: +32(0)43218663  
Fax:+32(0)43216451  
e-mail: [jschoenen@ulg.ac.be](mailto:jschoenen@ulg.ac.be)

**Steven Laureys** MD, PhD  
Dept of Neurology, Cyclotron Research Centre,  
University Hospital and University of Liège, Belgium.  
Allée du 6 août n° 8  
Sart Tilman B30 - 4000 Liège - Belgium  
Tel: +32 4 366 23 16 (alternatively 36 87) or 85 55 (neurology)  
Fax: +32 4 366 29 46  
e-mail : [steven.laureys@ulg.ac.be](mailto:steven.laureys@ulg.ac.be)

Prof Dr **Joris JJ Dirckx**  
Laboratory of Biomedical Physics  
Department of Physics, University of Antwerp  
Campus Groenenborger  
Groenenborgerlaan 171  
2020 Antwerpen, Belgium  
Tel. 03/2653427  
Fax. 03/2653318  
e-mail : [Joris.dirckx@ua.ac.be](mailto:Joris.dirckx@ua.ac.be)

Prof Dr **Yuriy P. Gorgo**  
National Technical University of Ukraine  
Pr-t Peremogy, 37  
Kyiv 03056, Ukraine  
e-mail [gorgoyup@yahoo.com](mailto:gorgoyup@yahoo.com); [yugorgo@ukr.net](mailto:yugorgo@ukr.net)