# Tatsuo Shibata

List of Publications by Year
in descending order

Source: https://exaly.com/author-pdf/6843021/publications.pdf

Version: 2024-02-01

| | | | |
|---|---|---|---|
| 75 papers | 2,208 citations | 236925 25 h-index | 254184 43 g-index |
| 85 all docs | 85 docs citations | 85 times ranked | 2310 citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | Stochastic Signal Processing and Transduction in Chemotactic Response of Eukaryotic Cells. Biophysical Journal, 2007, 93, 11-20. | 0.5 | 199 |
| 2 | Self-organization of the phosphatidylinositol lipids signaling system for random cell migration. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 12399-12404. | 7.1 | 182 |
| 3 | Noisy signal amplification in ultrasensitive signal transduction. Proceedings of the National Academy of Sciences of the United States of America, 2005, 102, 331-336. | 7.1 | 155 |
| 4 | Scaling of Dorsal-Ventral Patterning by Embryo Size-Dependent Degradation of Spemannâ€™s Organizer Signals. Cell, 2013, 153, 1296-1311. | 28.9 | 108 |
| 5 | Leftâ€“right asymmetric cell intercalation drives directional collective cell movement in epithelial morphogenesis. Nature Communications, 2015, 6, 10074. | 12.8 | 97 |
| 6 | Cross talking of network motifs in gene regulation that generates temporal pulses and spatial stripes. Genes To Cells, 2005, 10, 1025-1038. | 1.2 | 86 |
| 7 | Targeted mutagenesis in the sea urchin embryo using zincâ€finger nucleases. Genes To Cells, 2010, 15, 875-885. | 1.2 | 75 |
| 8 | Excitable Signal Transduction Induces Both Spontaneous and Directional Cell Asymmetries in the Phosphatidylinositol Lipid Signaling System for Eukaryotic Chemotaxis. Biophysical Journal, 2014, 106, 723-734. | 0.5 | 71 |
| 9 | Collective Chaos. Physical Review Letters, 1998, 81, 4116-4119. | 7.8 | 66 |
| 10 | Synthetic mammalian pattern formation driven by differential diffusivity of Nodal and Lefty. Nature Communications, 2018, 9, 5456. | 12.8 | 66 |
| 11 | Tracing the origin of hair follicle stem cells. Nature, 2021, 594, 547-552. | 27.8 | 62 |
| 12 | A Switch-like Activation Relay of EGFR-ERK Signaling Regulates a Wave of Cellular Contractility for Epithelial Invagination. Developmental Cell, 2018, 46, 162-172.e5. | 7.0 | 60 |
| 13 | Modeling the self-organized phosphatidylinositol lipids signaling system in chemotactic cells based on quantitative image analysis. Journal of Cell Science, 2012, 125, 5138-50. | 2.0 | 47 |
| 14 | Statistical Analysis of Lateral Diffusion and Multistate Kinetics in Single-Molecule Imaging. Biophysical Journal, 2009, 97, 1115-1124. | 0.5 | 46 |
| 15 | Noiseless Collective Motion out of Noisy Chaos. Physical Review Letters, 1999, 82, 4424-4427. | 7.8 | 45 |
| 16 | Adherens junction regulates cryptic lamellipodia formation for epithelial cell migration. Journal of Cell Biology, 2020, 219, . | 5.2 | 45 |
| 17 | Activation Kinetics of RAF Protein in the Ternary Complex of RAF, RAS-GTP, and Kinase on the Plasma Membrane of Living Cells. Journal of Biological Chemistry, 2011, 286, 36460-36468. | 3.4 | 43 |
| 18 | Cell Chirality Induces Collective Cell Migration in Epithelial Sheets. Physical Review Letters, 2015, 115, 188102. | 7.8 | 41 |

| # | Article | IF | Citations |
|---|---|---|---|
| 19 | Zinc-finger nuclease-mediated targeted insertion of reporter genes for quantitative imaging of gene expression in sea urchin embryos. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 10915-10920. | 7.1 | 40 |
| 20 | Tissue-Scale Mechanical Coupling Reduces Morphogenetic Noise to Ensure Precision during Epithelial Folding. Developmental Cell, 2020, 53, 212-228.e12. | 7.0 | 40 |
| 21 | A RasGTP-Induced Conformational Change in C-RAF Is Essential for Accurate Molecular Recognition. Biophysical Journal, 2009, 97, 1277-1287. | 0.5 | 35 |
| 22 | Intracellular Encoding of Spatiotemporal Guidance Cues in a Self-Organizing Signaling System for Chemotaxis in Dictyostelium Cells. Biophysical Journal, 2013, 105, 2199-2209. | 0.5 | 35 |
| 23 | Epithelial Folding Driven by Apical or Basal-Lateral Modulation: Geometric Features, Mechanical Inference, and Boundary Effects. Biophysical Journal, 2017, 112, 2683-2695. | 0.5 | 31 |
| 24 | Coupled map gas: structure formation and dynamics of interacting motile elements with internal dynamics. Physica D: Nonlinear Phenomena, 2003, 181, 197-214. | 2.8 | 30 |
| 25 | Tongue-like bifurcation structures of the mean-field dynamics in a network of chaotic elements. Physica D: Nonlinear Phenomena, 1998, 124, 177-200. | 2.8 | 28 |
| 26 | Visualization of Ca<sup>2+</sup>Filling Mechanisms upon Synaptic Inputs in the Endoplasmic Reticulum of Cerebellar Purkinje Cells. Journal of Neuroscience, 2015, 35, 15837-15846. | 3.6 | 28 |
| 27 | Cortical Polarity of the RING Protein PAR-2 Is Maintained by Exchange Rate Kinetics at the Cortical-Cytoplasmic Boundary. Cell Reports, 2016, 16, 2156-2168. | 6.4 | 25 |
| 28 | Reconstruction of Par-dependent polarity in apolar cells reveals a dynamic process of cortical polarization. ELife, 2019, 8, . | 6.0 | 25 |
| 29 | Evolutionary design of oscillatory genetic networks. European Physical Journal B, 2010, 76, 167-178. | 1.5 | 23 |
| 30 | Noise generation, amplification and propagation in chemotactic signaling systems of living cells. BioSystems, 2008, 93, 126-132. | 2.0 | 22 |
| 31 | Heterogeneity-induced order in globally coupled chaotic systems. Europhysics Letters, 1997, 38, 417-422. | 2.0 | 21 |
| 32 | Mesenchymal-epithelial transition regulates initiation of pluripotency exit before gastrulation. Development (Cambridge), 2020, 147, . | 2.5 | 20 |
| 33 | Asymmetric PTEN Distribution Regulated by Spatial Heterogeneity in Membrane-Binding State Transitions. PLoS Computational Biology, 2013, 9, e1002862. | 3.2 | 20 |
| 34 | Polar pattern formation induced by contact following locomotion in a multicellular system. ELife, 2020, 9, . | 6.0 | 20 |
| 35 | Reducing the master equations for noisy chemical reactions. Journal of Chemical Physics, 2003, 119, 6629-6634. | 3.0 | 16 |
| 36 | Fluctuation Analysis of Mechanochemical Coupling Depending on the Type of Biomolecular Motors. Physical Review Letters, 2008, 101, 128103. | 7.8 | 16 |

| # | Article | IF | Citations |
|---|---|---|---|
| 37 | Self-organization and advective transport in the cell polarity formation for asymmetric cell division. Journal of Theoretical Biology, 2015, 382, 1-14. | 1.7 | 16 |
| 38 | Robust network clocks: Design of genetic oscillators as a complex combinatorial optimization problem. Physical Review E, 2011, 83, 060901. | 2.1 | 15 |
| 39 | Mutual interaction in network motifs robustly sharpens gene expression in developmental processes. Journal of Theoretical Biology, 2008, 252, 131-144. | 1.7 | 14 |
| 40 | Three-Dimensional Cell Geometry Controls Excitable Membrane Signaling in Dictyostelium Cells. Biophysical Journal, 2019, 116, 372-382. | 0.5 | 13 |
| 41 | Fluctuating reaction rates and their application to problems of gene expression. Physical Review E, 2003, 67, 061906. | 2.1 | 11 |
| 42 | Relevance of intracellular polarity to accuracy of eukaryotic chemotaxis. Physical Biology, 2014, 11, 056002. | 1.8 | 11 |
| 43 | Wave Propagation of Junctional Remodeling in Collective Cell Movement of Epithelial Tissue: Numerical Simulation Study. Frontiers in Cell and Developmental Biology, 2017, 5, 66. | 3.7 | 10 |
| 44 | Amplification of noise in a cascade chemical reaction. Physical Review E, 2004, 69, 056218. | 2.1 | 9 |
| 45 | The Relation of Signal Transduction to the Sensitivity and Dynamic Range of Bacterial Chemotaxis. Biophysical Journal, 2012, 103, 1390-1399. | 0.5 | 9 |
| 46 | A balance between antagonizing PAR proteins specifies the pattern of asymmetric and symmetric divisions in C.Âelegans embryogenesis. Cell Reports, 2021, 36, 109326. | 6.4 | 9 |
| 47 | Differential abilities of nitrogen dioxide and nitrite to nitrate proteins in thylakoid membranes isolated from Arabidopsis leaves. Plant Signaling and Behavior, 2016, 11, e1237329. | 2.4 | 8 |
| 48 | Collective cell migration of epithelial cells driven by chiral torque generation. Physical Review Research, 2020, 2, . | 3.6 | 8 |
| 49 | Equilibrium Chemical Engines. Journal of the Physical Society of Japan, 1998, 67, 2666-2670. | 1.6 | 7 |
| 50 | Nonequilibrium self-organization phenomena in active Langmuir monolayers. Chaos, 2006, 16, 037108. | 2.5 | 7 |
| 51 | Tracheal motile cilia in mice require CAMSAP3 for the formation of central microtubule pair and coordinated beating. Molecular Biology of the Cell, 2021, 32, ar12. | 2.1 | 7 |
| 52 | Nonadaptive Fluctuation in an Adaptive Sensory System: Bacterial Chemoreceptor. PLoS ONE, 2010, 5, e11224. | 2.5 | 7 |
| 53 | Adaptive Responses Limited by Intrinsic Noise. PLoS ONE, 2015, 10, e0136095. | 2.5 | 7 |
| 54 | Non-monotonic fluidization generated by fluctuating edge tensions in confluent tissues. Soft Matter, 2022, 18, 2168-2175. | 2.7 | 7 |

| # | Article | IF | Citations |
|---|---|---|---|
| 55 | Hierarchical organization of noise generates spontaneous signal in Paramecium cell. Journal of Theoretical Biology, 2011, 283, 1-9. | 1.7 | 6 |
| 56 | Theoretical model for cell migration with gradient sensing and shape deformation. European Physical Journal E, 2013, 36, 9846. | 1.6 | 6 |
| 57 | Propagation of regulatory fluctuations induces coordinated switching of flagellar motors in chemotaxis signaling pathway of single bacteria. Journal of Theoretical Biology, 2018, 454, 367-375. | 1.7 | 6 |
| 58 | Biomechanical regulation of EMT and epithelial morphogenesis in amniote epiblast. Physical Biology, 2019, 16, 041002. | 1.8 | 6 |
| 59 | Brownian Motors Driven by Particle Exchange. Journal of the Physical Society of Japan, 1998, 67, 1918-1923. | 1.6 | 5 |
| 60 | Energetics of Open Systems and Chemical Potential From Micro-Dynamics Viewpoints. Journal of the Physical Society of Japan, 2000, 69, 2455-2462. | 1.6 | 5 |
| 61 | Directional sensing of deformed cells under faint gradients. Physical Review E, 2012, 86, 060901. | 2.1 | 5 |
| 62 | Bifurcation analysis of a self-organizing signaling system for eukaryotic chemotaxis. Japan Journal of Industrial and Applied Mathematics, 2015, 32, 807-828. | 0.9 | 5 |
| 63 | Mathematical Modeling of Tissue Folding and Asymmetric Tissue Flow during Epithelial Morphogenesis. Symmetry, 2019, 11, 113. | 2.2 | 4 |
| 64 | DNA variations within the sea urchin Otx gene enhancer. FEBS Letters, 2007, 581, 5234-5240. | 2.8 | 3 |
| 65 | A protein switch with tunable steepness reconstructed in Escherichia coli cells with eukaryotic signaling proteins. Biochemical and Biophysical Research Communications, 2012, 421, 731-735. | 2.1 | 3 |
| 66 | Local Membrane Curvature Pins and Guides Excitable Membrane Waves in Chemotactic and Macropinocytic Cells - Biomedical Insights From an Innovative Simple Model. Frontiers in Cell and Developmental Biology, 2021, 9, 670943. | 3.7 | 2 |
| 67 | Production, Amplification and Propagation of Noise in Cells. Seibutsu Butsuri, 2006, 46, 194-200. | 0.1 | 2 |
| 68 | Autonomous epithelial folding induced by an intracellular mechanoâ€“polarity feedback loop. PLoS Computational Biology, 2021, 17, e1009614. | 3.2 | 2 |
| 69 | Relation between Adaptation and Irreversible Circulation in Bacteria Chemotaxis. Progress of Theoretical Physics Supplement, 2006, 161, 251-254. | 0.1 | 0 |
| 70 | Signal Transduction across the Plasma Membrane. , 0, , 99-116. | | 0 |
| 71 | 2P-217 What limit the accuracy of the bacterial chemotaxis?(The 46th Annual Meeting of the) Tj ETQq1 1 0.784314 rgBT /Overlock 1 | 0.1 | 0 |
| 72 | 1P-181 Signal controlled noise in response-adaptation reaction(The 46th Annual Meeting of the) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 6 | 0.1 | 0 |

| # | Article | IF | Citations |
|---|---|---|---|
| 73 | 3P211 Time-resolved 3D Quantification and Analysis of Membrane-Lipid Signaling in Dictyostelium(13B.) Tj ETQq1 1 0.784314 rgBT /Ov | 0.1 | 0 |
| 74 | Developmental Biology of Size. Seibutsu Butsuri, 2014, 54, 140-145. | 0.1 | 0 |
| 75 | Wave propagation of junctional remodeling in collective cell movement of epithelial tissue. Mechanisms of Development, 2017, 145, S41. | 1.7 | 0 |