CURRICULUM VITAE

Personal details

Full name: Semyachkina-Glushkovskaya Oxana Valerievna
Date of birth: 26 December 1975

Affiliation

Head of Chair of Human and Animals Physiology, Biology Department, Saratov State University, 410012, Astrakhanskaya str., 83, Saratov, Russia.
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Education

1994-1999 Student, Chair of Human and Animals Physiology, Biology Department, Saratov State University (diploma with excellence)
1999-2002 PhD-student, Chair of Human and Animals Physiology, Biology Department, Saratov State University (diploma with excellence)
2010-2011 Postdoctoral, Chair of Human and Animals Physiology

Employment

2002 – 2007 Assistant Prof., Chair of Human and Animals Physiology, Biology Department, Saratov State University
2007 – 2012 Associate Prof. Chair of Human and Animals Physiology, Biology Department, Saratov State University
2012-2013 Professor, Chair of Human and Animals Physiology, Biology Department, Saratov State University
2013 now Head of Chair of Physiology of Human and Animals in Biological Department of Saratov State University
Deputy Director of the Scientific Medical Center for the Commercialization of Scientific Research in Saratov State University
Professor of laboratory of Cardiovascular Physics in Humboldt University, and Marburg Medical University

Specialization

03.03.01 – physiology

Research interests

The cerebral lymphatic system; neuroimmunology, brain drug delivery, neurophotonics.

Education activity

Lectures of basic courses:

1. Physiology of Human and Animals
2. Physiology of Central Nervous System
3. Cellular and molecular physiology
4. Biophysics

Special courses:

1. Physiology and pathophysiology of blood-brain barrier

2. Innovative ideas in science
3. Commercialization of scientific technologies

Defense of the thesis presented under my supervision:

Sindeeva Olga "Mechanisms of stress-induced disturbance of cerebral hemodynamics and their role in the development of intracranial hemorrhages in newborn rats"
http://asu.edu.ru/issledovaniya-i-innovacii/7705-dissertaciia-sindeevoi-oa.html

Kassim Mohanad "Vascular effects of androgens and their role in stress and adaptation mechanisms"
http://asu.edu.ru/issledovaniya-i-innovacii/6624-dissertaciia-kassima-ma.html

Bragina Olga "Physiological effects of transcranial direct current stimulation on cerebral blood flow and brain metabolism in mice in health and disease»
https://www.dissercat.com/content/fiziologicheskie-effekty-transkranialnoi-stimulyatsii-postoyannym-tokom-na-tserebralnyi-krov

Zinchenko Ekaterina "Effect of hypoxia on stress resistance of cerebral vessels and brain barrier function in newborn rats"
https://www.dissercat.com/content/vliyanie-gipoksii-na-stress-ustoichivost-tserebralnykh-sosudov-i-barernuyu-funktsiyu-mozga

Supervision of PhD-students: Khotovodov Alexander, Terskov Andrey.

Expert of the development of system for distance learning, Marburg Medical University (a program "Virtual Physiology") http://www.virtual-physiology.com/Home/About

Grants, Honors and Awards

1997-1999	INTAS grant № 96-0305 (R)
1998-1999	Grants from Saratov Center for Advanced Studies HBA80307, HBA80338 (R)
1998-1999	Grant of the Royal Society of London (R)
1999	State Scientific Scholarship Governor of Saratov region for students
2000-2002	Grant of the State Committee of the Russian Federation for Higher Education in the fundamental natural science (№ 95-0-10 00238) (PI)
2002	Fellowship from the President of Russia for PhD-students
2000, 2001	Fellowship from International Soros Foundation
2004-2007	Grant CRDF, Annex № BF MO6, Y2-B- 06- 18 (PI)
2006,2007,2008,2009,2010	Grant of V.Potanin Foundation for young teachers (PI)
2009	Grant of DAAD program "Mikhail Lomonosov-II (PI)
2001,2003,2006,2007,2009,2010	Awards of the European Society of Hypertension
2008,2009,2010	Award of the Turkish public hypertension and atherosclerosis
2011,2014	Awards of the European Society of Gastroenterology

2010	Grant of V.Potanin Foundation "Teacher on-line" (PI)
2012	Grant of DAAD program Forschungsaufenthalte fur Hochschullehrer und Wissenschaftler (PI)
2012	Certificate of honor from the Ministry of Industry and Energy of the Saratov region
2012	Certificate of honor from the Presidium of the Saratov Regional Council of the Russian Society of Inventors and Innovators
2012	Federal Target Program "Scientific and scientific-pedagogic personnel of innovative Russia for 2009-2013", contract number NK-1063P, 20102012 (PI)
2009-2013	Federal Target Program "Scientific and scientific-pedagogic personnel of innovative Russia for 2009-2013", contract number NK-441P, 2009-2011 (PI).
2009-2013	Federal Target Program "Scientific and scientific-pedagogic personnel of innovative Russia for 2009-2013", contract number NK-1257P, 20092011 (R).
2012-2013	Federal Target Program "Scientific and scientific-pedagogic personnel of innovative Russia for 2009-2013", contract number. Agreement 14.V37.21.0216, 2012-2013 (PI).
2012-2013	Federal Target Program "Research and development on priority directions of scientific technological complex of Russia for 2007-2013", contract number 11.519.11.2035 (R).
2012-2013	Federal Target Program "Scientific and scientific-pedagogic personnel of innovative Russia for 2009-2013", contract number. Agreement 14.V37.21.0853, 2012-2013 (R).
2011-2013	Russian Foundation of Basic Research № 1102-00560-a (R) “Clinical and experimental substantiation of a non-invasive rapid diagnostic technology for the development of acute bleeding gastroduodenal ulcers”
2014-2015	Grant of the President of the Russian Federation for young doctors of science MD2216.2014.4, 2014-2015 (PI) “Vascular effects of androgens: systemic and molecular mechanisms, their dependence on the physiological state of the organism, features of manifestation in the male and female body”
2014-2016	Russian Foundation of Basic Research № 14-0200526-a (R) “Development of sensitive methods for diagnosing the risk of developing intracranial hemorrhages in the first days after birth” (R)
2014-2016	Grant from Russian Science Foundation № 14-15-0028 (PI) "Gates" of the blood-brain barrier: the mechanisms of regulation, their dependence on the state of the organism and age, methods of correction with the help of supramolecular transport systems "

2014-2016	Grant from Ministry of Science and Research (№ 17.488.2014/K) (PI) “Mechanisms of development of gastric cancer as a chronic wound process: the transformation of ulcerative lesions into oncology, provoking factors, optical and nanotechnology diagnostics and therapy”
2016-2019	Grant from Russian Science Foundation №16-15-10252 (R) “Development of technology for monitoring the permeability of vascular barriers on the basis of multi-scale analysis of transient processes according to optical imaging methods”
2017-2019	Grant from Ministry of Science and Research №17.1223.2017/ПЧ (PI) “Development of technologies fo optical "opening" of the blood-brain barrier and personalized treatment of aggressive forms of glial tumors”
2017-2019	Grant from Russian Science Foundation № 14-15-0028 (PI) “Achilles heel of the blood-brain barrier ": the conducting role of the glymphatic system in the management of brain barrier function, new informative platforms for pharmacological correction of the permeability of cerebral vessels”
2017-2018	Russian Foundation of Basic Research, Bulgaria-Russia program № 17-54-18063 (PI) “Development of new optical technologies to improve the quality of early diagnosis of gastric cancer”.
2017-2019	Russian Foundation of Basic Research, Bulgaria-Russia program № 17-75-20069 (PI) “The development of pioneering technologies in the lifetime imaging of the lymphatic system of the brain and the understanding of its role in the progression of glioblastoma”
2018-2020	Grant from Russian Science Foundation № 18-15-00172 (R) “Laser stimulation and control of the drainage function of the brain for the prevention and treatment of intracranial hemorrhages during the first days after birth”
2018-2020	Grant from Russian Science Foundation № 18-15-00139 (R) “Optical technologies for early diagnosis of gastric cancer”
2018-2020	Grant from Russian Science Foundation № 18-15-00172 (R) “Laser stimulation and control of the drainage function of the brain for the prevention and treatment of intracranial hemorrhages during the first days after birth”
2019-2021	Grant from Russian Science Foundation № 19-15-00201 (R)

	Multi-modal study of transport mechanisms of substances and fluids in the brain parenchyma during sleep-wake cycle as a new approach in drag delivery
2020-2023	Russian Foundation of Basic Research 20-015-00308 (PI) "Pilot studies of the functions of the lymphatic system of the brain and its membranes"
2019-2022	Russian Foundation of Basic Research, Chinese-Russian program № 19-515-55016 (PI) "Photomodulation of cleansing brain tissue from amyloid beta during sleep: new non-invasive disease treatment technologies Alzheimer's"
2019-2023	Governmental grant № 075-15- 2022-1094 (PI) "Discovery of fundamental mechanisms of sleep for breakthrough technologies of neurorehabilitation medicine"
2022-2024	Grant from Russian Science Foundation № 22-45-04406 (R) "Pioneering technology of night photo-stimulation of the elimination of blood from rat and human brain tissue through the lymphatic system"
2023-2026	Grant from Russian Science Foundation № 23-75-30001 "Pilot technology for photomodulation of the immune system of the animal and human brain: innovative strategies in the treatment of Alzheimer's disease" (PI)

PI – Principle Investigator, R - Researcher

Main publications (2018-2023):

1. Semyachkina-Glushkovskaya O.V., Karavaev A.S., Prokhorov M.D., Runnova A.E., Borovkova E.I., Ishbulatov Yu.M., Hramkov A.N., Kulminskiy D.D., Semenova N.I., Sergeev K.S., Slepnev A.V., Sitnikova E.Yu., Zhuravlev M.O., Fedosov I.V., Shirokov A.A., Blokhina I.A. Dubrovski A.I., Terskov A.V., Khorovodov A.P., Ageev V.B., Elovenko D.A., Evsukova A.S., Adushkina V.V., Telnova V.V., Postnov D.E., Penzel T., Kurths J. EEG biomarkers of activation of the lymphatic drainage system of the brain during sleep and opening of the blood-brain barrier. ***Computational and Structural Biotechnology Journal*** 21 (2023) 758–768 https://doi.org/10.1016/j.csbj.2022.12.019
   IF=7.21 (Q1)
2. Oxana Semyachkina-Glushkovskaya, Alexander Shirokov, Inna Blokhina, Valeria Telnova, Elena Vodovozova, Anna Alekseeva, Ivan Boldyrev, Ivan Fedosov, Alexander Dubrovsky, Alexandr Khorovodov, Andrey Terskov, Arina Evsukova, Daria Elovenko, Viktoria Adushkina, Maria Tzoy, Ilana Agranovich, Jürgen Kurth, Edik Rafailov. Intranasal delivery of liposomes to glioblastoma by photostimulation of the lymphatic system. ***Pharmaceutics*** 2023, 15(1), 36; https://doi.org/10.3390/pharmaceutics15010036
   IF=6.29 (Q1)

3. Semyachkina-Glushkovskaya, O.; Bragin, D.; Bragina, O.; Socolovski, S.; Shirokov, A.; Fedosov, I.; Ageev, V.; Blokhina, I.; Dubrovsky, A.; Telnova, V.; Terskov, A.; Khorovodov, A.; Elovenko, D.; Evsukova, A.; Zhoy, M.; Agranovich, I.; Vodovozova, E.; Alekseeva, A.; Kurths, J.; Rafailov, E. Low-Level Laser Treatment Induces the Blood-Brain Barrier Opening and the Brain Drainage System Activation: Delivery of Liposomes into Mouse Glioblastoma. ***Pharmaceutics*** 2023, 15, 567. https://doi.org/10.3390/pharmaceutics15020567
   IF=6.29 (Q1)
4. Semyachkina-Glushkovskaya, O.; Fedosov, I.; Penzel, T.; Li, D.; Yu, T.; Telnova, V.; Kaybeleva, E.; Saranceva, E.; Terskov, A.; Khorovodov, A.; Blokhina, I.; Kurths, J.; Zhu, D. Brain Waste Removal System and Sleep: Photobiomodulation as an Innovative Strategy for Night Therapy of Brain Diseases. ***Int. J. Mol. Sci***. 2023, 24, 3221. https://doi.org/10.3390/ijms24043221
   импакт фактор – 6.208 (Q1)
5. Semyachkina-Glushkovskaya, O.; Terskov, A.; Khorovodov, A.; Telnova, V.; Blokhina, I.; Saranceva, E.; Kurths, J. Photodynamic Opening of the Blood–Brain Barrier and the Meningeal Lymphatic System: The New Niche in Immunotherapy for Brain Tumors. ***Pharmaceutics***. 2022, 14, 2612. https://doi.org/10.3390/pharmaceutics14122612
   IF=6.29 (Q1)
6. Zschocke J, Leube J, Glos M, Semyachkina-Glushkovskaya O, Penzel T, Bartsch R, Kantelhardt J. Reconstruction of Pulse Wave and Respiration From Wrist Accelerometer During Sleep. ***IEEE Trans Biomed Eng***. 2022 Feb;69(2):830-839. doi: 10.1109/TBME.2021.3107978
   IF=4.538 (Q1)
7. Semyachkina-Glushkovskaya O, Diduk S, Anna E, Elina D, Artem K, Khorovodov A, Shirokov A, Fedosov I, Dubrovsky A, Blokhina I, Terskov A, Navolokin N, Evsukova A, Elovenko D, Adushkina V, Kurths J. (2022) Music improves the therapeutic effects of bevacizumab in rats with glioblastoma: Modulation of drug distribution to the brain. ***Front. Oncol.*** 2022. 12:1010188. doi: 10.3389/fonc.2022.1010188
   IF=5.738 (Q1)
8. Oxana Semyachkina-Glushkovskaya, Thomas Penzel, Inna Blokhina, Alexander Khorovodov, Ivan Fedosov, Tingting Yu, Georgy Karandin, Arina Evsukova, Daria Elovenko, Viktoria Adushkina, Alexander Shirokov, Alexander Dubrovsky, Andrey Terskov, Nikita Navolokin, Maria Tzoy, Vasily Ageev, Ilana Agranovich, Valeria Telnova, Anna Tsven2, Jürgen Kurths. Night photostimulation of clearance of beta-amyloid from mouse brain: new strategies in preventing Alzheimer's disease. ***Cells*** 2021, 10(12), 3289; https://doi.org/10.3390/cells10123289
   IF= 6.6 (Q1)
9. Oxana Semyachkina-Glushkovskaya, Ivan Fedosov, Alexander Shirokov, Elena Vodovozov, Anna Alekseev, Alexandr Khorovodov, Inna Blokhina, Andrey Terskov, Aysel Mamedova, Maria Klimova, Alexander Dubrovsky, Vasily Ageev, Ilana Agranovich, Valeria Vinnik, Anna Tsven, Sergey Sokolovski, Edik Rafailov, Thomas Penzel, Jürgen Kurths. Photomodulation of lymphatic delivery of liposomes to the brain bypassing the blood-brain barrier: new perspectives for glioma therapy. ***Nanophotonics***. 2021, pp. 000010151520210212. https://doi.org/10.1515/nanoph-2021-0212
   IF=8.499 (Q1)

10. Oxana Semyachkina-Glushkovskaya, Dmitry Postnov, Anastasia Lavrova, Ivan Fedosov, Ekaterina Borisova, Vladimir Nikolenko, Thomas Penzel, Jurgen Kurths, Valery Tuchin. Biophotonic Strategies of Measurement and Stimulation of the Cranial and the Extracranial Lymphatic Drainage Function. ***IEEE Journal of Selected Topics in Quantum Electronics***, vol. 27, no. 4, pp. 1-13, July-Aug. 2021, Art no. 7400313, doi: 10.1109/JSTQE.2020.3045834.
IF= 4.917 (Q1)
11. Anastasiya Runnova, Maksim Zhuravlev, Rodion Ukolov, Inna Blokhina, Alexander Dubrovski, Nikita Lezhnev, Evgeniya Sitnikova, Elena Saranceva, Anton Kiselev, Anatoly Karavaev, Anton Selskii, Oxana Semyachkina-Glushkovskaya, Thomas Penzel & Jurgen Kurths. Modified wavelet analysis of ECoG-pattern as promising tool for detection of the blood–brain barrier leakage. ***Scientific Reports*** 11, 18505 (2021). https://doi.org/10.1038/s41598-021-97427-9
IF= 4.379 (Q1)
12. Karavaev A.S., Ishbulatov Yu.M., Prokhorov M.D., Ponomarenko V.I., Kiselev A.R., Runnova A.E., Hramkov A.N., Semyachkina-Glushkovskaya O.V., Kurths J., Penzel T. Simulating dynamics of circulation in the awake state and different stages of sleep using non-autonomous mathematical model with time delay. ***Front. Physiol***., 13 January 2021 | https://doi.org/10.3389/fphys.2020.612787
IF= 4.134 (Q1)
13. Semyachkina-Glushkovskaya, O.; Mamedova, A.; Vinnik, V.; Klimova, M.; Saranceva, E.; Ageev, V.; Yu, T.; Zhu, D.; Penzel, T.; Kurths, J. Brain Mechanisms of COVID-19-Sleep Disorders***. Int. J. Mol. Sci.*** 2021, 22, 6917. https://doi.org/10.3390/ijms22136917
IF=5.923 (Q1)
14. Zschocke J, Leube J, Glos M, Semyachkina-Glushkovskaya O, Penzel T, Bartsch R, Kantelhardt JW. Reconstruction of Pulse Wave and Respiration from Wrist Accelerometer During Sleep. ***IEEE Trans Biomed Eng***. 2021 Aug 26;PP. doi: 10.1109/TBME.2021.3107978. https://pubmed.ncbi.nlm.nih.gov/34437055
IF= 4.424 (Q1)
15. A.N. Pavlov, A.P. Khorovodov, A. T. Mamedova, A.A. Koronovski, O.N. Pavlova, O. V. Semyachkina-Glushkovskaya, Y. Kurths. Changes in blood-brain barrier permeability characterized from electroencephalograms with wavelets and fluctuation analysis. ***Eur. Phys. J. Plus*** (2021) https://doi.org/10.1140/epjp/s13360-021-01593-8
IF= 3.228 (Q1)
16. Nadezhda Semenova, Konstantin Segreev, Andrei Slepnev, Anastasia Runnova, Maxim Zhuravlev, Inna Blokhina, Alexander Dubrovsky, Oxana Semyachkina-Glushkovskaya, Jurgen Kurths. Non-invasive analysis of blood-brain barrier permeability based on wavelet and machine learning approaches. ***Eur. Phys. J. Plus*** (2021) 136:736 https://doi.org/10.1140/epjp/s13360-021-01715-2
IF= 3.228 (Q1)
17. A. N. Pavlov, O. N. Pavlova, O. V. Semyachkina-Glushkovskaya, J. Kurths Extended detrended fluctuation analysis: effects of nonstationarity and application to sleep data. ***Eur. Phys. J. Plus*** (2021) 136:10 https://doi.org/10.1140/epjp/s13360-020-00980-x
IF= 3.228 (Q1)
18. Pavlov A.N., Pavlova O.N., Semyachkina-Glushkovskaya O.V., Kurths J. Enhanced multiresolution wavelet analysis of complex dynamics in nonlinear systems. ***Chaos*** 31, 043110 (2021); https://doi.org/10.1063/5.0045859
IF=3.267 (Q1)

19. Oxana Semyachkina-Glushkovskaya, Inna Blokhina, Nikita Navolokin, Arina Evsukova, Georgy Karandin, Alexander Khorovodov, Andrey Terskov, Ivan Fedosov, Alexander Dubrovsky, Maria Tzoy, Vasily Ageev, Ilana Agranovich, Valeria Telnova, Anna Tsven, Jürgen Kurths. GB20 Pharmacopuncture As a Potential Method for Brain Drug Delivery via the Perivascular Spaces. ***J Acupunct Meridian Stud*** 2022; 15(1): 43-49. https://doi.org/10.51507/j.jams.2022.15.1.43
IF=1.46 (Q2)
20. Semyachkina-Glushkovskaya O, Diduk S, Anna E, Elina D, Artem K, Khorovodov A, Shirokov A, Fedosov I, Dubrovsky A, Blokhina I, Terskov A, Karandin G, Evsukova A, Tsven A, Telnova V, Afranovich I, Sokolovski S, Rafailov E, Kurths J. Photomodulation of Lymphatic Delivery of Bevacizumab to the Brain: The Role of Singlet Oxygen. ***Adv Exp Med Biol***. 2022;1395:53-57. doi: 10.1007/978-3-031-14190-4_9.
IF=3.407 (Q2)
21. Alexey O. Trofimov, Veronica Sofronova, Ksenia Trofimova, Anton Dubrovin, Dmitry Martynov, Cyrill Lidji-Goryaev, Oxana Semyachkina-Glushkovskaya, and Denis E. BraginEye Tracking Parameters Correlate with the Level of Cerebral Oxygen Saturation in Mild Traumatic Brain Injury: A Preliminary Study. ***Adv Exp Med Biol***. 2022;1395:151-156. doi: 10.1007/978-3-031-14190-4_26
IF=3.407 (Q2)
22. Maria Simonyan, Anna Fisun, Galina Afanaseva, Oxana Glushkovskaya-Semyachkina, Inna Blokhina, Anton Selskii, Maksim Zhuravlev and Anastasiya Runnova. Oscillatory wavelet-patterns in complex data: mutual estimation of frequencies and energy dynamics. ***Eur. Phys. J. Spec. Top*** (2022). C. 1-9. https://doi.org/10.1140/epjs/s11734-022-00737-w
IF=2.707 (Q2)
23. G. A. Guyo, O. N. Pavlova, I. A. Blokhina, O. V. Semyachkina-Glushkovskaya, and A. N. Pavlov. Multiresolution wavelet analysis of transients: numerical simulations and application to EEG. ***Eur. Phys. J. Spec. Top.*** (2022). https://doi.org/10.1140/epjs/s11734-022-00710-7
IF=2.707 (Q2)
24. Koronovskii, A.A., Blokhina, I.A., Pavlova, O.N. et al. Extended detrended cross-correlation analysis of electrocorticograms. ***Eur. Phys. J. Spec. Top***. (2022). https://doi.org/10.1140/epjs/s11734-022-00711-6
IF=2.707 (Q2)
25. O. Semyachkina-Glushkovskaya, D. Bragin, O. Bragina, Y. Yang, A. Abdurashitov, A. Esmat, A. Khorovodov, A. Terskov, M. Klimova, I. Agranovich, I. Blokhina, A. Shirokov, N. Navolokin, V. Tuchin, J. Kurths. Mechanisms of sound-induced opening of the blood-brain barrier. ***Adv Exp Med Biol.*** 2021;1269:197-202. doi: 10.1007/978-3-030-48238-1_31.
IF= 2.450 (Q2)
26. O. Semyachkina-Glushkovskaya, M. Klimova, T. Iskra, D. Bragin, A. Abdurashitov, A. Dubrovsky, A. Khorovodov, A. Terskov, I. Blokhina, N. Lezhnev, V. Vinnik, I. Agranovich, A. Mamedova, A. Shirokov, N. Navolokin, B. Khlebsov, V. Tuchin, J. Kurths. “Transcranial Photobiomodulation of Clearance of Beta-Amyloid from the Mouse Brain: Effects on the Meningeal Lymphatic Drainage and Blood Oxygen Saturation of the Brain”. ***Adv Exp Med Biol***. 2021;1269:57-61. doi: 10.1007/978-3-030-48238-1_9.
IF= 2.450 (Q2)

27. Semyachkina-Glushkovskaya O., Postnov D., Kurths Ju. Blood–Brain Barrier, Lymphatic Clearance, and Recovery: Ariadne's Thread in Labyrinths of Hypotheses. ***Int. J. Mol. Sci***., 2018. Vol. 19. No. 3818.
IF = 5.923 (Q1)
28. Oxana Semyachkina-Glushkovskaya, Arkady Abdurashitov, Alexander Dubrovsky, Maria Klimova, Ilana Agranovich, Andrey Terskov, Alexander Shirokov, Valeria Vinnik, Anna Kuznecova, Nikita Lezhnev, Inna Blokhina, Anastassia Shnitenkova, Valery Tuchin, Edik Rafailov, and Jurgen Kurths. Photobiomodulation of lymphatic drainage and clearance: perspective strategy for augmentation of meningeal lymphatic functions. ***Biomedical Optics Express*** Vol. 11, Issue 2, pp. 725-734 (2020) •https://doi.org/10.1364/BOE.383390
IF= 3.910 (Q1)
29. Semyachkina-Glushkovskaya, O.; Postnov, D.; Penzel, T.; Kurths, J. Sleep as a Novel Biomarker and a Promising Therapeutic Target for Cerebral Small Vessel Disease: A Review Focusing on Alzheimer's Disease and the Blood-Brain Barrier. ***Int. J. Mol. Sci.*** 2020, 21, 6293.
IF= 5.923 (Q1)
30. O. Semyachkina-Glushkovskaya, A. Esmat, D. Bragin, O. Bragina, A. A. Shirokov, N. Navolokin, Y. Yang, A. Abdurashitov, A. Khorovodov, A. Terskov, M. Klimova, A. Mamedova, Fedosov I., V. Tuchin, J. Kurths. Phenomenon of music-induced opening of the blood-brain barrier in healthy mice. ***Proceedings of The Royal Society B*** 2020: 20202337; https://doi.org/10.1098/rspb.2020.2337
IF= 5.386 (Q1)
31. Semyachkina-Glushkovskaya O., Chehonin V., Borisova E., Fedosov I., Namykin A., Abdurashitov A., Shirokov A., Khlebtsov B., Lyubun E., Navolokin N., Ulanova M., Shushunova N., Khorovodov A., Agranovich I., Bodrova A., Sagatova M., Shareef A.E., Saranceva E., Iskra T., Dvoryatkina M., Zhinchenko E., Sindeeva O., Tuchin V., Kurths J. Photodynamic opening of the blood-brain barrier and pathways of brain clearing pathways. ***J Biophotonics***. 2018 Jan 30. doi: 10.1002/jbio.201700287; https://www.ncbi.nlm.nih.gov/pubmed/29380947
IF=4.328 (Q1)
32. O.V.Semyachkina-Glushkovskaya, S.G. Sokolovski, A. Goltsov, A.S. Gekaluyk, O.A. Bragina, E.I. Saranceva, V.V. Tuchin, E.U. Rafailov. Laser-induced generation of singlet oxygen and its role in the cerebrovascular physiology / ***Progress in Quantum Electronics***. 2017, Vol. 55, P.112-128. DOI: 10.1016/j.pquantelec.2017.05.001
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33. Semyachkina-Glushkovskaya O., Kurths J., Borisova E. et al. Photodynamic opening of blood-brain barrier / ***Biomedical Optics Express***. 2017. 8(11): https://doi.org/10.1364/BOE.8.005040
IF= 3.910 (Q1)
34. Semyachkina-Glushkovskaya O., Abdurashitov A., Dubrovsky A., Bragin D., Bragina O., Shushunova N., Maslyakova G., Navolokin N., Bucharskaya A., Tuchin V., Kurths J. Application of optical coherent tomography for in vivo monitoring of the meningeal lymphatic vessels during opening of blood-brain barrier: mechanisms of brain clearing. ***Journal of Biomedical Optics*** 22(12), 121719. DOI: 10.1117/1.JBO.22.12.121719

IF=3.17 (Q1)
35. Pavlov AN, Abdurashitov AS, Koronovskii Jr AA, Pavlova ON, Semyachkina-Glushkovskaya OV, Kurths J. Detrended fluctuation analysis of cerebrovascular responses

to abrupt changes in peripheral arterial pressure in rats. ***Communications in Nonlinear Science and Numerical Simulation*** 2020; 85:105232. https://doi.org/10.1016/j.cnsns.2020.105232
IF=4.270 (Q1)

36. A.N. Pavlov, A.I. Dubrovsky, A.A. Koronovskii J, O.N.Pavlova, O.V.Semyachkina-Glushkovskaya, J.Kurths. Extended detrended fluctuation analysis of sound-induced changes in brain electrical activity. ***Chaos, Solitons & Fractals***. Volume 139, October 2020, 109989. https://doi.org/10.1016/j.chaos.2020.109989
IF=3.064 (Q1)
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