



Program

of the IEEE International Conference

**«Video and Audio Signal Processing in the Context of
Neurotechnologies»**

SPCN-2018

**May 29 – June 2
2018**

St. Petersburg, Russia

ORGANIZERS

**Institute of Electrical and Electronics Engineers (IEEE)
Pavlov Institute of Physiology Russian Academy of Sciences
Pavlov Physiological Society
The Federal Agency for Scientific Organizations
Russian Foundation for Basic Research (RFBR)
Neuroiconics Assistive Co. Ltd.
St. Petersburg State University of Film and Television**

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Foundation for Basic Research, Project No. 18-015-20014*

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Prof. Yuri Shelepin, Pavlov Institute of Physiology, St. Petersburg, IEEE Brain Initiative,
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Working languages: Russian, English

Website: <https://spcn.co/>

Tuesday, May 29, 2018

Day 1

Location: Makarova emb. 6, Conference hall, Pavlov Institute of Physiology

10.00-13.00

Registration

Location: Makarova emb. 6, Foyer hall, Pavlov Institute of Physiology

from 13:00

REAL EXPERIMENTS WITH NEW EQUIPMENT ON VOLUNTEERS

We invite participants to visit our collection station of experimental data at the SPCN conference in anonymous experiments with new equipment from the National Central University of Taiwan

Poster session NEUROTECHNOLOGY

May 29, 30, 31

June 1,2

2018

From 12.00 – 18.00

Location: Makarova emb. 6, Entrance hall and Foyer hall

Moderators: **Vasiljev Petr, Drozdov Sergey,**

Pavlov Institute of Physiology, St. Petersburg, Russia

IEEE Brain Initiative

Wednesday, May 30, 2018

Day 2

Location: Makarova emb. 6, Conference hall

09.00-10.00

Registration

10.00-11.00

Official opening ceremony

Welcome word from organizers

Ludmila Filaretova,

corresponding member of the Russian Academy of Science, Director of the Pavlov Institute of Physiology, St.-Petersburg, Russia

Mikhail Ostrovsky,

academician of the Russian Academy of Sciences, President of Pavlov Physiological Society, Moscow, Russia

Narisa Nan Chu,

CE Soc Representative to IEEE Brain Initiative & Sensors Council, USA

Konstantin Glasman

Co-Chair of the SPCN is on the CE Soc Board of Governors, the Head of St. Petersburg State University of Television and Films, IEEE Television Committee member and authority in creating lecture and conference videos for IEEE TV

Invited Lectures 1

Moderators: **Yuri Shelepin, Elena Yakimova**

Pavlov Institute of Physiology, St. Petersburg, Russia

IEEE Brain Initiative

10.00-11.45

Optogenetics and prospects of restoration of vision

Mikhail Ostrovsky and Mikhail Kirpichnikov

Institute of Biochemical Physics, Russian Academy of Sciences, Russia

Institute of Bioorganic chemistry, Russian Academy of Sciences, Russia

Lomonosov Moscow State University, Russia

11.45-12.30

Predicting visual discomfort

Arnold Wilkins

Department of Psychology University of Essex Colchester, UK

12.30-14.00

Coffee break & Lunch time

Invited Lectures 2

Moderators:

Konstantin Glasman, Petersburg State University of Television and Films
Elena Yakimova, *Pavlov Institute of Physiology, St. Petersburg, Russia*
IEEE Brain Initiative

14.00-14.45

Human machine symbiosis with brain smart interface

Miriam Reiner

Technion - Israel Institute of Technology, Israel

14.45-15.30

Some clues as to how the human brain recognizes objects

Denis Pelli

*New York University, Cognition & Perception, Center for Neural Science,
Center for Brain Imaging*

15.30-16.15

Saccadometry – the global approach

Jan Ober

*Laboratory for Oculomotor Research, Department for Biophysical
Measurements and Imaging, Polish Academy of Sciences Warsaw, Poland*

16.15-18.00

Poster session NEUROTECHNOLOGY

Location: Makarova emb. 6, Entrance hall and Foyer hall

Moderators:

Vasiljev Petr, Drozdov Sergey,
Pavlov Institute of Physiology, St. Petersburg, Russia
IEEE Brain Initiative

16:00-18.00

REAL EXPERIMENTS WITH NEW EQUIPMENT ON VOLUNTEERS

We invite participants to visit our collection station of experimental data at the SPCN conference in anonymous experiments with new equipment from the National Central University of Taiwan

Thursday, May 31, 2018

Day 3

Location: Makarova emb. 6, Conference hall

Plenary session 1

Moderators:

Narisa Nan Chu, *CE Soc Representative to IEEE Brain Initiative & Sensors Council, USA*

Elena Ogorodnikova, *Pavlov Institute of Physiology, St. Petersburg, Russia
IEEE Brain Initiative*

- 09.00-09.30 **Extracting Digital Intelligence with BCI, BDB and Neuro-Networking**
Narisa Nan Chu
Consumer Electronics Society Representative to IEEE Brain Initiative, USA
- 09.30-10.00 **Structural analysis and the principle of adaptive resonance in artificial neural network**
Vadim Lutsiv
S. I. Vavilov State Optical Institute, Petersburg, Russia
- 10.00-10.30 **EEG Analysis and Brain Computer Interface**
Po-Lei Lee, Hao-Teng Hsu and Kuo-Kai Shyu
Department of Electrical Engineering, National Central University, Taiwan
- 10.30-11.00 **The neural basis of sensory comparison – Gnostic units, cell ensembles or a cerebral bus?**
Marina Danilova, John Mollon
*Pavlov Institute of Physiology, St. Petersburg, Russia
Cambridge University, Cambridge, UK*
- 11.00-11.30 **Coffee break**

Talk session 1

Artificial neural networks and digital data processing 1

Moderators:

Vadim Lutsiv, Igor Malyshev

S. I. Vavilov State Optical Institute, Petersburg, Russia

- 11.30-11.45 **Use of spatial modulations of brightness gradients in the categorization of visual images**
Alekseeva D., Babenko V., Yavna D.
Southern Federal University, Rostov-on-Don
- 11.45-12.00 **Mathematical model of primary visual cortex: orientation and direction**

- selectivity, effects of appearing motion and stimulus retention**
Chizhov A.
The Ioffe Institute, St.-Petersburg, Russia; Sechenov Institute of Evolutionary Physiology and Biochemistry of RAS, St.-Petersburg, Russia
- 12.00-12.15 **Neurotechnology. Image recognition and modeling the response of neurons in the inferotemporal cortex**
Malakhova K.
Pavlov Institute of Physiology, Russian Academy of Sciences, IEEE Brain Initiative, Russia
- 12.15-12.30 **How representations coded by neurons in deep neural networks differ from neural data**
Katerina Malakhova
Pavlov Institute of Physiology, Russian Academy of Sciences, IEEE Brain Initiative, St. Petersburg, Russia
- 12.30-12.45 **Deep learning for image recognition under severe noise condition**
Malashin R.
Pavlov Institute of Physiology, Russian Academy of Sciences, IEEE Brain Initiative, Russia
- 12.45-13.00 **Modelling ripple oscillations as pyramidal neurons-interneurons interactions**
Stetsenko A.
Rutgers University, Newark, New Jersey, USA
- 13.00-14.00 **Coffee break & Lunch time**

Talk session 2

Artificial neural networks and digital data processing 2

Moderators:

Vadim Lutsiv, Igor Malyshev

S. I. Vavilov State Optical Institute, Petersburg, Russia

- 14.00-14.15 **The research on methods of a skeletization of the digitized biometric data by using OpenCV technology**
Maslova V., Kozlov V., Grachev H., Kim E., Kurbanova T.
ITMO University, St. Petersburg, Russia
- 14.15-14.30 **Object Detection via Structural Matching of 3D Image Data**
Ponomarev S.
Pavlov Institute of Physiology, St.-Petersburg, Russia; ITMO University, St.-Petersburg, Russia
- 14.30-14.45 **Automatic classification of visual stimuli based on EEG signal processing**
Ponomarev S., Malashin R., Moiseenko G., Shelepin Yu.
Pavlov Institute of Physiology, St.-Petersburg, Russia
- 14.45-15.00 **An algorithm for detection artificial objects on natural backgrounds**

Pronin S.

Pavlov Institute of Physiology, Russian Academy of Sciences, IEEE Brain Initiative, Russia

15.00-15.15 **Approach to reducing the amount of data in the tasks of hydroacoustic monitoring based on machine learning**

Romanov S., Kaplun D., Gulvansky V., Voznesensky A.

The First Electrotechnical University (ETU «LETI»), St. Petersburg, Russia

15.15-15.30 **Neural networks in economic research**

Korableva O., Erofeeva K.

ITMO University, St-Petersburg, Russia

15.30-16.00 **Coffee break**

Talk session 3

Biological neural networks

Moderators:

Vladimir Fokin

Almazov National Medical Research Centre, St. Petersburg, Russia

Elena Krasnoshchekova

St. Petersburg State University, St. Petersburg, Russia

16.00-16.15 **Differences and similarity of changes in crossed and uncrossed retinal pathways during development of different types of amblyopia**

Alekseenko S., Shkorbatova P.

Pavlov Institute of Physiology, St. Petersburg, Russia

16.15-16.30 **Temporal resolution under perception of the sound source movement with the model signals simulating a sensorineural hearing loss**

Andreeva I., Gvozdeva A., Ogorodnikova E.

Sechenov Institute of Evolutionary Physiology and Biochemistry, Russian Academy of Sciences, St. Petersburg, Russia; Pavlov Institute of Physiology, St. Petersburg, Russia

16.30-16.45 **Optical coherence tomography is a non-invasive approach to planning laser treatment of retinal diseases**

Maltsev D., Kulikov A., Burnasheva M.

Military medical Academy of S.M. Kirov, St.-Petersburg, Russia

16.45-17.00 **Transitional formations of the visual thalamus: stratification of the layers of the external geniculate body**

Merkulieva N. Michalkin A.

Pavlov Institute of Physiology, St. Petersburg, Russia

17.00-17.15 **Development of visual cortex modules: optical mapping data**

Merkulieva N. Bondar I.

Pavlov Institute of Physiology, St. Petersburg, Russia

17.15-17.30 **The total EEG measuring during dialogue as a mirror of the neuronal net activity during verbal and nonverbal communication**

- Schemeleva O., Zhukova O., Moiseenko G., Vasiljev P.P., Shelepin, Y.
St. Petersburg State University, St. Petersburg, Russia; Pavlov Institute of Physiology, St. Petersburg, Russia
- 17.30-17.45 **The Cognitive Neurophysiology of Insight**
Shelepin K., Vasiljev P., Trufanov G., Fokin V., Sokolov A.
Pavlov Institute of Physiology, St. Petersburg, Russia; Almazov National Medical Research Centre, St. Petersburg, Russia
- 17.45-18.00 **Neurophysiological mechanisms of face perception**
Zhukova O., Shelepin Y., Vasiljev P., Fokin V., Sokolov A., Trufanov G.
Pavlov Institute of Physiology, St. Petersburg, Russia; Almazov National Medical Research Centre, St. Petersburg, Russia
- 18.00-18.15 **MRI and histological mapping of the medial temporal region of the human brain**
Zykin P.
St. Petersburg State University, St. Petersburg, Russia

Friday, June 1, 2018

Day 4

Location: Makarova emb. 6, Conference hall

Plenary session 2

Moderators:

Zashchirinskaia Oksana, *St. Petersburg State University, St. Petersburg, Russia*

Babenko Vitaly, *Southern Federal University, Rostov-on-Don, Russia*

09.00-09.30 **Comparison of the absolute sensitivity of the eye adapted to darkness and the eye equipped with a night vision camera**
Alexander Tybilov
ITMO University, St.-Petersburg, Russia

09.30-10.00 **Study of visually controlled behavior of white rats in the Morris water maze with olfactory bulbectomy**
Elmira Panahova, Gashimova UF, Pashkevich SG, Mironova GP, Zamaro AA, Dzhavadova AR
Institute of Physiology of National Academy of Sciences of Azerbaijan, Baku, Azerbaijan

10.00-10.30 **Ontogeny of the periallocortex and its role in the genesis of neurodegenerative diseases**
Elena Krasnoshchekova
St. Petersburg State University, St. Petersburg, Russia

10.30-11.00 **Coffee break**

Talk session 4

Sensory physiology and neural networks 1

Moderators:

Valeriy Chikhman, Valeria Bondarko

Pavlov Institute of Physiology, St. Petersburg, Russia

11.00-11.15 **Comparison of visual illusions with known mechanisms of perception**
Bondarko V.M., Bondarko D.V., Solnushkin S.D., Chikhman V.N.
Pavlov Institute of Physiology, St. Petersburg, Russia

11.15-11.30 **Complex sound processing by multi-peaked neurons in brain auditory centers**
Egorova M.
I.M. Sechenov Institute of Evolutionary Physiology and Biochemistry, Russian Academy of Sciences

11.30-11.45 **Electrical activity of the monkey's brain in performing visual spatial tests**
Harauzov A., Varovin I., Ivanova L., Podvigina D.
Pavlov Institute of Physiology, St. Petersburg, Russia

- 11.45-12.00 **Investigation of monkeys' reaction time in performing tasks of varying difficulty**
Ivanova L., Podvigina D., Varovin I., Harauzov A.
Pavlov Institute of Physiology, St. Petersburg, Russia
- 12.00-12.15 **Comparative dynamics of human experience emotions neurophysiological markers at the time of conscious and uncounscious perceptions sensory information**
Ivanova V. Yu., Vaisertreiger A.S.-R.
St. Petersburg State University, St. Petersburg, Russia
- 12.15-12.30 **Automated analysis of Drosophila pulse song**
Kamyshv N., Bragina Ju, Danilenkova L., Besedina N., Goncharova A., Fedotov S.
Pavlov Institute of Physiology, St. Petersburg, Russia
- 12.30-12.45 **Lateralization of the human brain activity during preattentive discrimination of auditory motion**
Kanakhina L., Petropavlovskaja E., Shestopalova L.
Pavlov Institute of Physiology, St. Petersburg, Russia
- 12.45-13.00 **Information system for the development of speech hearing and memory in adult hearing aid users**
Kaplun D., Boboshko M., Ogorodnikova E., Garbaruk E.
The First Electrotechnical University (ETU «LETI»), St. Petersburg, Russia;
Academician I.P. Pavlov First St. Petersburg State Medical University;
Pavlov Institute of Physiology, St. Petersburg, Russia
- 13.00-14.00 **Coffee break & Lunch time**

Talk session 5

Sensory physiology and neural networks 2

Moderators:

Koskin Sergey, *Military medical Academy of S.M. Kirov, St.-Petersburg, Russia*

Svetlana Alekseenko, *Pavlov Institute of Physiology, St. Petersburg, Russia*

- 14.00-14.15 **Costs of kinetic energy of the visual system during working with different types of stimuli**
Lamminpiya A.
Pavlov Institute of Physiology, St. Petersburg, Russia
- 14.15-14.30 **Effect of learning on the evoked potentials characteristics in classification tasks**
Moiseenko G.
Pavlov Institute of Physiology, St. Petersburg, Russia
- 14.30-14.45 **Magnetic Resonance Images Processing Based on Automatic Segmentation and Fractal Analysis**
Marusina M., Karaseva E.
ITMO University, St. Petersburg, Russia

- 14.45-15.00 **Temporal resolution under perception of the sound source movement with the model signals simulating a sensorineural hearing loss**
Ogorodnikova E., Gvozdeva A., Andreeva I.
Pavlov Institute of Physiology, St. Petersburg, Russia; Sechenov Institute of Evolutionary Physiology and Biochemistry of Russian Academy of Sciences
- 15.00-15.15 **Event related potentials in rhesus monkeys in response to face presentation**
Podvigina D., Varovin I., Ivanova L., Harauzov A.
Pavlov Institute of Physiology, St. Petersburg, Russia
- 15.15-15.30 **Perception thresholds for sound stimuli with delayed motion onset**
Semenova V., Shestopalova L., Petropavlovskaya E., Nikitin N.
Pavlov Institute of Physiology, St. Petersburg, Russia
- 15.30-15.45 **Reading text in the content**
Shelepin E.
Pavlov Institute of Physiology, St. Petersburg, Russia
- 15.45-16.15 **Coffee break**

Talk session 6

Sensory physiology and neural networks 2

Moderators:

Marina Danilova, Nikolay Nikitin,

Pavlov Institute of Physiology, St. Petersburg, Russia

- 16.15-16.30 **Foveola and foveolar avascular zone diameters predicts the contrast sensitivity in high-band spatial frequency domain**
Vakhrameeva O., Kovalskaya A., Maltsev D., Koskin S., Shelepin Yu.
Pavlov Institute of Physiology, St. Petersburg, Russia
- 16.30-16.45 **The perception of the color gradient and the McCollough effect**
Yakimova E.
Pavlov Institute of Physiology, St. Petersburg, Russia
- 16.45-17.00 **Pattern of eye movements when perceiving spatial modulations of textures**
Yavna D., Babenko V. Alekseeva D.
Southern Federal University, Rostov-on-Don, Russia
- 17.00-17.15 **Childrens and adolescents visual communication**
Zashchirinskaia O., Shelepin E.
St. Petersburg State University, St. Petersburg, Russia
- 17.15-17.30 **Spectral analysis of brain response during verbal and non-verbal communication**
Zhukova O. Shelepin Yu., Schemeleva O., Moiseenko G., Vasiljev P.
St. Petersburg State University, St.-Petersburg, Russia
Pavlov Institute of Physiology, St. Petersburg, Russia

Saturday, June 2, 2018

Day 5

Location: Makarova emb. 6, Conference hall

Plenary session 3

Moderators:

Ernest Boiko, *Fyodorov Eye microsurgery federal state institution, St. Petersburg, Russia*

Gennady Trufanov, *Almazov National Medical Research Centre, St. Petersburg, Russia*

- 10.00-10.30 **Optical Coherent Tomography**
Ernest Boiko
Fyodorov Eye microsurgery federal state institution, Moscow, Russia
- 10.30-11.00 **Training of the Brain by Applying the Complex-Structured Optical and Sound Signals**
Marina Zueva and Javi Otero
Moscow Russia, Ltd Center of Neurocognitive Technologies "Cognito", Moscow Helmholtz Research Institute of Eye Diseases; Theel, Oviñana, Spain
- 11.00-11.30 **Physiological quality criteria office LED lighting**
Zak P, Rjabceva A.
Institute of Biochemical Physics, Region clinical hospital, Moscow, Russia
- 11.30-12.00 **Stereo vision: physiology and neurotechnology** Nikolay Krasilnikov, Olga Krasilnikova
St. Petersburg State University of Aerospace Instrumentation (SUAI), St. Petersburg, Russia
- 12.00-14.00 **Coffee break & Lunch time**

Talk session 7

Neural networks and clinical research 1

Moderators:

Svetlana Murav'eva, *Pavlov Institute of Physiology, St. Petersburg, Russia*

Marina Zueva, *Moscow Russia, Ltd Center of Neurocognitive Technologies "Cognito", Moscow Helmholtz Research Institute of Eye Diseases*

- 14.00-14.15 **Psychophysiological approaches to the automated assessment of emotional states**
Aleksandrov A.Yu., Uplisova K.O., Ivanova V.Yu.
St. Petersburg State University, St. Petersburg, Russia
- 14.15-14.30 **Alternative communication and practice of its application**
Balyakova A., Shelepin K., Shelepin E.
Pavlov Institute of Physiology, St. Petersburg, Russia; Neuroiconics Assistive Co. Ltd., St. Petersburg, IEEE Brain Initiative, Russia
- 14.30-14.45 **Manifestations of central auditory disorders and the effectiveness of**

hearing aids

Boboshko M., Garbaruk E. Golovanova L., Ogorodnikova E.
Academician I.P. Pavlov First St. Petersburg State Medical University; Saint-Petersburg Geriatric Medico-social center, Municipal Audiology Center, St. Petersburg, Russia; Pavlov Institute of Physiology, St. Petersburg, Russia

14.45-15.00

Modern technologies in hearing care (rehabilitation experience)

Koroleva I., Levin S., Pak S., Ogorodnikova E.
Herzen State Pedagogical University of Russia, St. Petersburg; Saint-Petersburg Research Institute of Ear, Throat, Nose and Speech Pavlov Institute of Physiology, St.-Petersburg, Russia

15.00-15.15

Possible errors using different methods of visual acuity testing

Koskin S.
Military medical Academy of S.M. Kirov, St.-Petersburg, Russia

15.15-15.30

The eye tracking possibilities in visual acuity measurement

Kovalskaya A., Koskin S., Shelepin Y., Pronin S., Harausov A., Vahrameeva O.
Military medical Academy of S. M. Kirov, St-Petersburg, Russia; Pavlov Institute of Physiology, St. Petersburg, Russia

15.30-15.45

New methods of assessing visual acuity

Moiseenko G., Pronin S., Shelepin Yu.
Pavlov Institute of Physiology, St. Petersburg, Russia

15.45-16.15

Coffee break

Talk session 8

Neural networks and clinical research 2

Moderators:

Alexander Efimtsev, *Almazov National Medical Research Centre, St. Petersburg, Russia*

Konstantin Naumov, *Military medical Academy of S. M. Kirov, St-Petersburg, Russia*

16.15-16.30

Speech and video data for study of communication skills of atypically developing children: a new approach

Lyakso E., Frolova O., Grigorev A., Kurazhova A., Nikolaev A., Gorodny V.
St. Petersburg State University, St. Petersburg, Russia

16.30-16.45

Application of neurotechnologies with interactive virtual environment for the correction of disturbances of cognitive function in patients with schizophrenia

Murav'eva S., Shelepin Y.
Pavlov Institute of Physiology, St. Petersburg, Russia

16.45-17.00

Influence of virtual environment with small and large images on the magno- and parvo- pathways of the visual system of patients with schizophrenia

Murav'eva S., *Pavlov Institute of Physiology, St. Petersburg, Russia*

- 17.00-17.15 **Neuronal networks investigation approaches in nervous system diseases and mental disorders**
Naumov K., Tarumov D., Vorobyev S., Lobzin V., Kolmakova K.
Military medical Academy, St.Petersburg, Russia; St. Petersburg State Pediatric Medical University
- 17.15-17.30 **The influence of physical rehabilitation on the characteristics of verbal and non-verbal communication of children with cerebral palsy**
Ogorodnikova E., Shantrukova O., Moshonkina T., Sukhotina I., Stolyarova E.
Pavlov Institute of Physiology, St. Petersburg, Russia; Academician I.P. Pavlov First St. Petersburg State Medical University
- 17.30-17.45 **MR voxel-based morphometry in complex radiological diagnosis of childhood epilepsy**
Semibratov N.N., Fokin V.A., Trufanov G.E., Efimtsev A.Yu., Sokolov A.V., Iskhakov D.N., Tsarevskaya Yu.N.
Almazov National Medical Research Centre, St. Petersburg, Russia
- 17.45-18.00 **Features of the filtration of visual information in burnout**
Shoshina I., Sergienko R., Zavyalova E.
Pavlov Institute of Physiology, St. Petersburg, Russia; Siberian Federal University, Krasnoyarsk, Russia
- 18.00-18.15 **The effects of physical activities on psychophysical characteristics of the subject within a virtual environment**
Tolstova E., Durovin K., Murav'eva S.
Pavlov Institute of Physiology, St. Petersburg, Russia

Poster session NEUROTECHNOLOGY

May 29, 30, 31

June 1,2

2018

From 10.00 – 16.00

Location: Makarova emb. 6, Entrance hall and Foyer hall

Moderators: **Vasiljev Petr, Drozdov Sergey,**
Pavlov Institute of Physiology, St. Petersburg, Russia
IEEE Brain Initiative

1. Abylgazy A., Kurbanova T., Maslova V., Kim E., Grachev G. **Development and testing of usability interface.** *ITMO University, St. Petersburg, Russia.*
2. Abylgazy A., Kurbanova T., Kim E., Grachev G., Maslova V. **On forecasting of the gender and age structure of the population.** *ITMO University, St. Petersburg, Russia.*
3. Altay Y.A, Kremlev A.S. **Estimation of signal-to-noise ratio and mean square error based on sequential filtering approach for cardiac cycle tones.** *ITMO University, St. Petersburg, Russia.*
4. Atamanova A. **Perception of facial expressions.** *St. Petersburg State University, St. Petersburg, Russia.*
5. Agaeva M. **Moving Signal localization in presence of stationary Masker in free field** *Pavlov Institute of Physiology, St. Petersburg, Russia.*
6. Becten J. **Serotonin. Hormone of Happiness.** *ITMO University, St. Petersburg, Russia.*
7. Cherenkova L. **Time dynamics of the priming effect in the heterosensory interaction in children of preschool age.** *St. Petersburg State University, St. Petersburg, Russia.*
8. Dobrego A., Alexeeva S. **Letter identification strategies in Russian: an experimental study.** *St. Petersburg State University, St. Petersburg, Russia.*
9. Erofeeva K. **Mechanisms for decision-making. Neuromarketing.** *ITMO University, St. Petersburg, Russia.*
10. Glebko I. **Psychophysiology of reading.** *St. Petersburg State University, St. Petersburg, Russia.*
11. Gryaznova A. **The EEG study of ambiguous images.** *St. Petersburg State University, St. Petersburg, Russia.*
12. Kazakova A. **Decision theory and dopamine.** *ITMO University, St. Petersburg, Russia.*
13. Konoplev Yu., Mazunin K., Bakharev L., Kphasasov A., Vasques D. **TuSion: five approaches for neurogaming. Mechanics that lie between art and BCI.** *N.P. Bechtereva Institute of the Human Brain, Russian Academy of Science, St. Petersburg, Russia.*
14. Kovaleva V. **Emotional component of alternative communication in adolescents.** *St. Petersburg State University, St. Petersburg, Russia.*
15. Kuzenkova A.I., Kovalskaya A.A., Koskin S.A. **The first experience of visual acuity**

- screening using smartphone.** (Military medical Academy, St.-Petersburg, Russia)
16. Magomedova V. **How does serotonin affect our desire to make impulsive purchases?** *ITMO University, St. Petersburg, Russia.*
 17. Marinichev N., Lavrov A. **Evaluation of the working area of the motion capture system Optitrack Prime13.** *ITMO University, St. Petersburg, Russia.*
 18. Mikhalkin A., Merkulyeva N. **Development of the Y cells of the cat lateral geniculate nucleus in relation to the visuotopic map.** *Pavlov Institute of Physiology, St. Petersburg, Russia*
 19. Molchanov N., Korableva O., Muraveva O., Galai N. Application of neurotechnologies in marketing, ITMO University, St.-Petersburg, Russia
 20. Nikitin N.I., Agaeva M.Yu. **Masking of moving sound in the vertical plane.** *Pavlov Institute of Physiology, St. Petersburg, Russia.*
 21. Petropavlovskaya E., Kanakhina L, Shestopalova L. **The position of the standard stimulus affects the interhemispheric asymmetry of the auditory evoked potentials in human** *Pavlov Institute of Physiology, St. Petersburg, Russia*
 22. Petrov O. **Music and the human brain.** *ITMO University, St. Petersburg, Russia.*
 23. Romanova-Afrikantova N. **Child Development of Visual Perception** *ITMO University, St. Petersburg, Russia.*
 24. Serikkazhiyeva R. **City population dynamics prediction based on artificial neural networks.** *ITMO University, St. Petersburg, Russia.*
 25. Shabanova I. **Models and methods of decision-making under conditions of uncertainty.** *ITMO University, St. Petersburg, Russia.*
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Map

Closest metro stations to main SPCN 2016 locations: **Admiralteyskaya**, **Vasileostrovskaya**, **Sportivnaya** (there is 300 meter travolator in the tunnel under Neva River, between Sportivnaya metro station and Makarova embankment).

