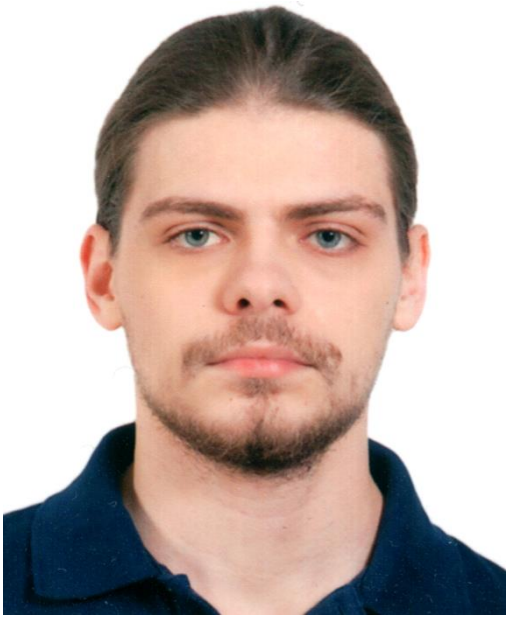
CURRICULUM VITAE



Personal details

Full name: Alexander I. Dubrovsky

Work experience

- Laboratory Assistant - Smart Sleep Laboratory, Chair of Human and Animals Physiology, Biology Department, Saratov State University, 410012, Astrakhanskaya str., 83, Saratov, Russia. (present)

Education

- Master's student - Department of Optics and Biophotonics, Institute of Physics, Saratov State University. (2020 - present)
- Master's student - Department of Romance and Germanic Philology and Translation Studies, Institute of Philology and Journalism, Saratov State University. (2021 - present)
- Bachelor's degree - Department of Optics and Biophotonics, Saratov State University. (2020)
- Additional Qualification Course "Interpreter and Translator in the Field of Professional Communication", Saratov State University. (2020)

Specialization

12.03.04 - Biotechnical systems and technologies

Research interests

Biomedical optics; optical measurements and sensing in biology and medicine; optical imaging and microscopy; confocal microscopy; optical coherence

tomography; the cerebral lymphatic system, the meningeal lymphatic system; the blood-brain barrier

Grants

- "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", № 17-75-20069. (2019-2020)
- "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", № 18-15-00172. (2019-2020)
- "Discovery of fundamental mechanisms of sleep for breakthrough technologies of neurorehabilitation medicine", № 075-15-2019-1885. (2019-present)

Selected publications

1. Pavlov, A.N.; Dubrovskii, A.I.; Pavlova, O.N.; Semyachkina-Glushkovskaya, O.V. Effects of Sleep Deprivation on the Brain Electrical Activity in Mice. Appl. Sci. 2021, 11, 1182.
   DOI: 10.3390/app11031182
2. Semenova, N., Segreev, K., Slepnev, A., Runnova, A., Zhuravlev, M., Blokhina, I., Dubrovsky, A., Klimova, M., Terskov, A., Semyachkina-Glushkovskaya, O., Kurths, J. (2021). Blood-brain barrier permeability changes: nonlinear analysis of ECoG based on wavelet and machine learning approaches. The European Physical Journal Plus, 136(7), 1-13.
   DOI: 10.1140/epjp/s13360-021-01715-2
3. Semyachkina-Glushkovskaya, O., Fedosov, I., Shirokov, A., Vodovozova, E., Alekseeva, A., Khorovodov, A., Blokhina, I., Terskov, A., Mamedova, A., Klimova, M., Dubrovsky, A., Ageev, V., Agranovich, I., Vinnik, V., Tsven, A., Sokolovski, S., Rafailov, E., Penzel, T. & Kurths, J. (2021). Photomodulation of lymphatic delivery of liposomes to the brain bypassing the blood-brain barrier: new perspectives for glioma therapy. Nanophotonics,

10(12), 3215-3227.
DOI: 10.1515/nanoph-2021-0212

4. Semyachkina-Glushkovskaya, O., Klimova, M., Iskra, T., Bragin, D., Abdurashitov, A., Dubrovsky, A., ... & Kurths, J. (2021). Transcranial Photobiomodulation of Clearance of Beta-Amyloid from the Mouse Brain: Effects on the Meningeal Lymphatic Drainage and Blood Oxygen Saturation of the Brain. In Oxygen Transport to Tissue XLII (pp. 57-61). Springer, Cham. DOI: 10.1007/978-3-030-48238-1_9
5. Semyachkina-Glushkovskaya, O., Abdurashitov, A., Klimova, M., Dubrovsky, A., Shirokov, A., Fomin, A., ... & Kurths, J. (2020). Photostimulation of cerebral and peripheral lymphatic functions. Translational Biophotonics, 2(1-2), e201900036.
DOI: 10.1002/tbio.201900036
6. Pavlov, A. N., Dubrovsky, A. I., Koronovskii Jr, A. A., Pavlova, O. N., Semyachkina-Glushkovskaya, O. V., & Kurths, J. (2020). Extended detrended fluctuation analysis of electroencephalograms signals during sleep and the opening of the blood–brain barrier. Chaos: An Interdisciplinary Journal of Nonlinear Science, 30(7), 073138.
DOI: 10.1063/5.0011823
7. Pavlov, A. N., Dubrovsky, A. I., Koronovskii Jr, A. A., Pavlova, O. N., Semyachkina-Glushkovskaya, O. V., & Kurths, J. (2020). Extended detrended fluctuation analysis of sound-induced changes in brain electrical activity. Chaos, Solitons & Fractals, 139, 109989.
DOI: 10.1016/j.chaos.2020.109989
8. Oxana Semyachkina-Glushkovskaya, Arkady Abdurashitov, Alexander Dubrovsky, Maria Klimova, Ilana Agranovich, Andrey Terskov, Alexander Shirokov, Valeria Vinnik, Anna Kuzmina, 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," Biomed. Opt. Express 11,

725-734 (2020)
DOI: 10.1364/BOE.383390

9. O. Semyachkina-Glushkovskaya, A. Abdurashitov, A. Dubrovsky, A. Shirokov, N. Navolokin, M. Klimova, E. Duarte Torres, A. Khorovodov, A. Mamedova, A. E. Shareef, A. Terskov, E. Saranceva, T. Iskra, and J. Kurths "Lymphatic clearance from the blood after subarachnoid hemorrhages", Proc. SPIE 10865, Neural Imaging and Sensing 2019, 108650T (1 March 2019) DOI: 10.1117/12.2509065
10. Ekaterina Zinchenko, Nikita Navolokin, Alexander Shirokov, Boris Khlebtsov, Alexander Dubrovsky, Elena Saranceva, Arkady Abdurashitov, Alexander Khorovodov, Andrey Terskov, Aysel Mamedova, Maria Klimova, Ilana Agranovich, Dmitry Martinov, Valery Tuchin, Oxana Semyachkina-Glushkovskaya, and Jurgen Kurts, "Pilot study of transcranial photobiomodulation of lymphatic clearance of beta-amyloid from the mouse brain: breakthrough strategies for non-pharmacologic therapy of Alzheimer's disease," Biomed. Opt. Express 10, 4003-4017 (2019) DOI: 10.1364/BOE.10.004003
11. M. Klimova , A. Dubrovsky, E. Duarte Torres , A. Abdurashitov, A. Shirokov, A. Terskov, A. Khorovodov, E. Sarantseva, T. Iskra, and O. V. Semyachkina-Glushkovskaya "The role of the meningeal lymphatic in the brain clearing", Proc. SPIE 11067, Saratov Fall Meeting 2018: Computations and Data Analysis: from Nanoscale Tools to Brain Functions, 110670Z (3 June 2019) DOI: 10.1117/12.2524451
12. Semyachkina-Glushkovskaya, O., Abdurashitov, A., Dubrovsky, A., Pavlov, A., Shushunova, N., Maslyakova, G., ... & Kurths, J. (2018, February). The interaction between the meningeal lymphatics and blood-brain barrier. In Biophotonics and Immune Responses XIII (Vol. 10495, p. 104950J). International Society for Optics and Photonics.
DOI: 10.1117/12.2289406

13. Semyachkina-Glushkovskaya, O., Abdurashitov, A., Dubrovsky, A., Bragin, D., Bragina, O., Shushunova, N., ... & Shirokov, A. (2017). Application of optical coherence 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