CURRICULUM VITAE

Personal details

Full name: Khorovodov Aleksandr Petrovich
Date of birth: 7 August 1995

Affiliation

Head of Vivarium, Science-Medical Center, Saratov State University, 410012, Astrakhanskaya str., 83, Saratov, Russia.
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Education

2013-2017	Bachelor Student, Chair of Human and Animals Physiology, Biology Department, Saratov State University
2017-2019	Master-student, Chair of Human and Animals Physiology, Biology Department, Saratov State University (diploma with excellence)
2019-	PhD-student, Chair of Human and Animals Physiology, Biology Department, Saratov State University

Employment

2017 –	Head of Vivarium, Science-Medical Center, Saratov State University

Specialization

03.03.01 – physiology

Research interests

The cerebral lymphatic system; glioblastoma, brain drug delivery, photodynamic therapy.

Grants, Honors and Awards

2014-2016	Grant from Ministry of Science and Research (№ 17.488.2014/K) (R) "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"
2017-2019	Grant from Ministry of Science and Research №17.1223.2017/ПЧ (R) "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 (R) "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 (R) “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 (R) “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”
2020-2023	Russian Foundation of Basic Research 20-015-00308 (R) “Pilot studies of the functions of the lymphatic system of the brain and its membranes”
2019-2021	Governmental grant № 075-15- 2019-1885 (R) “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”

R - Researcher

Patents

- Patent of Russian Federation, № 2688013: “Non-invasive method of drug brain delivery” / O.V. Semyachkina-Glushkovskaya, V.V. Tuchin, Yu. G. Kurts, E.Y. Ravailov, D.E. Bragin, A.P. Khorovodov. Published 17/05/2019; Bul. № 14.

Main publications (2016-2021):

1. 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)

2. 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)
3. 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)
4. 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)
5. Zhinchenko, E., Navolokin, N., Shirokov, A., Khlebcov, B., Dubrovsky, A., Saranceva, E., Abdurashitov A., **Khorovodov, A.**, Terskov A., Mamedova, A., Klimova, M., Agranovich, I., Martinov, D., Tuchin, V., Semyachkina-Glushkovskaya, O., Kurths, J. Pilot study of transcranial photobiomodulation of lymphatic clearance of beta-amyloid from the mouse brain: breakthrough strategies for nonpharmacologic therapy of Alzheimer's disease. Biomedical Optics Express. 10(8): doi.org/10.1364/BOE.10.004003 (2019).
IF= 3.910 (Q1)
6. Agranovich, I., Borisova, E., Navolokin, N., Bucharskaya, A., Maslyakova, G., Shirokov, A., Abdurashitov, A., Amgelov, I., **Khorovodov., A.**, Terskov, A., Mamedov, A., Klimova, M., Semyachkina-Glushkovskaya O. Phenomenon of atypical vascular effects of epinephrine and an increase of photodynamic response by nitroglycerin in rats with colon adenocarcinoma: adrenergic and nitrergic mechanisms and novel applied aspects. Biomedical Optics Express. 10(8): https://doi.org/10.1364/BOE.10.004115
IF= 3.910 (Q1)