

Andrei Slepnev

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Google Scholar <https://scholar.google.ru/citations?hl=ru&user=cmmgqEcAAAAJ>

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Andrei Slepnev

Born on December 31, 1987, Saratov

PhD in Physics and Mathematics

Associate Professor of the Department of Radiophysics and Nonlinear Dynamics, Responsible for scientific work at the Institute of Physics, Deputy head for organizational work of the Scientific Medical Centre, Head of the Scientific Laboratory "Smart Sleep", Saratov State University

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Education

2009 - Radiophysics and Electronics, Faculty of Physics, SSU

2011 - Master of Physics, Faculty of Physics, SSU

2011–2014 - Postgraduate studies, Department of Radiophysics and Nonlinear Dynamics, SSU

2014 - Candidate of Physical and Mathematical Sciences (01.04.03 - Radiophysics)

Career

2009–2014 - Engineer of the Educational Laboratory of Radiophysics, SSU

2010–2020 - System Administrator, Saratov Regional Union of Trade Union Organizations "Federation of Trade Union Organizations of the Saratov Region"

2014–2015 - Head of the Educational Laboratory of Radiophysics, SSU

2014–2016 - Software Engineer, SEPO-ZEM LLC

2015–2018 - Assistant, Department of Radiophysics and Nonlinear Dynamics, SSU

2018–2020 - Associate Professor, Department "Information Security of Automated Systems", SSTU named after Gagarin Yu.A.

2018 to the present - Associate Professor, Department of Radiophysics and Nonlinear Dynamics, SSU

2019 to the present - Head of the Scientific Laboratory "Smart Sleep", SSU

2021 to the present - Deputy Head for Organizational Work, Scientific Medical Centre, SSU

Professional activity

2016 to the present - Organizer and Secretary of the seminar "Nonlinear Dynamics" of the annual international scientific conference Saratov Fall Meeting

2017–2020 - Organizer and Secretary of the Annual Student Scientific Conference of the Physics Department of SSU

2017–2021 - Responsible for scientific work at the Faculty of Physics, SSU

2017–2021 - Member of the Academic Council of the Physics Faculty of SSU

2017 to the present - Expert of the intra-university export control commission of SSU

2021 to the present - Organizer and Secretary of the Annual Student Scientific Conference of the Institute of Physics, SSU

2021 to the present - Responsible for scientific work at the Institute of Physics of SSU

2021 to the present - Member of the Academic Council of the Institute of Physics of SSU

2021 to the present - Member of the Commission for Research Activities of the Academic Council of SSU

- Reviewer of the journals Nonlinear Dynamics, Chaos, Izvestia of higher educational institutions. Applied Nonlinear Dynamics, Russian Journal of Nonlinear Dynamics

Advanced training

2016 - The use of electronic information and educational environment and information and communication technologies in the educational process of SSU, Saratov State University

2019 - Modern approaches to personnel management at the university, Saratov State University

2020 - Creation of an inclusive educational environment in professional education, Saratov State University

Academic work

Lectures, practical and laboratory classes in the disciplines "Information technology in the development of electronic devices", "Statistical radiophysics", "Theory of random processes", "Markov processes", "Theory of oscillations" and "Special practical work".

Field of scientific activity

Dynamics of distributed systems, the formation of spatial structures, the influence of regular and random effects on the dynamics of nonlinear systems, neural networks

Citations

Google Scholar (01.04.2021)

<https://scholar.google.ru/citations?hl=ru&user=cmmgqEcAAAAJ>

Number of publications (from 2016)	Number of citations (from 2016)	h-index (from 2016)	Average number of citations per publication (from 2016)	Average number of citations per year (from 2016)
18 (11)	163 (150)	6 (4)	9.1 (13.6)	14.8 (30.0)

Scopus (01.04.2021)

<https://www.scopus.com/authid/detail.uri?authorId=56034673600>

Number of publications	Number of citations	h-index (from 2016)	Average number of citations per publication	Average number of citations per year
10	101	4	10.1	14.4

Web of Science (01.04.2021)

<https://publons.com/researcher/3642800/andrei-slepnev/metrics/>

Number of publications	Number of citations	h-index (from 2016)	Average number of citations per publication	Average number of citations per year
9	83	4	9.2	11.9

РИНЦ (01.04.2021)

SPIN 9153-0591: https://elibrary.ru/author_profile.asp?authorid=620884

Number of publications (RSCI core)	Number of citations (RSCI core)	h-index	Average number of citations per publication	Average number of citations per year (RSCI core)
22 (15)	132 (118)	4	5.86	12.0 (10.7)

Articles

1. Слепнев А.В., Вадивасова Т.Е., Листов А.С. Мультистабильность, удвоения периода и подавление бегущих волн шумовым воздействием в нелинейной автоколебательной среде с периодическими граничными условиями // *Нелинейная динамика*. 2010. Т. 6. № 4. С. 755-767
2. Слепнев А.В., Вадивасова Т.Е. Бифуркации удвоения периода и эффекты шумового воздействия в мультистабильной автоколебательной среде // *Известия высших учебных заведений. Прикладная нелинейная динамика*. 2011. Т. 19. № 4. С. 53-67
3. Вадивасова Т.Е., Слепнев А.В. Исследование возникновения колебаний в квазигармонической модели автоколебательной среды, находящейся под действием мультипликативного шума // *Известия высших учебных заведений. Прикладная нелинейная динамика*. 2012. Т. 20. № 5. С. 3-13
4. Слепнев А.В., Вадивасова Т.Е. Два вида автоколебаний в активной среде с периодическими граничными условиями // *Нелинейная динамика*. 2012. Т. 8. № 3. С. 497-505
5. Слепнев А.В., Шепелев И.А., Вадивасова Т.Е. Вынужденная синхронизация бегущих волн в активной среде в автоколебательном и возбужденном режимах // *Известия высших учебных заведений. Прикладная нелинейная динамика*. 2014. Т. 22. № 2. С. 50-61
6. Слепнев А.В., Шепелев И.А., Вадивасова Т.Е. Эффекты шумового воздействия на активную среду с периодическими граничными условиями // *Письма в Журнал технической физики*. 2014. Т. 40. № 2. С. 30-36 (Slepnev A.V., Shepelev I.A., Vadivasova T.E. Noise-induced effects in an active medium with periodic boundary conditions // *Technical Physics Letters*. 2014. V. 40. P. 62-64)
7. Shepelev I.A., Slepnev A.V., Vadivasova T.E. Different synchronization characteristics of distinct types of traveling waves in a model of active medium with periodic boundary conditions // *Communications in Nonlinear Science and Numerical Simulation*. 2016. V. 38. P. 206-217
8. Bogomolov S.A., Slepnev A.V., Strelkova G.I., Anishchenko V.S., Schöll E. Mechanisms of appearance of amplitude and phase chimera states in ensembles of nonlocally coupled chaotic systems // *Communications in Nonlinear Science and Numerical Simulation*. 2017. V. 43. P. 25-36.
9. Slepnev A.V., Bukh A.V., Vadivasova T.E. Stationary and non-stationary chimeras in an ensemble of chaotic self-sustained oscillators with inertial nonlinearity // *Nonlinear Dynamics*. 2017. V. 88. P. 2983-2992
10. Bukh A.V., Slepnev A.V., Anishchenko V.S., Vadivasova T.E. Stability and Noise-induced Transitions in an Ensemble of Nonlocally Coupled Chaotic Maps // *Regular and Chaotic Dynamics*. 2018. V. 23. P. 325-338
11. Хохлов А.В., Слепнев А.В. Теория связи и радиофизика (о преподавании теории связи и информации на физическом факультете) // *Известия Саратовского университета. Новая серия. Серия: Физика*. 2018. Т. 18. № 4. С. 302-312
12. Корнеев И.А., Слепнев А.В., Семенов В.В., Вадивасова Т.Е. Волновые процессы в кольце мемристивно связанных автогенераторов // *Известия высших учебных заведений. Прикладная нелинейная динамика*. 2020. Т. 28. № 3. С. 324-340. <https://doi.org/10.18500/0869-6632-2020-28-3-324-340>
13. Корнеев И.А., Слепнев А.В., Семенов В.В., Вадивасова Т.Е. Взаимная синхронизация диссипативно связанных мемристивных генераторов // *Известия Саратовского университета. Новая серия. Серия: Физика*. 2020. Т. 20. № 3. С. 210-221. <https://doi.org/10.18500/1817-3020-2020-20-3-210-221>
14. Vadivasova T.E., Slepnev A.V., Zakharova A. Control of inter-layer synchronization by multiplexing noise // *Chaos*. 2020. V. 30. P. 091101 (10 pages). <https://doi.org/10.1063/5.0023071>

15. Korneev I.A., Slepnev A.V., Semenov V.V., Vadivasova T.E. Forced synchronization of an oscillator with a line of equilibria // *The European Physical Journal Special Topics*. 2020. V. 229. P. 2215–2224. <https://doi.org/10.1140/epjst/e2020-900146-9>
16. Korneev I.A., Semenov V.V., Slepnev A.V., Vadivasova T.E. Complete synchronization of chaos in systems with nonlinear inertial coupling // *Chaos, Solitons & Fractals*. 2021. V. 142. P. 110459. <https://doi.org/10.1016/j.chaos.2020.110459>
17. Korneev I.A., Slepnev A.V., Vadivasova T.E., Semenov V.V. Subcritical Andronov–Hopf scenario for systems with a line of equilibria // *Chaos*. 2021. V. 31. P. 073102 (8 pages). <https://doi.org/10.1063/5.0050009>
18. Sergeev K., Runnova A., Zhuravlev M., Kolokolov O., Akimova N., Kiselev A., Titova A., Slepnev A., Semenova N., Penzel T. Wavelet skeletons in sleep EEG-monitoring as biomarkers of early diagnostics of mild cognitive impairment // *Chaos*. 2021. V. 31. P. 073110 (9 pages). <https://doi.org/10.1063/5.0055441>
19. Semenova N., Sergeev K., Slepnev A., Runnova A., Zhuravlev M., Blokhina I., Dubrovsky A., Klimova M., Terskov A., Semyachkina-Glushkovskaya O., Kurths J. Blood-brain barrier permeability changes: nonlinear analysis of ECoG based on wavelet and machine learning approaches // *Eur. Phys. J. Plus*. 2021. V. 136. P. 736 (13 pages). <https://doi.org/10.1140/epjp/s13360-021-01715-2>

Patents and registration certificates

1. Слепнев А.В. Компьютерная программа для моделирования динамики и расчета характеристик активных сред и ансамблей осцилляторов // Свидетельство о регистрации программы для ЭВМ RU 2017612349, 20.02.2017. Заявка № 2016664767 от 29.12.2016

Monographs

1. Слепнев А.В., Вадивасова Т.Е. Автоколебательная среда со сложной динамикой элементарной ячейки. Мультистабильность и сценарии перехода к хаосу. Germany: LAP LAMBERT Academic Publishing GmbH & Co. KG, 2012. 64 с. ISBN: 978-3-659-10426-8

Research projects

1. 2010–2012, “Nonlinear oscillations and waves, the effect of fluctuations, multistability and synchronization in lumped and distributed systems of radiophysics”, Federal target program “Scientific and scientific-pedagogical personnel of innovative Russia” for 2009–2013, No. 14.740.11.0074, executor
2. 2012–2013, “Nonlinear dynamics of ensembles of interacting oscillators, distributed media and applications to the problems of biophysics”, Federal target program “Scientific and scientific-pedagogical personnel of innovative Russia” for 2009–2013, No. 14.B37.21.0751, executor
3. 2014–2016, “Dynamics of nonlinear coupled systems and media, including ensembles and lattices of interacting subsystems, under periodic and noise disturbances”, State task of the Ministry of Education and Science of the Russian Federation for 2014–2016, No. 1008, executor
4. 2014–2016, “B11. Dynamics of nonlinear networks and active media in the presence of noise: synchronization, control and diagnostics”, Competition of initiative research projects in 2014, held jointly by the Russian Foundation for Basic Research and the German Research Community, No. 14-52-12002, executor
5. 2016–2018, “Localized oscillations and waves in nonlinear lattices and ensembles of conservative and active particles: discrete breathers, dissipative solitons, chimeras”, 2016 competition for grants in the priority area of activity of the Russian Science Foundation

- “Conducting fundamental scientific research and exploratory research separate scientific groups”, No. 16-12-10175, executor
6. 2019–2021, "Discovery of fundamental sleep mechanisms for breakthrough technologies of neurorehabilitation medicine", P220 - State support for scientific research conducted under the guidance of leading scientists in Russian educational institutions of higher education, scientific institutions and state scientific centers of the Russian Federation, No. 075-15 -2019-1885, executor
 7. 2020–2022, "Controlled synchronization in heterogeneous multilayer networks", Competition for the best scientific projects of fundamental research, jointly held by the Russian Foundation for Basic Research and the German Research Community, No. 20-52-12004, responsible executor
 8. 2020–2022, “Collective dynamics of coupled ensembles of nonlinear oscillators. Influence of the topology and nature of connections, heterogeneity, external noise and regular disturbances”, Competition of the Russian Science Foundation in 2020" Conducting fundamental scientific research and exploratory research by individual scientific groups”, No. 20-12-00119, responsible executor

Participation in conferences

1. XI International School-Conference "Chaotic Self-Oscillations and Formation of Structures" (CHAOS-2016), October 3-8, 2016, Saratov
2. XX International School for Students and Young Scientists in Optics, Laser Physics and Biophysics (Saratov Fall Meeting 2016), Saratov
3. Workshop on Control of Self-Organizing Nonlinear Systems, Lutherstadt Wittenberg, August 29-31, 2017
4. XXI International School for Students and Young Scientists in Optics, Laser Physics and Biophysics (Saratov Fall Meeting 2017), Saratov
5. XVIII scientific school "Nonlinear waves - 2018", February 26 - March 4, 2018, Nizhny Novgorod
6. International Scientific Conference "Computer Science and Information Technologies", July 2-3, 2018, Saratov
7. XIX scientific school "Nonlinear waves - 2020", February 29 - March 6, 2020, Nizhny Novgorod
1. 8.XXIV International School for Students and Young Scientists in Optics, Laser Physics and Biophysics (Saratov Fall Meeting 2020), Saratov