

CURRICULUM VITAE

Personal details

Full name: Sergeev Konstantin Sergeevich

Date of birth: 20 May 1992

Affiliation

Associate Professor, Department of Radiophysics and Nonlinear Dynamics, Institute of Physics, Saratov State University, 410012, Astrakhanskaya str., 83, Saratov, Russia.

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Education

2009-2014 Student, Department of Radiophysics and Nonlinear Dynamics, Physical faculty, Saratov State University (diploma with excellence)

2014-2018 PhD Student, Department of Radiophysics and Nonlinear Dynamics, Physical faculty, Saratov State University

Employment

2012-2014 Technician, Research and Development department, LLC "Special Geophysical Systems"

2014-2015 Laboratory assistant, Department of Radiophysics and Nonlinear Dynamics, Radiophysics laboratory, Physical faculty, Saratov State University

2015 - present Engineer, Radiophysics laboratory, Department of Radiophysics and Nonlinear Dynamics, Institute of Physics, Saratov State University

2015-2019 Assistant, Department of Radiophysics and Nonlinear Dynamics, Institute of Physics, Saratov State University

2019 - present Associate Professor, Department of Radiophysics and Nonlinear Dynamics, Institute of Physics, Saratov State University

Specialisation

01.04.03 — Radiophysics

Research interests

Nonlinear oscillations and waves, ensembles, chains and lattices of interacting elements, numerical simulations, signal analysis, artificial neural networks, machine learning

Teaching experience

- Algorithms and programming languages (lectures and seminars)
- Workshop on radio electronics
- Computer technologies in scientific and engineering activities (lectures and seminars)
- Microprocessor technology (lectures and seminars)
- Computer design of electronic circuits (lectures and seminars)
- Principles of Empowering Standard Applications and Programs (seminars)

Research Grants

- Grant of the Russian Science Foundation 16-12-10175 - Project executor.
- Grant of the Russian Science Foundation 16-11-10163 - Project executor.
- Grant of the Russian Science Foundation 20-12-00119 - Project executor.

- RFBR grant 15-02-02288 - Project executor.
- Grant of the German Physical Society DFG SFB-910 - Project executor.
- RF Government Grant No. 075-15-2019-1885 - Project executor.

Main publications (2016-2021)

Articles

1. Sergeev, K.S., Chetverikov, A.P. Metastable states in the Morse-Rayleigh chain. *Nelineinaya Dinamika*, 2016, 12(3), pp. 341-353, <http://nd.ics.org.ru/nd1603004/>, doi: 10.20537/nd1603004, IF: 0.878, Q3
2. Korznikova, E.A., Kistanov, A.A., Sergeev, K.S., Shepelev, I.A., Davletshin, A.R., Bokii, D.I., Dmitriev, S.V. The reason for existence of discrete breathers in 2D and 3D morse crystals. *Letters on Materials*, 2016, 6(3), pp. 221-226, <https://lettersonmaterials.com/en/Readers/Article.aspx?aid=1080>, doi: 10.22226/2410-3535-2016-3-221-226, IF: 0.301, Q3
3. Chetverikov, A.P., Sergeev, K.S., Lakhno, V.D. The excitation of mobile discrete breathers in DNA by initial disturbance of displacements or velocities of a few of adjacent nucleotide pairs. *Mathematical Biology and Bioinformatics*, 2017, 12(2), pp. 375-384, <https://www.matbio.org/article.php?lang=eng&id=322>, doi: 10.17537/2017.12.375, IF: 0.128, Q4
4. Chetverikov, A.P., Sergeev, K.S., Lakhno, V.D. Trapping and transport of charges in DNA by mobile discrete breathers, *Mathematical Biology and Bioinformatics*, 2018, 13 (Specialissue), pp. t59-t63, <https://www.matbio.org/article.php?lang=eng&id=336>, doi: 10.17537/2018.13.1 , IF: 0.128, Q4
5. Sergeev, K.S., Dmitriev, S.V., Korznikova, E.A., Chetverikov, A.P. Stationary modes and localized metastable states in a triangular lattice of active particles, *Nelineinaya Dinamika*, 2018, 14(2), pp. 195-207, <http://nd.ics.org.ru/nd180204/>, doi: 10.20537/nd180204, IF: 0.878, Q3
6. Chetverikov, A.P., Sergeev, K.S., Del Rio, E. Dissipative Solitons and Metastable States in a Chain of Active Particles, *International Journal of Bifurcation and Chaos*, 2018, 28(8), 1830027, <https://www.worldscientific.com/doi/abs/10.1142/S0218127418300276>, doi: 10.1142/S0218127418300276, IF: 2.145, Q1
7. Chetverikov, A.P., Sergeev, K.S., del Rio, E. Noise influence on dissipative solitons in a chain of active particles, *Physica A: Statistical Mechanics and its Applications*, 2019, 513, pp. 147-155, <https://www.sciencedirect.com/science/article/pii/S0378437118311117?via%3Dihub>, doi: 10.1016/j.physa.2018.08.163, IF: 2.5, Q2
8. Chetverikov, A.P., Dmitriev, S.V., Korznikova, E.A., Sergeev, K.S. Dissipative solitons and crowdions in triangular lattice of active particles, *Journal of Micromechanics and Molecular Physics*, 2019, 4(1), pp. 1850005, <https://www.worldscientific.com/doi/abs/10.1142/S2424913018500054>, doi: 10.1142/S2424913018500054
9. Sergeev K.S., Elizarov E.M., Chetverikov A.P. Mobile Dissipative Breathers in a Chain of Nonlinear Oscillators. *Technical Physics Letters*, 2020, Vol. 46, Iss. 11, P. 1068-1071. <https://doi.org/10.1134/S1063785020110127>

10. Sergeev K.S., Chetverikov A.P., del Rio E. Dissipative discrete breathers in a chain of Rayleigh oscillators. *Nonlinear Dynamics*, 2020, Vol. 102, Iss. 3, Pp. 1813-1823, <https://doi.org/10.1007/s11071-020-06031-5> Q1
11. Chetverikov A.P., Ebeling W., del Rio E., Sergeev K.S., Velarde M.G. A few salient features of dissipative solitons in crystal-like lattices of active units. *Chaos, Solitons & Fractals*, 2021, Vol. 150, P. 111179. <https://doi.org/10.1016/j.chaos.2021.111179> Q1
12. K. Sergeev, A. Runnova, M. Zhuravlev, O. Kolokolov, N. Akimova, A. Kiselev, A. Titova, A. Slepnev, N. Semenova, T. Penzel. Wavelet skeletons in sleep EEG-monitoring as biomarkers of early diagnostics of mild cognitive impairment. *Chaos*, 2021, Vol. 31, Iss. 7, P. 073110 <https://doi.org/10.1063/5.0055441> Q1
13. N. Semenova, K. Sergeev, A. Slepnev, A. Runnova, M. Zhuravlev, I. Blokhina, A. Dubrovsky, M. Klimova, A. Terskov, O. Semyachkina-Glushkovskaya, J. Kurths. Blood-brain barrier permeability changes: nonlinear analysis of ECoG based on wavelet and machine learning approaches. *The European Physical Journal Plus*, 2021, Vol. 136, Iss. 7, Pp. 1-13 <https://doi.org/10.1140/epjp/s13360-021-01715-2> Q1

Books

1. A.V. Khokhlov, K.S. Sergeev, A.V. Slepnev. ANALOGUE CIRCUIT DESIGN (Lecture course and laboratory radiophysical workshop on circuit simulation), Saratov: Saratov University Publishing House, 2020. — 118 pp. ISBN 978-5-534-04078-3

Extended publication list is available under: <https://scholar.google.com/citations?user=5vcCjTkAAAAJ>