

**Publications of Alexey Zaikin** (as 08/02/2019, IF-impact factor, CI-citation index)  
**Google: h-index 29, citations 2752.**

(Not Refereed are marked with \*):

128. L. Abrego, and A. Zaikin, “Integrated Information as a Measure of Cognitive Processes in Coupled Genetic Repressilators”, *Entropy* 21(4), 382 (2019).
127. O. Kanakov, S. Gordleeva, A. Ermolaeva, S. Jalan, A. Zaikin, “Astrocyte-induced positive integrated information in neuron-astrocyte ensembles”, *Physical Review E* 99, 012418 (2019).
126. Kustikova V., Krivonosov M., Pimashkin A., Denisov P., Zaikin A., Ivanchenko M., Meyerov I., Semyanov A. CalciumCV: Computer vision software for calcium signaling in astrocytes. In: van der Aalst W. et al (eds) Analysis of Images, Social Networks and Texts. AIST 2018. Lecture Notes in Computer Science. - Vol. 11179. Springer, Cham. P. 168-179 (2018).
125. C. Franceschi, A. Zaikin, S. Gordleeva, M. Ivanchenko, F. Bonifazi, G. Storci, and M. Bonafe, “Imflammageing 2018: An update and a model”, *Seminars in Immunology* 40, 1-5 (2018).
124. N. Nene, J. Rivington, A. Zaikin, “Sensitivity of asymmetric rate-dependent critical systems to initial conditions: insights into cellular decision making”, *Physical Review E* 98, 022317 (2018).
123. M.A. Vazquez, I.P. Marino, O. Blyuss, A. Ryan, A. Gentry-Maharaj, J. Kalsi, R. Manchanda, I. Jacobs, U. Menon, and A. Zaikin, “A Quantitative performance study of two automatic methods for the diagnosis of ovarian cancer”, *Biomedical Signal Processing and Control* 46, 86-93 (2018).
122. Oleg Blyuss, Inés P. Mariño, Matthew Burnell, Aleksandra Gentry-Maharaj, Andy Ryan, Jatinderpal Kalsi, Ranjit Manchanda, John F. Timms, Max Parmar, Steve Skates, Ian Jacobs, Alexey Zaikin, and Usha Menon, “Comparison of CA125 longitudinal algorithms as a first-line screen for ovarian cancer in the general population”, *Clinical Cancer Research* 24, 4726-4733 (2018).
121. H.J. Whitwell, O. Blyuss, J.F. Timms, and A. Zaikin, “Parenclitic networks for predicting ovarian cancer”, *Oncotarget* 9:32, 22717-22726 (2018).
120. R. Manchanda, O. Blyuss, V.S. Gordeev, F. Gaba, C. Jacobs, M. Burnell, C. Gan, R. Taylor, C. Turnbull, R. Legood, A. Zaikin, A. Antoniou, U. Menon, and I. Jacobs, “Current detection rates and time-to-detection of all identifiable BRCA-carriers in the Greater London population”, *Journal of Medical Genetics* 55, 538–545 (2018).
119. S. Makovkin, A. Kumar, A. Zaikin, S. Jalan, and M. Ivanchenko, “Multiplexing topologies and timescales: the gains and losses of synchrony”, *Phys. Rev. E* 96, 052214 (2017).
118. A. Kumar, M.S. Baptista, S. Jalan, and A. Zaikin, “Mirror nodes correlations tuning synchronization in multiplex networks”, *Phys. Rev. E* 96, 062301 (2017).
117. W. Stott, S. Campbell, A. Franchini, O. Blyuss, A. Zaikin, A. Ryan, C. Jones, A. Gentry-Maharaj, G. Fletcher, J. Kalsi, S. Skates, M. Parmar, N. Amso, I. Jacobs, U. Menon, “Sonographers’ self-reported transvaginal ultrasound visualization of normal ovaries in postmenopausal women is not reliable: results of expert review of archived images in UKCTOCS”, *Ultrasound in Obstetrics and Gynecology* 51, 401-408 (2018).
116. I.P. Marino, A. Zaikin, and J. Miguez, “A comparison of Monte-Carlo Bayesian parameter estimation methods for stochastic models of genetic networks”, *PLOS ONE*, ONE 12(8), e182015 (2017), IF-3.06.
115. A. Ryblov, S. Kolesov, E. Fedulova, N. Karyakin, M. Ivanchenko, and A. Zaikin “Comparison of machine learning methods for analysis of ulcerative colitis proteomic data”, *Opera Medica et Physiologica* 3, 25-29 (2017).
114. A. Karsakov, T. Bartlett, I. Meyerov, M. Ivanchenko, and A. Zaikin, “Parenclitic network analysis of methylation data for cancer identification”, *PLOS ONE* 12(1), e0169661 (2017), IF2015-3.06.
113. L. Abrego, A. Zaikin, “Decision making in an intracellular genetic classifier under the influence of intrinsic noise”, *Mathematical Modelling of Natural Phenomena* 12, No. 4, 30-42 (2017).
112. Martin Widschwendter, Daniel Schramek, Alexey Zaikin, Evangelia-Ourania Fourkala, Stefan Kiechl, Johann Willeit, Siegfried Weger, Agnes Mayr, Andrew Teschendorff, Adam Rosenthal, Lindsay Fraser, Susan Philpott, Louis Dubeau, Mohammed Keshtgar, Rebecca Roylance, Usha Menon, Ian J. Jacobs, Georg Schett, and Josef M. Penninger, “Aberrant regulation of RANKL/OPG in women at high risk of developing breast cancer”, *Oncotarget* 8(3), 3811-3825 (2017), IF2015-5.00.
111. I. P. Marino, O. Blyuss, A. Ryan, A. Gentry-Maharaj, J. Timms, A. Dawnay, J. Kalsi, I. Jacobs, U. Menon, and A. Zaikin. “Changepoint of multiple biomarkers in women with ovarian cancer”, *Biomedical Signal Processing and Control* 33, 169-177 (2016), IF2015-1.5.
110. Darren Nesbeth, Alexey Zaikin, Yasushi Saka, Mamen Romano, Claudiu Giuraniuc, Oleg Kanakov, and

- Tetyana Laptyeva, "Engineering complexity: synthetic biology routes to bio-artificial intelligence", **Essays in Biochemistry** 60, 381-391 (2016), IF-3.4.
109. A. Kumar, A. Zaikin, J. Kurths, S. Jalan, "Interplay of degree-degree correlation and driven mechanism for cluster synchronization", **Phys. Rev. E** 94, 062202 (2016), IF2014-2.29.
  108. T. Bartlett, and A. Zaikin, "Detection of Epigenomic Network Community Oncomarkers", **Annals of Applied Statistics** 10, 1373-1396 (2016), IF2015-1.47.
  107. Y. Borg, A. Grigonyte, P. Boeing, B. Wolfenden, P. Smith, W. Beaufoy, S. Rose, T. Ratisai, A. Zaikin, and D.N. Nesbeth, "Open source approaches to establishing Roseobacter clade bacteria as synthetic biology chassis for bioengineering", **PeerJ** (2016), IF2015-2.19.
  106. Evangelia-Ourania Fourkala, Oleg Blyuss, Helen Field, Richard Gunu, Andy Ryan, Julian Barth, Ian Jacobs, Alexey Zaikin, Anne Dawnay, Usha Menon, "Sex hormone measurements using mass spectrometry and sensitive radioimmunoassays and risk of estrogen receptor negative and positive breast cancer: Case control study in UK Collaborative Cancer Trial of Ovarian Cancer Screening (UKCTOCS)", **Steroids** 110:62-69, (2016), IF2013-2.7.
  105. V. Samborska, S. Gordleeva, E. Ullner, A. Lebedeva, V. Kazantsev, M. Ivanchenko, and A. Zaikin, "Mammalian brain as network of networks", **Opera Medica & Physiologica** 1, 23-38 (2016).
  104. A. Polovinkin, I. Krylov, P. Druzhkov, M. Ivanchenko, I. Meyerov, A. Zaikin, N. Zolotikh, "Solving Problems of clustering and classification of cancer diseases based on DNA methylation data", **Pattern Recognition and Image Analysis**, Vol. 26, No. 1, pp. 176-180 (2016).
  103. K.B. Blyuss, R. Manchanda, J. Kurths, A. Alsaedi, and A. Zaikin, "Systems medicine of cancer: bringing together clinical data and nonlinear dynamics of genetic networks", **Computational and Mathematical Methods in Medicine**, vol. 2016, Article ID 7904693 (2016). doi:10.1155/2016/7904693.
  102. O. Blyuss, A. Gentry-Maharaj, E.O. Fourkala, A. Ryan, A. Zaikin, U. Menon, I. Jacobs, J.F. Timms, "Serial patterns of ovarian cancer biomarkers in a pre-diagnosis longitudinal dataset", **Biomed Research International** vol. 2015, Article ID 681416, 6 pages (2015). IF-1.58.
  101. P. Druzhkov, N. Zolotyh, I. Meyerov, A. Alsaedi, M. Shutova, M. Ivanchenko, and A. Zaikin, "Variations in the intra-gene methylation profiles hallmark induced pluripotency", **Biomed Research International** vol. 2015, article ID 976362, 9 pages, 2015. IF-1.58.
  100. S.Yu. Filicheva, A. Zaikin, O.I. Kanakov, "Dynamical decision making in a genetic perceptron", **Physica D**, Vol. 318-319, 112-115 (2016), IF-1.6.
  99. James, C. P., Stevens, J., Blyuss, O., Syngelaki, A., Nicolaidis, K., Zaikin, A., & Peebles, D. M. (2015). GWAS Identified Inflammatory Polymorphisms Do Not Improve Clinical Markers for Predicting Preterm Birth in an Antenatal Population. **REPRODUCTIVE SCIENCES**, 22, 135A.
  98. R. Bates, O. Blyuss, A. Alsaedi, and A. Zaikin. "Effect of noise in intelligent cellular decision making", **PLOS ONE** 10(5), e0125079 (2015), IF=4.09, SJR=1.724.
  97. Oleg Kanakov, Roman Kotelnikov, Ahmed Alsaedi, Lev Tsimring, Ramon Huerta, Alexey Zaikin, Mikhail Ivanchenko, "Multi-input distributed classifier for synthetic genetic circuit", **PLOS ONE** 10(5), e0125144, (2015). ) IF=4.09, SJR=1.724.
  96. P. Ashwin and A. Zaikin, "Pattern selection: the importance of "how you get there", **Biophysical Journal** 108, 1307-1308 (2015), IF 2013 - 3.8.
  - 95\*. T.E. Bartlett, S.C. Olhede, and A. Zaikin, "Novel Statistical Network Methodology to Identify and Analyse Cancer Biomarkers", **JSM Proceedings 2014, Section on Statistics in Epidemiology** 3515.
  94. A. Alsaedi, A.Zaikin, B. Ahmad, F. Alsaadi, and M. El-Shahed, "Fractional calculus model of GATA-switching for regulation the differentiation of a hematopoietic stem cell", *Advances in difference equations*, 2014:201, IF=0.634.
  93. H. Alshaker, J. Krell, A. Frampton, J. Waxman, O. Blyuss, A. Zaikin, M. Winkler, J. Stebbing, E. Yague, D. Pchejetski, "Leptin induces upregulation of sphingosine kinase 1 in oestrogen receptor-negative breast cancer via Src family kinase-mediated, janus kinase 2-independent pathway." **Breast Cancer Research** 16, 426 (2014). IF=5.88, SJR=3.209.
  92. D.P.O'Brien, N.S. Sandanayake, A. Gentry-Maharaj, S. Apostolidou, E. O. Fourkala, S. Camuzeaux, O. Blyuss, R. Gunu, A. Dawnay, A. Zaikin, I.J. Jacobs, U. Menon, E. Costello, S.P. Pereira, J. F. Timms, "Serum CA19-9 is significantly up-regulated up to 2 years prior to diagnosis with pancreatic cancer: implications for early disease detection", **Clinical Cancer Research** 21, 622 (2015), IF-7.8, SJR=5.15.
  91. R. Bates, O. Blyuss, and A. Zaikin, "Stochastic resonance in an intracellular genetic perceptron", **Phys. Rev. E**, 89, 032716 (2014). IF-2.4, SJR=0.97.
  90. Y. Borg, E. Ullner, A. Alagha, A. Alsaedi, D. Nesbeth, and A. Zaikin, "Complex and Unexpected dynamics in Simple Genetic Regulatory Networks", **IJMPB** 28, 1430006 (2014).
  89. T. Bartlett, S. Olhede, and A.Zaikin, "A DNA methylation network interactome measure, and detection of

- network oncomarkers”, **PLOS ONE** **9**, e84573(2014) , IF=4.09, SJR=1.724.
88. A. Alagha, A. Zaikin, “Asymmetry in Erythroid-Myeloid differentiation switch and the role of timing in a binary cell fate decision” **Frontiers in Immunology** **4**, 426 (2013).
  87. I.P. Marino, E. Ullner, and A. Zaikin, “Parameter estimation methods for chaotic intercellular networks”, **PLOS ONE** **8**, e79892 (2013) , IF=4.09.
  86. M. Widschwendter, A.N. Rosenthal, S. Philpott, M.I. Rizzuto, L. Fraser, J. Hayward, M.P. Intermaggio, C.K. Edlund, S.J. Ramus, S. A. Gayther, L. Dubeau, E.O. Fourkala, A. Zaikin, U. Menon, and I. J. Jacobs, “The sex hormone system in *BRCA1/2* mutation-carriers: a case-control study”, **The Lancet Oncology** **14**, 1226 (2013), IF=25.11, SJR-14.764.
  85. Johannes W. Pedersen, Aleksandra Gentry-Maharaj, Alexander Nøstdal, Evangelia-Ourania Fourkala, Anne Dawney, Matthew Burnell, Alexey Zaikin, Joy Burchell, Joyce Taylor Papadimitriou, Henrik Clausen, Ian Jacobs, Usha Menon, and Hans Wandall, Cancer associated auto-antibodies to MUC1 and MUC4 - A blinded case control study of colorectal cancer in UK Collaborative Trial of Ovarian Cancer Screening (UKCTOCS), **International Journal of Cancer** (11 Oct 2013 online) **134**, 2180-2188 (2014), IF=6.1, SJR-2.967.
  84. T.E. Bartlett, A. Zaikin, J. West, A. Teschendorff, M. Widschwendter, “Corruption of the Intra-Gene DNA Methylation Architecture is a Hallmark of Cancer”, **PLOS One** **8**, e68285 (2013) , IF=4.09.
  83. N. Nene, A. Zaikin, “Decision making in bistable systems under the effect of external transient perturbations”, **Phys. Rev. E** **87**, 012715 (2013), IF=2.3.
  82. Johannes W. Pedersen\*, Aleksandra Gentry-Maharaj\*, Evangelia-Ourania Fourkala, Anne Dawney, Matthew Burnell, Alexey Zaikin, Anders E. Pedersen, Ian Jacobs, Usha Menon\*\*, and Hans Wandall, “Early detection of cancer in the general population - a blinded case control study of p53 auto-antibodies in colorectal cancer”, **British Journal of Cancer** **108**, 107014 (2013), IF=5.08, SJR-2.707.
  81. E. Ullner, S. Ares, L.G. Morelli, A.S. Oates, F. Julicher, E. Nicola, R. Heussen, D. Whitmore, K. Blyuss, M. Fryett, A. Zakharova, A. Koseska, N.R. Nene, and A. Zaikin, “Noise and oscillations in biological systems: multidisciplinary approach between experimental biology, theoretical modelling and synthetic biology”, **International Journal of Modern Physics B** **26**, 1246009 (2012).
  80. N. Nene, A. Zaikin, “Interplay between Path and Speed in Decision Making by High-Dimensional Stochastic Gene Regulatory Networks”, **PLoS ONE** **7**, e40085 (2012), IF=4.09.
  79. E.-O. Fourkala, A. Zaikin, M. Burnell, A. Gentry-Maharaj, J. Ford, R. Gunu, C. Soromani, G. Hasenbrink, I. Jacobs, A. Dawney, M. Widschwendter, H. Lichtenberg-Frate and U. Menon, “Association of serum sex steroid receptor bioactivity and sex steroid hormones with breast cancer risk in postmenopausal women”, **Endocrine-Related Cancer** **19**, 137-147 (2012), IF=4.36, SJR-2.705.
  78. N. Nene, J. Garcia-Ojalvo, and A. Zaikin, “Speed-dependent cellular decision making in nonequilibrium genetic circuits”, **PLoS ONE** **7**, e32779 (2012), IF=4.09.
  77. \*R. Heussen, T.K. Tamai, D. Whitmore, A. Zaikin, “Modeling approaches of the circadian clock and light entrainment in zebrafish”, Proceedings of 5<sup>th</sup> International Conference on Physics and Control, IPACS electronic library: <http://lib.physcon.ru/doc?id=0b7e1ae2c3ab> , (2011).
  76. Tieri P, Grignolio A, Zaikin A., Mishto M., Remondini D, Castellani GC, Franceschi C. “Network, degeneracy, and bow-tie integrating paradigms and architectures to grasp the complexity of the immune system”, **Theoretical Biology and Medical Modelling** **7**:32, (2010) , IF=1.85.
  75. \*N.R. Nene, A. Zaikin, “Gene regulatory network attractor selection and cell fate decision: insights into cancer multi-targeting”, Proceedings of Biosignal 2010, July 14-16, Berlin, Germany (2010).
  74. E. Long, B. Henderson, A. Zaikin, “In silico analysis of microdomain-mediated trimer formation in the T cell membrane”, **European Physical Journal Special Topics** **187**, 21-30 (2010).
  73. J. Liepe, M. Mishto, K. Textoris-Taube, K. Janek, C. Keller, P. Henklein, P.M. Kloetzel, and A. Zaikin, “The 20S Proteasome Splicing Activity Discovered by SpliceMet”, **PLOS Computational Biology**, Vol. **6**, e1000830 (2010). CI-1. IF-5.8, SJR-3.274.
  72. E. Cevenini, E. Bellavista, P. Tieri, G. Castellani, F. Lescai, M. Francesconi, M. Mishto, A. Santoro, S. Valensin, S. Salvioli, M. Capri, A. Zaikin, D. Monti, J. P. de Magalhães and C. Franceschi, "Systems Biology and Longevity: an emerging approach to identify innovative anti-aging targets and strategies", Review in **Current Pharmaceutical Design** **16**, N 7, 802-813 (2010). CI-3. IF-4.4.
  71. D.S. Goldobin and A. Zaikin, "Towards quantitative prediction of proteasomal digestion patterns of proteins", **J. Stat. Mechanics** P01009, (2009). IF-2.7.
  70. A. Koseska, A. Zaikin, J. Kurths, and J. Garcia-Ojalvo, "Timing cellular decision making under noise via cell-cell communication", **PLoS One** **4**, e4872 (2009). IF-4.4.
  69. \*E. Ullner, A. Koseska, A. Zaikin, E. Volkov, J. Kurths, J. Garcia-Ojalvo, “Dynamics of multicellular synthetic gene networks”, in Handbook on Biological Networks, World Scientific Lecture Notes in

- Complex Systems, Vol.10, pp 33-58, ISBN: 978-981-283-879-7, World Scientific Books (2009).
68. \*Mishto M., Luciani F., Holzhütter H.G., Bellavista E., Santoro A., Textoris-Taube K., Kloetzel P.M., Zaikin A. and Franceschi C. (2008): ProteasMAIlg: a Proteasome Modelling Algorithm to address the complexity of intracellular protein degradation kinetics. *Biocomplexity at the cutting edge of Physics, System Biology and Humanities*. Bologna University Press.
  67. M. Mishto, F. Luciani, E. Bellavista, A. Santoro, K. Textoris-Taube, H.G. Holzhütter, P.M. Kloetzel and C. Franceschi, and A. Zaikin, " Modeling the in vitro 20S proteasome activity: the effect of PA28- $\alpha$  and of the sequence and length of polypeptides on the degradation kinetics ", **Journal of Molecular Biology** **377**, 1607-1617 (2008). CI-8. IF-3.9.
  66. M. Ruskoni, A. Zaikin, N. Marwan, and J. Kurths, "Effect of Stochastic Resonance on Bone Loss in Osteopenic Conditions" **Phys. Rev. Lett.** **100**, 128101 (2008). IF-7.3.
  65. A. Koseska, A. Zaikin, J. García-Ojalvo, and J. Kurths, "Stochastic suppression of gene expression oscillations under intercell coupling", **Phys. Rev. E** **75**, 031917 (2007). IF-2.4.
  64. \*A. Zaikin, F. Luciani, J. Kurths, "Constructing a Virtual Proteasome", in **"Biosimulation in Drug Development"**, Wiley-VCH, (2007).
  63. E. Ullner, A. Zaikin, E.I. Volkov, and J. Garcia-Ojalvo, "Multistability and Clustering in a Population of Synthetic Genetic Oscillators via Phase-Repulsive Cell-to-Cell Communication", **Phys. Rev. Lett.** **99**, 148103 (2007). CI-22. IF-7.3.
  62. A. Koseska, E. Volkov, A. Zaikin, and J. Kurths, "Inherent multistability in arrays of autoinducer coupled genetic oscillators", **Phys. Rev E** **75**, 031916 (2007). IF-2.4.
  61. \*A. Zaikin, A. Koseska, J. Garcia-Ojalvo, M. Mishto, J. Kurths, "Nonlinear dynamics effects in synthesis and degradation of proteins", in "Science and Supercomputing in Europe", Transnational access, CINECA Consorzio Interuniversitario, ISBN 978-88-86037-21-1, 779-783 (2007).
  60. \*A. Koseska, A. Zaikin, J. Liepe, and J. Kurths, "Variety of dynamical regimes in a population of coupled synthetic genetic oscillators", Proceedings of the 3rd International conference "Physics and Control", IPACS electronic library, <http://lib.physcon.ru/?item=1376>, (2007).
  59. A. Koseska, E. Volkov, A. Zaikin, and J. Kurths, "Quantized time production cycling time in artificial gene networks induced by noise and intercell communication", **Phys. Rev E** **76**, 020901 (2007), also in the September 1, 2007 issue of Virtual Journal of Biological Physics Research. IF-2.4.
  58. \*M. Mishto, Zaikin, A., Luciani F., Holzhütter H.G., Bellavista E., Santoro A., Textoris-Taube K., Franceschi C., Kloetzel P.M. (2007): Proteasome Modeling Algorithm to predict *in vitro* kinetics of 20S proteasome degradation. *The 3rd International IEEE Scientific Conference on Physics and Control – Physcon: report 2007*.
  57. A. Zaikin, A.K. Mitra, D. Goldobin, J. Kurths, "Influence of transport rates on the protein degradation by the proteasome", **Biophysical Reviews and Letters**, **1**: 375-386 (2006).
  56. A. Zaikin, J. Kurths, "Optimal length transportation hypothesis to model proteasome product size distribution", **Journal of Biological Physics** **32**, 231-243, (2006).
  55. \*A. Zaikin, "Control of synchronization in inhibitory coupled genetic oscillators", in "Science and super computing in Europe", Cineca, ISBN 88-86037-17-1, 531-535, (2006).
  54. \*F. Luciani, A. Zaikin, "Mathematical models of the proteasome product size distribution", in "Irreversible Prozesse und Selbstorganisation", **Logos-Verlag**, Berlin, 195-209, (2006).
  53. C.J. Tessone, E. Ullner, A. Zaikin, J. Kurths, and R. Toral, "Noise-induced inhibitory suppression of frequency-selective stochastic resonance", **Phys. Rev. E** **74**, 046220 (2006). IF-2.4.
  52. E. Glatt, H. Busch, F. Kaiser, and A. Zaikin, "Noise-memory induced excitability and pattern formation in oscillatory neural models", **Phys. Rev. E** **73**, 026216 (2006). IF-2.4.
  51. A. Zaikin and T. Poeschel, "Peptide size dependent active transport in the proteasome", **Europhysics Letters** **69**, 725 (2005).
  50. T. Poeschel, T. Schwager, N.V. Brilliantov, A. Zaikin, "Rolling friction and bistability of rolling motion", In: **"Proc. Powders & Grains 2005"**, (Kongressband) Balkema rotterdam, 1247 (2005).
  49. P. Saporin, J.S. Thomsen, S. Prohaska, A. Zaikin, J. Kurths, H.C. Hege, and W. Gowin, "Quantification of Spatial Structure of Human Proximal Tibial Bone Biopsies Using 3D Measures of Complexity", **Acta Astronautica** **56**, 820 (2005).
  48. A. Zaikin, P.Saporin, J. Kurths, S. Prohaska, and W.Gowin, "Modeling resorption in 2D CT and 3D CT bone images", **Int. J. of Bif. and Chaos**, **15**, 2995-3009, (2005).
  47. T. Poeschel, N. Brilliantov, and A. Zaikin, "Bistability and noise-enhanced velocity of rolling motion", **Europhysics Letters** **69**, 371-377 (2005).
  46. E. Ullner, A. Zaikin, J. Garcia-Ojalvo, and J. Kurths, "Signal propagation in oscillatory media enabled by noise-induced excitability", Proc. of **SPIE** **5417**, 102 (2004), DOI: 10.1117/12.546658.

45. E.I. Volkov, E. Ullner, A. Zaikin, and J. Kurths, "Frequency-dependent stochastic resonance in inhibitory coupled excitable systems", **Phys. Rev. E** 68, 061112 (2003). IF-2.4.
44. E.I. Volkov, M.N. Stolyarov, A. A. Zaikin, and J. Kurths, "Coherence resonance and polymodality in inhibitory coupled excitable oscillators", **Phys. Rev. E** 67, 066202 (2003). IF-2.4.
43. E. Ullner, A. Zaikin, R. Bascones, J. Garcia-Ojalvo, and J. Kurths, "Vibrational resonance and propagation in excitable systems", **Physics Letters A** 312, 348-354 (2003).
42. J.P. Baltanas, L. Lopez, I.I. Blechman, P.S. Landa, A. Zaikin, J. Kurths, and M.A.F. Sanjuan, "Experimental evidence, numerics, and theory of vibrational resonance in bistable systems", **Phys. Rev. E** 67, 066119 (2003). IF-2.4.
41. A. Zaikin, J. Garcia-Ojalvo, L. Schimansky-Geier, and J. Kurths, "Twofold role of noise in doubly stochastic effects", Noise in complex systems and stochastic dynamics proceedings of the society of photo-optical instrumentation engineers (**SPIE**) 5114, 182-192, 2003.
40. E.I. Volkov, E. Ullner, A.A. Zaikin, and J. Kurths, "Oscillatory amplification of stochastic resonance in excitable systems", **Phys. Rev. E** 68, 026214 (2003). IF-2.4.
39. \*A. Zaikin, W. Gowin, S. Prohaska, and J. Kurths, "2D bone modeling for analysis of changes in bone architecture and for evaluation of structural measures", in "Achievements in space medicine into health care practice and industry", proceedings of 2nd European Congress, Berlin 27-29 March, (2003).
38. A. M. Correig, M. Uguizu, V.B. Ryabov, and A.A. Zaikin, "Microseism oscillations: from deterministic to noise-driven models", **Chaos, Solitons, and Fractals**, 16, 195-210 (2003).
37. A. Zaikin, J. Garcia-Ojalvo, R. Bascones, E. Ullner, and J. Kurths, "Doubly stochastic coherence via noise-induced symmetry in bistable neural models", **Phys. Rev. Lett.** 90, 030601 (2003).
36. E. Ullner, A. Zaikin, J. Garcia-Ojalvo, and J. Kurths, "Noise-Induced Excitability in Oscillatory Media", **Phys. Rev. Lett.** 91, 180601 (2003). CI-44. IF-2.4.
35. A. Pikovsky, A. Zaikin, "System size stochastic and coherence resonances", Unsolved problems of noise and fluctuations, **AIP Conference Proceedings** 665, 561-568, 2003.
34. A. Zaikin, "Doubly stochastic effects", **Fluctuations and Noise Letters**, Vol.2 No.3 , L157-L169 (2002).
33. Landa P.S. and Zaikin A., Fluctuational transport of a Brownian particle in ratchet-like gravitational potential field , **Chaos, Solitons & Fractals**, 13 (1) (2002) pp. 109-113.
32. A. Zaikin, J. Garcia-Ojalvo, L. Schimansky-Geier, and J. Kurths, "Noise-induced propagation in monostable media", **Phys. Rev. Lett.** 88, 010601 (2002).
31. J.P. Baltanas, A. Zaikin, F. Feudel, J. Kurths, and M.A.F. Sanjuan, "Noise-induced effects in tracer dynamics", **Physics Letters A** 297 396-401 (2002)
30. A. Zaikin, D. Topaj, and J. Garcia-Ojalvo, "Noise-induced propagation of bichromatic signals", **Fluctuations and Noise Letters** 2, L47-52 (2002).
29. A. Pikovsky, A. Zaikin, and M.A. de la Casa, "System size resonance in coupled noisy systems", **Phys. Rev. Lett.** 88, 050601 (2002). CI-81.
28. A. A. Zaikin, L. Lopez, J.P. Baltanas, J. Kurths, and M.A.F. Sanjuan, "Vibrational resonance in noise-induced structures", **Phys. Rev. E** 66, 011106 (2002). CI-37. IF-2.4.
27. \*A. Zaikin, P. Saparin, S. Prohaska, J. Kurths, W. Gowin, "Bone modeling and structural measures of complexity", Proceedings of the "Symposium Life in Space for Life on Earth", Stockgolm, J. Grav. Physiol. 9(1):P175-P176, July, 2002.
26. W. Gowin, P. Saparin, D. Felsenberg, J. Kurths, A. Zaikin, S. Prohaska, H.-C. Hege, "Regional Structural Skeletal Discordance Assessed by Measures of Complexity", in Osteoporosis Int 13, 2002, Supplement 1, page S123, **Proceedings of the World Congress on Osteoporosis**, Lisbon, May 2002.
25. Landa P.S., Zaikin A. and Schimansky-Geier L., "Effect of the potential shape and of a Brownian particle mass on noise-induced transport", **Chaos, Solitons and Fractals**, 12 (8) (2001) pp. 1459-1471.
24. A.A. Zaikin, and J. Kurths, "Additive noise in Noise-induced Nonequilibrium Transitions", **CHAOS** 11(3), 570 (2001).
23. A.A. Zaikin, K. Murali, and J. Kurths, "A Simple Electronic Circuit Model for Doubly Stochastic Resonance", **Phys. Rev. E**, Rapid Communication 63, 020103 (R) (2001). IF-2.4.
22. A. Zaikin , J. Kurths , and L. Schimansky-Geier, "Doubly Stochastic Resonance", **Phys. Rev. Lett.** 85, 227 (2000).
21. Landa, P.S., Zaikin, A.A., Ushakov, V.G. and Kurths, J., "Influence of additive noise on transitions in nonlinear systems", **Phys. Rev. E**, Vol. 61, 5, 4809 (2000). IF-2.4.
20. \*Landa, P.S., Zaikin, A.A., and Kurths, J., "On Noise-induced Transitions in Nonlinear Oscillators", in "Stochastic Processes in Physics, Chemistry, and Biology", Editors: J.A. Freund, T. Poeschel, Springer (2000).
19. A.A. Zaikin, J. Garcia-Ojalvo, and L. Schimansky-Geier, "Nonequilibrium first-order phase transition

- induced by additive noise", **Phys. Rev. E**, Rapid Communication, Vol.60, p. R6275, (1999). IF-2.4.
18. P.S. Landa, A.A. Zaikin, A.S. Ginevsky, and Ye.V. Vlasov, "Turbulence and coherent structures in subsonic submerged jets. Control of the turbulence.", **Int. J. of Bif. and Chaos**, Vol.9, No.2, pp. 397-414 (1999).
  17. A.A. Zaikin, J. Kurths, " Modeling Cognitive Control in Simple Movements", in "Computing Anticipatory systems", **AIP Conference Proceedings** 517, 372-382 (1999).
  16. A.A. Zaikin, J. Kurths, "Additive Noise and Noise-induced Nonequilibrium Phase Transitions", in "Unsolved Problems of Noise and fluctuations", edited by D. Abbott and L.B. Kish, **AIP Conference Proceedings** 511, (**AIP**, Melville, New York, 1999), pp. 303-313.
  15. P.S. Landa, A.A. Zaikin, M.G. Rosenblum, and J.Kurths, "On-off Intermittency Phenomena in a Pendulum with a Randomly Vibrating Suspension Axis", **Chaos, Solitons & Fractals**, Vol. 9, No.1/2, pp. 157-169, (1998).
  14. A.A. Zaikin and L. Schimansky-Geier, "Spatial Patterns Induced by Additive Noise", **Phys.Rev.E** 58(4),pp. 4355-4360, (1998). IF-2.4.
  13. P.S. Landa, A.A. Zaikin, "Noise-induced Phase Transitions in Nonlinear Oscillators", in "Computing Anticipatory Systems", **AIP Conference Proceedings** 465, pp. 419, CASYS'98, Liege, Belgium (1998).
  12. P.S. Landa, A.A. Zaikin, and L. Schimansky-Geier, "Influence of additive noise on noise-induced phase transitions in nonlinear chains", **Chaos, Solitons & Fractals**, Vol.9, No. 8, pp.1367-1372,(1998).
  11. A.A. Zaikin, L. Schimansky-Geier, "Ordering Role of Additive Noise in Extended Media", *International Journal of Computing Anticipatory Systems*, **CHAOS**, ed. by Daniel M. Dubois, Vol. 3, pp. 251-273 (1998).
  10. P.S. Landa, A.A. Zaikin, M.G. Rosenblum, and J. Kurths, "Control of Noise-induced Oscillations of a Pendulum with a Randomly Vibrating Suspension Axis", **Phys. Rev. E**. 56(2), pp. 1465-1470, (1997). IF-2.4.
  9. C. Scheffczyk, A. Zaikin, M.Rosenblum, R.Engbert, R.Krampe, and J.Kurths, "Modeling Qualitative Changes in Bimanual Movements", **Int. J. of Bif. and Chaos**, Vol.7, No.6 , pp. 1441-1450 (1997).
  8. P.S. Landa and A.A. Zaikin, "Random and chaotic oscillations in the model of childhood infections caused by the seasonal variations of the contact rate", in "Applied Nonlinear Dynamics and Stochastic Systems near Millenium", **AIP conference proceedings** 411, San-Diego, CA July 1997, pp.321(1997).
  7. P.S. Landa and A.A. Zaikin, "Nonequilibrium Noise-induced Phase Transitions in Simple Systems", **JETP** 84 (1),pp.197-208, (1997), translation of *Zh. Eksp. Teor. Fiz.* , 1997, t. 111, vup.1, str. 359-378.
  6. Scheffczyk, R. Engbert, R. Krampe, J. Kurths, M. Rosenblum, and A.Zaikin, "Nonlinear Modelling of Polyrhythmic Hand Movements", *Medical & Biological Engineering & Computing*, Vol. 34, Supplement 1, Part 1, 1996, The 10th **Nordic-Baltic Conference on Biomedical Engineering**, June 9-13, 1996, Tampere, Finland.
  5. P.S. Landa, A.A. Zaikin, "Noise-induced Phase Transitions in a Pendulum with a Randomly Vibrating Suspension Axis", **Phys. Rev. E**, 54(4), pp. 3535-3544,(1996). IF-2.4.
  4. A.A. Zaikin and O.V. Rudenko, "Shock Wave Effect on Resonance Sound Absorbers", Moscow University, **Physics Bulletin**, Vol. 50, No.6, pp.35-40, (1995), 1996 by Allerton Press.
  3. A.A. Zaikin and O.V. Rudenko, "A Nonlinear Model of the Helmholtz Resonator with a Movable Wall", **Acoustical Physics**, Vol.42, No.3,pp. 329-333 (1996).
  2. \*A.S. Ginevsky, P.S. Landa, and A.A. Zaikin, "Self-excitation of Impinging Jets with Regard to Acoustic Feedback", *Proceedings of Third International Congress on Air- and Structure- Borne Sound and Vibrations*, June 13-15, Montreal, Canada, (1994), pp. 1191-1196.
  1. A.A. Zaikin and O.V. Rudenko, "Acoustic Nonlinearity of Nonuniform Flow of an Oscillating Liquid", Moscow University, **Physics Bulletin**, Vol. 48, No. 6, pp. 56-58, (1993),1993 by Allerton Press.

#### Thesis:

- A. Zaikin, "Noise-induced transitions and resonant effects in nonlinear systems", **Habilitation thesis**, Potsdam University 2003, URL: [http://opus.kobv.de/ubp/frontdoor.php?source\\_opus=80&la=de](http://opus.kobv.de/ubp/frontdoor.php?source_opus=80&la=de)
- B. Zaikin, "Noise-induced phase transitions and control of turbulence in submerged jets by acoustic waves", **PhD thesis**, URL: [http://www.ucl.ac.uk/~rmjbale/PAPERS\\_OWEN/Diser\\_rus.pdf](http://www.ucl.ac.uk/~rmjbale/PAPERS_OWEN/Diser_rus.pdf)