

# Sergey A Akimov

## List of Publications by Citations

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

65  
papers

1,484  
citations

19  
h-index

38  
g-index

108  
ext. papers

1,869  
ext. citations

3  
avg. IF

4.54  
L-index

| #  | Paper  | IF   | Citations |
|----|--|------|-----------|
| 65 | Line tension and interaction energies of membrane rafts calculated from lipid splay and tilt. <i>Biophysical Journal</i> , <b>2005</b> , 88, 1120-33   | 2.9  | 258       |
| 64 | GTPase cycle of dynamin is coupled to membrane squeeze and release, leading to spontaneous fission. <i>Cell</i> , <b>2008</b> , 135, 1276-86   | 56.2 | 231       |
| 63 | Geometric catalysis of membrane fission driven by flexible dynamin rings. <i>Science</i> , <b>2013</b> , 339, 1433-6   | 33.3 | 102       |
| 62 | The mobility of single-file water molecules is governed by the number of H-bonds they may form with channel-lining residues. <i>Science Advances</i> , <b>2015</b> , 1, e1400083               | 14.3 | 94        |
| 61 | Pore formation in lipid membrane I: Continuous reversible trajectory from intact bilayer through hydrophobic defect to transversal pore. <i>Scientific Reports</i> , <b>2017</b> , 7, 12152    | 4.9  | 67        |
| 60 | Lateral tension increases the line tension between two domains in a lipid bilayer membrane. <i>Physical Review E</i> , <b>2007</b> , 75, 011919  | 2.4  | 63        |
| 59 | An elastic theory for line tension at a boundary separating two lipid monolayer regions of different thickness. <i>Journal of Electroanalytical Chemistry</i> , <b>2004</b> , 564, 13-18       | 4.1  | 63        |
| 58 | Pore formation in lipid membrane II: Energy landscape under external stress. <i>Scientific Reports</i> , <b>2017</b> , 7, 12509  | 4.9  | 55        |
| 57 | Helix-helix interactions in membrane domains of bitopic proteins: Specificity and role of lipid environment. <i>Biochimica Et Biophysica Acta - Biomembranes</i> , <b>2017</b> , 1859, 561-576 | 3.8  | 49        |
| 56 | Elastic Membrane Deformations Govern Interleaflet Coupling of Lipid-Ordered Domains. <i>Physical Review Letters</i> , <b>2015</b> , 115, 088101  | 7.4  | 49        |
| 55 | Origin of proton affinity to membrane/water interfaces. <i>Scientific Reports</i> , <b>2017</b> , 7, 4553  | 4.9  | 36        |
| 54 | Long and short lipid molecules experience the same interleaflet drag in lipid bilayers. <i>Physical Review Letters</i> , <b>2013</b> , 110, 268101   | 7.4  | 33        |
| 53 | Geometry of membrane fission. <i>Chemistry and Physics of Lipids</i> , <b>2015</b> , 185, 129-40   | 3.7  | 30        |
| 52 | Line Activity of Ganglioside GM1 Regulates the Raft Size Distribution in a Cholesterol-Dependent Manner. <i>Langmuir</i> , <b>2017</b> , 33, 3517-3524   | 4    | 27        |
| 51 | Domain formation in membranes caused by lipid wetting of protein. <i>Physical Review E</i> , <b>2008</b> , 77, 051901  | 2.4  | 27        |
| 50 | Undulations Drive Domain Registration from the Two Membrane Leaflets. <i>Biophysical Journal</i> , <b>2017</b> , 112, 339-345  | 2.9  | 26        |
| 49 | Metabolic Precursor of Cholesterol Causes Formation of Chained Aggregates of Liquid-Ordered Domains. <i>Langmuir</i> , <b>2016</b> , 32, 1591-600  | 4    | 20        |

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| 48 | Energy of the interaction between membrane lipid domains calculated from splay and tilt deformations. <i>JETP Letters</i> , <b>2013</b> , 96, 681-686  | 1.2 | 19 |
| 47 | Ordered Lipid Domains Assemble via Concerted Recruitment of Constituents from Both Membrane Leaflets. <i>Physical Review Letters</i> , <b>2020</b> , 124, 108102   | 7.4 | 13 |
| 46 | Continuum Models of Membrane Fusion: Evolution of the Theory. <i>International Journal of Molecular Sciences</i> , <b>2020</b> , 21,   | 6.3 | 12 |
| 45 | Membrane Elastic Deformations Modulate Gramicidin A Transbilayer Dimerization and Lateral Clustering. <i>Biophysical Journal</i> , <b>2018</b> , 115, 478-493  | 2.9 | 12 |
| 44 | Lateral Membrane Heterogeneity Regulates Viral-Induced Membrane Fusion during HIV Entry. <i>International Journal of Molecular Sciences</i> , <b>2018</b> , 19,  | 6.3 | 12 |
| 43 | Residence time of singlet oxygen in membranes. <i>Scientific Reports</i> , <b>2018</b> , 8, 14000  | 4.9 | 11 |
| 42 | Membrane-mediated interaction of amphipathic peptides can be described by a one-dimensional approach. <i>Physical Review E</i> , <b>2019</b> , 99, 022401  | 2.4 | 10 |
| 41 | Elastic deformations of bolalipid membranes. <i>Soft Matter</i> , <b>2016</b> , 12, 2357-64  | 3.6 | 10 |
| 40 | Switching between Successful and Dead-End Intermediates in Membrane Fusion. <i>International Journal of Molecular Sciences</i> , <b>2017</b> , 18,   | 6.3 | 10 |
| 39 | Stabilization of bilayer structure of raft due to elastic deformations of membrane. <i>Biochemistry (Moscow) Supplement Series A: Membrane and Cell Biology</i> , <b>2011</b> , 5, 286-292                                   | 0.7 | 9  |
| 38 | Galimzyanov et al. Reply. <i>Physical Review Letters</i> , <b>2016</b> , 116, 079802   | 7.4 | 8  |
| 37 | Variation of lipid membrane composition caused by strong bending. <i>Biochemistry (Moscow) Supplement Series A: Membrane and Cell Biology</i> , <b>2011</b> , 5, 205-211   | 0.7 | 8  |
| 36 | Ganglioside GM1 increases line tension at raft boundary in model membranes. <i>Biochemistry (Moscow) Supplement Series A: Membrane and Cell Biology</i> , <b>2009</b> , 3, 216-222   | 0.7 | 8  |
| 35 | Elastic deformations mediate interaction of the raft boundary with membrane inclusions leading to their effective lateral sorting. <i>Scientific Reports</i> , <b>2020</b> , 10, 4087  | 4.9 | 7  |
| 34 | Model of membrane fusion: Continuous transition to fusion pore with regard of hydrophobic and hydration interactions. <i>Biochemistry (Moscow) Supplement Series A: Membrane and Cell Biology</i> , <b>2014</b> , 8, 153-161 | 0.7 | 7  |
| 33 | Phase separation in lipid membranes induced by the elastic properties of components. <i>JETP Letters</i> , <b>2011</b> , 93, 463-469   | 1.2 | 7  |
| 32 | Interaction of amphipathic peptides mediated by elastic membrane deformations. <i>Biochemistry (Moscow) Supplement Series A: Membrane and Cell Biology</i> , <b>2017</b> , 11, 206-216                                       | 0.7 | 6  |
| 31 | Phosphatidylcholine Membrane Fusion Is pH-Dependent. <i>International Journal of Molecular Sciences</i> , <b>2018</b> , 19,  | 6.3 | 5  |

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|----|--|-----|---|
| 30 | Calculation of line tension in various models of lipid bilayer pore edge. <i>Biochemistry (Moscow) Supplement Series A: Membrane and Cell Biology</i> , <b>2009</b> , 3, 223-230   | 0.7 | 5 |
| 29 | Isoprenoid lipid chains increase membrane resistance to pore formation. <i>Biochemistry (Moscow) Supplement Series A: Membrane and Cell Biology</i> , <b>2014</b> , 8, 304-308   | 0.7 | 4 |
| 28 | Monolayerwise application of linear elasticity theory well describes strongly deformed lipid membranes and the effect of solvent. <i>Soft Matter</i> , <b>2020</b> , 16, 1179-1189   | 3.6 | 4 |
| 27 | Ectodomain Pulling Combines with Fusion Peptide Inserting to Provide Cooperative Fusion for Influenza Virus and HIV. <i>International Journal of Molecular Sciences</i> , <b>2020</b> , 21,  | 6.3 | 4 |
| 26 | The Effect of Transmembrane Protein Shape on Surrounding Lipid Domain Formation by Wetting. <i>Biomolecules</i> , <b>2019</b> , 9,   | 5.9 | 4 |
| 25 | Effects of Sterols on the Interaction of SDS, Benzalkonium Chloride, and A Novel Compound, Kor105, with Membranes. <i>Biomolecules</i> , <b>2019</b> , 9,  | 5.9 | 3 |
| 24 | Mechanism of pore formation in stearyl-oleoyl-phosphatidylcholine membranes subjected to lateral tension. <i>Biochemistry (Moscow) Supplement Series A: Membrane and Cell Biology</i> , <b>2017</b> , 11, 193-205                    | 0.7 | 2 |
| 23 | Membrane fusion. Two possible mechanisms underlying a decrease in the fusion energy barrier in the presence of fusion proteins. <i>Biochemistry (Moscow) Supplement Series A: Membrane and Cell Biology</i> , <b>2015</b> , 9, 65-76 | 0.7 | 2 |
| 22 | Detection of DNA molecules in a lipid nanotube channel in the low ion strength conditions. <i>Biochemistry (Moscow) Supplement Series A: Membrane and Cell Biology</i> , <b>2017</b> , 11, 217-224                                   | 0.7 | 2 |
| 21 | Line tension and structure of through pore edge in lipid bilayer. <i>Biochemistry (Moscow) Supplement Series A: Membrane and Cell Biology</i> , <b>2014</b> , 8, 297-303   | 0.7 | 2 |
| 20 | Membrane Curvature and Fission By Dynamin: Mechanics, Dynamics and Partners. <i>Biophysical Journal</i> , <b>2010</b> , 98, 2a   | 2.9 | 2 |
| 19 | Additional contributions to elastic energy of lipid membranes: Tilt-curvature coupling and curvature gradient. <i>Physical Review E</i> , <b>2020</b> , 102, 042406  | 2.4 | 2 |
| 18 | Membrane-Mediated Lateral Interactions Regulate the Lifetime of Gramicidin Channels. <i>Membranes</i> , <b>2020</b> , 10,  | 3.8 | 2 |
| 17 | Photoswitching of model ion channels in lipid bilayers. <i>Journal of Photochemistry and Photobiology B: Biology</i> , <b>2021</b> , 224, 112320   | 6.7 | 2 |
| 16 | Membrane shape changes at initial stage of membrane fusion under the action of proteins inducing spontaneous curvature. <i>Biochemistry (Moscow) Supplement Series A: Membrane and Cell Biology</i> , <b>2013</b> , 7, 234-241       | 0.7 | 1 |
| 15 | Line tension and structure of raft boundary calculated from bending, tilt, and lateral compression/stretching. <i>Biochemistry (Moscow) Supplement Series A: Membrane and Cell Biology</i> , <b>2011</b> , 5, 385-391                | 0.7 | 1 |
| 14 | Lateral redistribution of transmembrane proteins and liquid-ordered domains in lipid membranes with inhomogeneous curvature. <i>Biochemistry (Moscow) Supplement Series A: Membrane and Cell Biology</i> , <b>2016</b> , 10, 259-268 | 0.7 | 1 |
| 13 | Normal Fluctuations of Biological Membrane Shape as a Coupling Factor for Ordered Monolayer Domains. <i>Biochemistry (Moscow) Supplement Series A: Membrane and Cell Biology</i> , <b>2019</b> , 13, 205-211                         | 0.7 | 0 |

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|----|---|-----|---|
| 12 | Interaction of Ordered Lipid Domain Boundaries and Amphipathic Peptides Regulates Probability of Pore Formation in Membranes. <i>Biochemistry (Moscow) Supplement Series A: Membrane and Cell Biology</i> , <b>2020</b> , 14, 319-330   | 0.7 | 0 |
| 11 | Peptide-induced membrane elastic deformations decelerate gramicidin dimer-monomer equilibration. <i>Biophysical Journal</i> , <b>2021</b> , 120, 5309-5321  | 2.9 | 0 |
| 10 | Characteristic lengths of transmembrane peptides controlling their tilt and lateral distribution between membrane domains. <i>Physical Review E</i> , <b>2021</b> , 104, 044411   | 2.4 | 0 |
| 9  | Interaction of Ordered Lipid Domains in the Presence of Amphipathic Peptides. <i>Biochemistry (Moscow) Supplement Series A: Membrane and Cell Biology</i> , <b>2021</b> , 15, 219-229   | 0.7 | 0 |
| 8  | Lateral Interactions Influence the Kinetics of Metastable Pores in Lipid Membranes. <i>Biochemistry (Moscow) Supplement Series A: Membrane and Cell Biology</i> , <b>2020</b> , 14, 117-125   | 0.7 |   |
| 7  | Stabilization of a complex of fusion proteins by membrane deformations. <i>Biophysics (Russian Federation)</i> , <b>2013</b> , 58, 653-659  | 0.7 |   |
| 6  | The Membrane-Water Partition Coefficients of Antifungal, but Not Antibacterial, Membrane-Active Compounds Are Similar. <i>Frontiers in Microbiology</i> , <b>2021</b> , 12, 756408  | 5.7 |   |
| 5  | <br><br> <i>Biologicheskije Membrany</i> , <b>2017</b> , 162-173       | 0.1 |   |
| 4  | <br> <i>Biologicheskije Membrany</i> , <b>2017</b> , 261-269   | 0.1 |   |
| 3  | <br><br> <i>Biologicheskije Membrany</i> , <b>2017</b> , 270-283 | 0.1 |   |
| 2  | Interaction of Peptides Containing CRAC Motifs with Lipids in Membranes of Various Composition. <i>Biochemistry (Moscow) Supplement Series A: Membrane and Cell Biology</i> , <b>2021</b> , 15, 120-129   | 0.7 |   |
| 1  | Physicochemical and Electrochemical Aspects of the Functioning of Biological Membranes. <i>Russian Journal of Physical Chemistry A</i> , <b>2020</b> , 94, 471-476  | 0.7 |   |