# Guang-Kui Xu

List of Publications by Year
in descending order



| | | 304743 | 345221 |
|---|---|---|---|
| 58 papers | 1,485 citations | 22 h-index | 36 g-index |
| 58 all docs | 58 docs citations | 58 times ranked | 1638 citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | Directional snapping instability in a bistable tensegrity under uniaxial loads. Composite Structures, 2022, 283, 115153. | 5.8 | 4 |
| 2 | A Bionicâ€Homodimerization Strategy for Optimizing Modulators of Proteinâ€"Protein Interactions: From Statistical Mechanics Theory to Potential Clinical Translation. Advanced Science, 2022, 9, e2105179. | 11.2 | 16 |
| 3 | Cell chirality regulates coherent angular motion onÂsmall circular substrates. Biophysical Journal, 2022, 121, 1931-1939. | 0.5 | 5 |
| 4 | A tensegrity-based morphing module for assembling various deployable structures. Mechanism and Machine Theory, 2022, 173, 104870. | 4.5 | 5 |
| 5 | Frequency-dependent transition in power-law rheological behavior of living cells. Science Advances, 2022, 8, eabn6093. | 10.3 | 22 |
| 6 | Static and dynamic mechanics of cell monolayers: A multi-scale structural model. Acta Mechanica Sinica/Lixue Xuebao, 2022, 38, . | 3.4 | 6 |
| 7 | Stiffening and softening in the power-law rheological behaviors of cells. Journal of the Mechanics and Physics of Solids, 2022, 167, 104989. | 4.8 | 4 |
| 8 | Why are isolated and collective cells greatly different in stiffness?. Journal of the Mechanics and Physics of Solids, 2021, 147, 104280. | 4.8 | 13 |
| 9 | Multilevel structural defects-induced elastic wave tunability and localization of a tensegrity metamaterial. Composites Science and Technology, 2021, 207, 108740. | 7.8 | 22 |
| 10 | A finite-strain micromechanical model for the hyperelasticity of tendons and ligaments with crimped fibers. Mechanics of Materials, 2021, 160, 103955. | 3.2 | 4 |
| 11 | Self-equilibrium and super-stability of rhombic truncated regular tetrahedral and cubic tensegrities using symmetry-adapted force-density matrix method. International Journal of Solids and Structures, 2021, 233, 111215. | 2.7 | 4 |
| 12 | A hierarchical cellular structural model to unravel the universal power-law rheological behavior of living cells. Nature Communications, 2021, 12, 6067. | 12.8 | 32 |
| 13 | Truncated regular octahedral tensegrity-based mechanical metamaterial with tunable and programmable Poisson's ratio. International Journal of Mechanical Sciences, 2020, 167, 105285. | 6.7 | 25 |
| 14 | Constructing various simple polygonal tensegrities by directly or recursively adding bars. Composite Structures, 2020, 234, 111693. | 5.8 | 8 |
| 15 | Mesoscopic dynamic model of epithelial cell division with cell-cell junction effects. Physical Review E, 2020, 102, 012405. | 2.1 | 8 |
| 16 | Rotational constraint contributes to collective cell durotaxis. Applied Physics Letters, 2020, 117, . | 3.3 | 4 |
| 17 | Stochastic fluctuation-induced cell polarization on elastic substrates: A cytoskeleton-based mechanical model. Journal of the Mechanics and Physics of Solids, 2020, 137, 103872. | 4.8 | 23 |
| 18 | Bandgap characteristics of a tensegrity metamaterial chain with defects. Extreme Mechanics Letters, 2020, 36, 100668. | 4.1 | 14 |

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|---|---|---|---|
| 19 | Stress-driven cell extrusion can maintain homeostatic cell density in response to overcrowding. Soft Matter, 2019, 15, 8441-8449. | 2.7 | 10 |
| 20 | Enumerationâ€"screening method for the design of simple polygonal tensegrities. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2019, 475, 20180812. | 2.1 | 2 |
| 21 | Unusual Sonochemical Assembly between Carbon Allotropes for High Strain-Tolerant Conductive Nanocomposites. ACS Nano, 2019, 13, 12062-12069. | 14.6 | 2 |
| 22 | Size-Dependent Mechanics of the Adherens Junction Mediated by Cooperative trans and cis Bindings. Journal of Applied Mechanics, Transactions ASME, 2019, 86, . | 2.2 | 2 |
| 23 | Analytical Form-Finding for Highly Symmetric and Super-Stable Configurations of Rhombic Truncated Regular Polyhedral Tensegrities. Journal of Applied Mechanics, Transactions ASME, 2019, 86, . | 2.2 | 9 |
| 24 | Three-dimensional collective cell motions in an acinus-like lumen. Journal of Biomechanics, 2019, 84, 234-242. | 2.1 | 7 |
| 25 | Analytical form-finding of tensegrities using determinant of force-density matrix. Composite Structures, 2018, 189, 87-98. | 5.8 | 34 |
| 26 | Non-contact tensile viscoelastic characterization of microscale biological materials. Acta Mechanica Sinica/Lixue Xuebao, 2018, 34, 589-599. | 3.4 | 13 |
| 27 | Orientations of Cells on Compliant Substrates under Biaxial Stretches: A Theoretical Study. Biophysical Journal, 2018, 114, 701-710. | 0.5 | 35 |
| 28 | Automatically assembled large-scale tensegrities by truncated regular polyhedral and prismatic elementary cells. Composite Structures, 2018, 184, 30-40. | 5.8 | 24 |
| 29 | Dynamic Migration Modes of Collective Cells. Biophysical Journal, 2018, 115, 1826-1835. | 0.5 | 63 |
| 30 | Are elastic moduli of biological cells depth dependent or not? Another explanation using a contact mechanics model with surface tension. Soft Matter, 2018, 14, 7534-7541. | 2.7 | 48 |
| 31 | Thermally assisted peeling of an elastic strip in adhesion with a substrate via molecular bonds. Journal of the Mechanics and Physics of Solids, 2017, 101, 197-208. | 4.8 | 36 |
| 32 | A Dynamic Biochemomechanical Model of Geometry-Confined Cell Spreading. Biophysical Journal, 2017, 112, 2377-2386. | 0.5 | 14 |
| 33 | On the determination of elastic moduli of cells by AFM based indentation. Scientific Reports, 2017, 7, 45575. | 3.3 | 90 |
| 34 | Impact of lipid rafts on the<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>T</mml:mi></mml:mrow></mml:math>-cell-receptor and peptide-major-histocompatibility-complex interactions under different measurement conditions. Physical Review E, 2017, 95, 012403. | 2.1 | 10 |
| 35 | Collective dynamics of cancer cells confined in a confluent monolayer of normal cells. Journal of Biomechanics, 2017, 52, 140-147. | 2.1 | 30 |
| 36 | Microencapsulated Phase Change Materials in Solar-Thermal Conversion Systems: Understanding Geometry-Dependent Heating Efficiency and System Reliability. ACS Nano, 2017, 11, 721-729. | 14.6 | 98 |

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|---|---|---|---|
| 37 | Highly Stable and Conductive Microcapsules for Enhancement of Joule Heating Performance. ACS Nano, 2016, 10, 4695-4703. | 14.6 | 81 |
| 38 | The glycocalyx promotes cooperative binding and clustering of adhesion receptors. Soft Matter, 2016, 12, 4572-4583. | 2.7 | 31 |
| 39 | A Tensegrity Model of Cell Reorientation on Cyclically Stretched Substrates. Biophysical Journal, 2016, 111, 1478-1486. | 0.5 | 65 |
| 40 | Tension-compression asymmetry in the binding affinity of membrane-anchored receptors and ligands. Physical Review E, 2016, 93, 032411. | 2.1 | 4 |
| 41 | Binding equilibrium and kinetics of membrane-anchored receptors and ligands in cell adhesion: Insights from computational model systems and theory. Cell Adhesion and Migration, 2016, 10, 576-589. | 2.7 | 29 |
| 42 | Oriented cell division affects the global stress and cell packing geometry of a monolayer under stretch. Journal of Biomechanics, 2016, 49, 401-407. | 2.1 | 20 |
| 43 | Binding kinetics of membrane-anchored receptors and ligands: Molecular dynamics simulations and theory. Journal of Chemical Physics, 2015, 143, 243137. | 3.0 | 27 |
| 44 | Binding constants of membrane-anchored receptors and ligands: A general theory corroborated by Monte Carlo simulations. Journal of Chemical Physics, 2015, 143, 243136. | 3.0 | 54 |
| 45 | Negative stiffness behaviors emerging in elastic instabilities of prismatic tensegrities under torsional loading. International Journal of Mechanical Sciences, 2015, 103, 189-198. | 6.7 | 26 |
| 46 | How do changes at the cell level affect the mechanical properties of epithelial monolayers?. Soft Matter, 2015, 11, 8782-8788. | 2.7 | 28 |
| 47 | Integrin activation and internalization mediated by extracellular matrix elasticity: A biomechanical model. Journal of Biomechanics, 2014, 47, 1479-1484. | 2.1 | 31 |
| 48 | Effects of interface cohesion on mechanical properties of interpenetrating phase nanocomposites. Micro and Nano Letters, 2014, 9, 697-701. | 1.3 | 5 |
| 49 | Mechanical properties and scaling laws of nanoporous gold. Journal of Applied Physics, 2013, 113, . | 2.5 | 171 |
| 50 | Tissueâ€“Growth Model for the Swelling Analysis of Coreâ€“Shell Hydrogels. Soft Materials, 2013, 11, 117-124. | 1.7 | 10 |
| 51 | Controlled Release and Assembly of Drug Nanoparticles via pH-Responsive Polymeric Micelles: A Theoretical Study. Journal of Physical Chemistry B, 2012, 116, 6003-6009. | 2.6 | 18 |
| 52 | Self-assembly of organicâ€“inorganic nanocomposites with nacre-like hierarchical structures. Soft Matter, 2011, 7, 4828. | 2.7 | 19 |
| 53 | Controllable nanostructural transitions in grafted nanoparticle-block copolymer composites. Nano Research, 2010, 3, 356-362. | 10.4 | 21 |
| 54 | A molecular mechanisms-based biophysical model for two-phase cell spreading. Applied Physics Letters, 2010, 96, 043703. | 3.3 | 21 |

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|---|---|---|---|
| 55 | Self-Assembled Nanostructures of Homopolymer and Diblock Copolymer Blends in a Selective Solvent. Journal of Physical Chemistry B, 2010, 114, 1257-1263. | 2.6 | 24 |
| 56 | Theoretical study of the competition between cell-cell and cell-matrix adhesions. Physical Review E, 2009, 80, 011921. | 2.1 | 20 |
| 57 | Surface patterning of soft polymer film-coated cylinders via an electric field. Journal of Physics Condensed Matter, 2009, 21, 445006. | 1.8 | 15 |
| 58 | Self-assembled lipid nanostructures encapsulating nanoparticles in aqueous solution. Soft Matter, 2009, 5, 3977. | 2.7 | 19 |