# Yu Tian

List of Publications by Year
in descending order



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|---|---|---|---|
| 124 papers | 3,993 citations | 159585 30 h-index | 138484 58 g-index |
| 125 all docs | 125 docs citations | 125 times ranked | 3319 citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | Adhesion and friction in gecko toe attachment and detachment. Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 19320-19325. | 7.1 | 546 |
| 2 | Tribological properties of oleic acid-modified graphene as lubricant oil additives. Journal Physics D: Applied Physics, 2011, 44, 205303. | 2.8 | 232 |
| 3 | Peel-Zone Model of Tape Peeling Based on the Gecko Adhesive System. Journal of Adhesion, 2007, 83, 383-401. | 3.0 | 159 |
| 4 | Recent advances in gecko adhesion and friction mechanisms and development of gecko-inspired dry adhesive surfaces. Friction, 2013, 1, 114-129. | 6.4 | 137 |
| 5 | Robust self-cleaning and micromanipulation capabilities of gecko spatulae and their bio-mimics. Nature Communications, 2015, 6, 8949. | 12.8 | 124 |
| 6 | Adhesion and Friction Force Coupling of Gecko Setal Arrays:â€‰ Implications for Structured Adhesive Surfaces. Langmuir, 2008, 24, 1517-1524. | 3.5 | 106 |
| 7 | Controllable Anisotropic Dry Adhesion in Vacuum: Gecko Inspired Wedged Surface Fabricated with Ultraprecision Diamond Cutting. Advanced Functional Materials, 2017, 27, 1606576. | 14.9 | 95 |
| 8 | Stick-slip behaviours of water lubrication polymer materials under low speed conditions. Tribology International, 2017, 106, 55-61. | 5.9 | 91 |
| 9 | Soluble, Exfoliated Two-Dimensional Nanosheets as Excellent Aqueous Lubricants. ACS Applied Materials & Interfaces, 2016, 8, 32440-32449. | 8.0 | 88 |
| 10 | Controllable Interfacial Adhesion Applied to Transfer Light and Fragile Objects by Using Gecko Inspired Mushroom-Shaped Pillar Surface. ACS Applied Materials & Interfaces, 2013, 5, 10137-10144. | 8.0 | 86 |
| 11 | Biomimetic Bidirectional Switchable Adhesive Inspired by the Gecko. Advanced Functional Materials, 2014, 24, 574-579. | 14.9 | 86 |
| 12 | Probing Non-Gaussianity in Confined Diffusion of Nanoparticles. Journal of Physical Chemistry Letters, 2016, 7, 514-519. | 4.6 | 84 |
| 13 | Frictional Adhesion of Patterned Surfaces and Implications for Gecko and Biomimetic Systems. Langmuir, 2009, 25, 7486-7495. | 3.5 | 75 |
| 14 | Gecko adhesion pad: a smart surface?. Journal of Physics Condensed Matter, 2009, 21, 464132. | 1.8 | 72 |
| 15 | A shear thickening phenomenon in magnetic field controlled-dipolar suspensions. Applied Physics Letters, 2010, 97, . | 3.3 | 68 |
| 16 | Structure Parameter of Electrorheological Fluids in Shear Flow. Langmuir, 2011, 27, 5814-5823. | 3.5 | 67 |
| 17 | Recent developments in gecko-inspired dry adhesive surfaces from fabrication to application. Surface Topography: Metrology and Properties, 2019, 7, 023001. | 1.6 | 59 |
| 18 | Progresses on the theory and application of quartz crystal microbalance. Applied Physics Reviews, 2016, 3, 031106. | 11.3 | 58 |

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|---|---|---|---|
| 19 | State-of-the-Art of Extreme Pressure Lubrication Realized with the High Thermal Diffusivity of Liquid Metal. ACS Applied Materials & Interfaces, 2017, 9, 5638-5644. | 8.0 | 58 |
| 20 | Ionic Current-Based Mapping of Short Sequence Motifs in Single DNA Molecules Using Solid-State Nanopores. Nano Letters, 2017, 17, 5199-5205. | 9.1 | 56 |
| 21 | Adhesion and Detachment Mechanisms between Polymer and Solid Substrate Surfaces: Using Polystyreneâ€“Mica as a Model System. Macromolecules, 2016, 49, 5223-5231. | 4.8 | 54 |
| 22 | Discretely Supported Dry Adhesive Film Inspired by Biological Bending Behavior for Enhanced Performance on a Rough Surface. ACS Applied Materials & Interfaces, 2017, 9, 7752-7760. | 8.0 | 47 |
| 23 | Bridging nanocontacts to macroscale gecko adhesion by sliding soft lamellar skin supported setal array. Scientific Reports, 2013, 3, 1382. | 3.3 | 45 |
| 24 | Research Progress in Application of 2D Materials in Liquid-Phase Lubrication System. Materials, 2018, 11, 1314. | 2.9 | 44 |
| 25 | Effect of Imidazolium Ionic Liquid Additives on Lubrication Performance of Propylene Carbonate under Different Electrical Potentials. Tribology Letters, 2014, 56, 161-169. | 2.6 | 42 |
| 26 | Reversible shear thickening at low shear rates of electrorheological fluids under electric fields. Physical Review E, 2011, 83, 011401. | 2.1 | 39 |
| 27 | Direction- and Salt-Dependent Ionic Current Signatures for DNA Sensing with Asymmetric Nanopores. Biophysical Journal, 2017, 112, 674-682. | 0.5 | 39 |
| 28 | An experimental study on the normal stress of magnetorheological fluids. Smart Materials and Structures, 2011, 20, 085012. | 3.5 | 37 |
| 29 | Vibration and Noise Behaviors During Stickâ€“Slip Friction. Tribology Letters, 2019, 67, 1. | 2.6 | 34 |
| 30 | Diffusion of Nanoparticles with Activated Hopping in Crowded Polymer Solutions. Nano Letters, 2020, 20, 3895-3904. | 9.1 | 34 |
| 31 | Tribological properties of liquid-metal galinstan as novel additive in lithium grease. Tribology International, 2018, 128, 181-189. | 5.9 | 32 |
| 32 | A glimpse of superb tribological designs in nature. Biotribology, 2015, 1-2, 11-23. | 1.9 | 31 |
| 33 | Effects of pH on shear thinning and thickening behaviors of fumed silica suspensions. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2015, 464, 1-7. | 4.7 | 31 |
| 34 | Friction at the Liquid/Liquid Interface of Two Immiscible Polymer Films. Langmuir, 2009, 25, 4954-4964. | 3.5 | 30 |
| 35 | Response Characteristics of the Potential-Controlled Friction of ZrO2/Stainless Steel Tribopairs in Sodium Dodecyl Sulfate Aqueous Solutions. Tribology Letters, 2010, 38, 169-178. | 2.6 | 30 |
| 36 | Potential-Controlled Boundary Lubrication of Stainless Steels in Non-aqueous Sodium Dodecyl Sulfate Solutions. Tribology Letters, 2014, 53, 17-26. | 2.6 | 29 |

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|---|---|---|---|
| 37 | Effect of concentration and addition of ions on the adsorption of sodium dodecyl sulfate on stainless steel surface in aqueous solutions. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2015, 484, 408-415. | 4.7 | 29 |
| 38 | Elegant Shadow Making Tiny Force Visible for Water-Walking Arthropods and Updated Archimedesâ€™ Principle. Langmuir, 2016, 32, 10522-10528. | 3.5 | 29 |
| 39 | Friction Contribution to Bioinspired Mushroomâ€Shaped Dry Adhesives. Advanced Materials Interfaces, 2017, 4, 1700016. | 3.7 | 29 |
| 40 | Investigation of ultra-low friction between self-mated Si 3 N 4 in water after running-in. Tribology International, 2017, 115, 365-369. | 5.9 | 29 |
| 41 | Hydrogen embrittlement of X80 pipeline steel in H2S environment: Effect of hydrogen charging time, hydrogen-trapped state and hydrogen chargingâ€“releasingâ€“recharging cycles. International Journal of Minerals, Metallurgy and Materials, 2020, 27, 63-73. | 4.9 | 29 |
| 42 | Cactus-like double-shell structured SiO 2 @TiO 2 microspheres: Fabrication, electrorheological performances and microwave absorption. Journal of Industrial and Engineering Chemistry, 2017, 56, 203-211. | 5.8 | 28 |
| 43 | A novel comb-typed poly(oligo(ethylene glycol) methylether acrylate) as an excellent aqueous lubricant. Journal of Colloid and Interface Science, 2019, 539, 342-350. | 9.4 | 27 |
| 44 | Transient surface patterns during adhesion and coalescence of thin liquid films. Soft Matter, 2007, 3, 88-93. | 2.7 | 26 |
| 45 | Rectangle-capped and tilted micropillar array for enhanced anisotropic anti-shearing in biomimetic adhesion. Journal of the Royal Society Interface, 2015, 12, 20150090. | 3.4 | 26 |
| 46 | Rippled Polymer Surface Generated by Stickâ€“Slip Friction. Langmuir, 2019, 35, 2878-2884. | 3.5 | 26 |
| 47 | Surface wettability effect on aqueous lubrication: Van der Waals and hydration force competition induced adhesive friction. Journal of Colloid and Interface Science, 2021, 599, 667-675. | 9.4 | 25 |
| 48 | Anisotropic interfacial friction of inclined multiwall carbon nanotube array surface. Carbon, 2012, 50, 5372-5379. | 10.3 | 24 |
| 49 | Three-dimensional topographies of water surface dimples formed by superhydrophobic water strider legs. Applied Physics Letters, 2016, 109, . | 3.3 | 23 |
| 50 | The Extended Peel Zone Model: Effect of Peeling Velocity. Journal of Adhesion, 2011, 87, 1045-1058. | 3.0 | 22 |
| 51 | Engineering the morphology of TiO2/carbon hybrids via oxidized Ti3C2Tx MXene and associated electrorheological activities. Chemical Engineering Journal, 2019, 378, 122170. | 12.7 | 22 |
| 52 | CuS Nanoparticle Additives for Enhanced Ester Lubricant Performance. ACS Applied Nano Materials, 2018, 1, 7060-7065. | 5.0 | 21 |
| 53 | Flexible adhesion control by modulating backing stiffness based on jamming of granular materials. Smart Materials and Structures, 2019, 28, 115023. | 3.5 | 21 |
| 54 | Progress in Bioinspired Dry and Wet Gradient Materials from Design Principles to Engineering Applications. IScience, 2020, 23, 101749. | 4.1 | 20 |

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| 55 | Adhesion and friction of an isolated gecko setal array: The effects of substrates and relative humidity. Biosurface and Biotribology, 2015, 1, 42-49. | 1.5 | 18 |
| 56 | Ultralow friction between cemented carbide and graphite in water using three-step ring-on-ring friction test. Wear, 2016, 352-353, 54-64. | 3.1 | 18 |
| 57 | Electric Potential-Controlled Interfacial Interaction between Gold and Hydrophilic/Hydrophobic Surfaces in Aqueous Solutions. Journal of Physical Chemistry C, 2018, 122, 22549-22555. | 3.1 | 18 |
| 58 | Functionally Graded Gecko Setae and the Biomimics with Robust Adhesion and Durability. ACS Applied Polymer Materials, 2020, 2, 2658-2666. | 4.4 | 18 |
| 59 | Synergistic lubricating effect of graphene/ionic liquid composite material used as an additive. Friction, 2021, 9, 1568-1579. | 6.4 | 18 |
| 60 | Transient Interfacial Patterns and Instabilities Associated with Liquid Film Adhesion and Spreading. Langmuir, 2007, 23, 6126-6135. | 3.5 | 17 |
| 61 | Shear history effect of magnetorheological fluids. Smart Materials and Structures, 2015, 24, 105030. | 3.5 | 17 |
| 62 | Enhanced Adhesion of Mosquitoes to Rough Surfaces. ACS Applied Materials & Interfaces, 2017, 9, 24373-24380. | 8.0 | 17 |
| 63 | Extreme-Pressure Superlubricity of Polymer Solution Enhanced with Hydrated Salt Ions. Langmuir, 2020, 36, 6765-6774. | 3.5 | 17 |
| 64 | Electric Response of CuS Nanoparticle Lubricant Additives: The Effect of Crystalline and Amorphous Octadecylamine Surfactant Capping Layers. Langmuir, 2019, 35, 15825-15833. | 3.5 | 16 |
| 65 | Environmental atmosphere effect on lubrication performance of gallium-based liquid metal. Tribology International, 2020, 141, 105904. | 5.9 | 16 |
| 66 | Magnesium Silicate Hydroxideâ€“MoS<sub>2</sub>â€“Sb<sub>2</sub>O<sub>3</sub> Coating Nanomaterials for High-Temperature Superlubricity. ACS Applied Nano Materials, 2021, 4, 7097-7106. | 5.0 | 16 |
| 67 | Transient adhesion in a non-fully detached contact. Scientific Reports, 2018, 8, 6147. | 3.3 | 15 |
| 68 | Robust scalable reversible strong adhesion by gecko-inspired composite design. Friction, 2022, 10, 1192-1207. | 6.4 | 15 |
| 69 | Anti-electroviscous effect of near-surface 5CB liquid crystal and its boundary lubrication property. Rheologica Acta, 2012, 51, 267-277. | 2.4 | 13 |
| 70 | Modeling the response of a quartz crystal microbalance under nanoscale confinement and slip boundary conditions. Physical Chemistry Chemical Physics, 2015, 17, 7224-7231. | 2.8 | 13 |
| 71 | Viscous Force Retards Initial Droplet Spreading. Journal of Physical Chemistry C, 2017, 121, 22054-22059. | 3.1 | 13 |
| 72 | Propulsion Principles of Water Striders in Sculling Forward through Shadow Method. Journal of Bionic Engineering, 2018, 15, 516-525. | 5.0 | 13 |

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| 73 | On Lubrication States after a Running-In Process in Aqueous Lubrication. Langmuir, 2019, 35, 15435-15443. | 3.5 | 13 |
| 74 | Potential-Controlled Boundary Lubrication Using MoS2 Additives in Diethyl Succinate. Tribology Letters, 2020, 68, 1. | 2.6 | 13 |
| 75 | Boundary layer viscosity of CNT-doped liquid crystals: effects of phase behavior. Rheologica Acta, 2013, 52, 939-947. | 2.4 | 12 |
| 76 | Stick-slip behavior of magnetorheological fluids in simple linear shearing mode. Rheologica Acta, 2015, 54, 859-867. | 2.4 | 12 |
| 77 | Frequency-independent viscoelasticity of carbonyl iron particle suspensions under a magnetic field. Smart Materials and Structures, 2017, 26, 054009. | 3.5 | 12 |
| 78 | Effects of Abrasive Particles on Liquid Superlubricity and Mechanisms for Their Removal. Langmuir, 2021, 37, 3628-3636. | 3.5 | 12 |
| 79 | Magnetic field effect on apparent viscosity reducing of different crude oils at low temperature. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2021, 629, 127372. | 4.7 | 12 |
| 80 | Intermolecular and surface forces in atomic-scale manufacturing. International Journal of Extreme Manufacturing, 2022, 4, 022002. | 12.7 | 11 |
| 81 | Macroscale Light-Controlled Lubrication Enabled by Introducing Diarylethene Molecules in a Nanoconfinement. Langmuir, 2020, 36, 5820-5828. | 3.5 | 10 |
| 82 | Effect of base oil lubrication properties on magnetorheological fluids. Smart Materials and Structures, 2021, 30, 095011. | 3.5 | 10 |
| 83 | Flexible Control and Coupling of Adhesion and Friction of Gecko Setal Array During Sliding. Tribology Online, 2015, 10, 106-114. | 0.9 | 9 |
| 84 | Delivering quantum dots to lubricants: Current status and prospect. Friction, 2022, 10, 1751-1771. | 6.4 | 9 |
| 85 | Homogeneous interfacial water structure favors realizing a low-friction coefficient state. Journal of Colloid and Interface Science, 2022, 626, 324-333. | 9.4 | 9 |
| 86 | Contributions of lunate cells and wax crystals to the surface anisotropy ofNepenthesslippery zone. Royal Society Open Science, 2018, 5, 180766. | 2.4 | 8 |
| 87 | Controlled Adhesion Anisotropy between Two Rectangular Grooved Surfaces. Advanced Materials Interfaces, 2018, 5, 1801268. | 3.7 | 8 |
| 88 | Active Control of Boundary Lubrication of Ceramic Tribo-Pairs in Sodium Dodecyl Sulfate Aqueous Solutions. Tribology Letters, 2021, 69, 1. | 2.6 | 8 |
| 89 | Nanorheology of liquid crystal thin films confined between interfaces with anisotropic molecular orientations. Microfluidics and Nanofluidics, 2015, 18, 1131-1138. | 2.2 | 7 |
| 90 | Superlow Wear Realizable Tribofilms from Lubricant Oil Containing Hydrothermally Synthesized Magnesium Silicate Hydroxide/Carbon Coreâ€“Shell Nanoplates. Langmuir, 2021, 37, 240-248. | 3.5 | 7 |

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| 91 | Photorheological fluids of azobenzene polymers for lubrication regulation. Friction, 2022, 10, 1078-1090. | 6.4 | 7 |
| 92 | On-Line Feedback Control of Sliding Friction of Metals Lubricated by Adsorbed Boundary SDS Films. Lubricants, 2022, 10, 148. | 2.9 | 7 |
| 93 | Transient filamentous network structure of a colloidal suspension excited by stepwise electric fields. Physical Review E, 2007, 75, 011409. | 2.1 | 6 |
| 94 | Unexpected shear strength change in magnetorheological fluids. APL Materials, 2014, 2, 096102. | 5.1 | 6 |
| 95 | One-step preparation of TiO<sub>2</sub>particles with controllable phase and morphology by plasma electrolysis. RSC Advances, 2017, 7, 39824-39832. | 3.6 | 6 |
| 96 | Quantification/mechanism of interfacial interaction modulated by electric potential in aqueous salt solution. Friction, 2021, 9, 513-523. | 6.4 | 6 |
| 97 | A Chemical Potential Equation for Modeling Triboelectrochemical Reactions on Solidâ€“Liquid Interfaces. Frontiers in Chemistry, 2021, 9, 650880. | 3.6 | 6 |
| 98 | Trumpet-shaped controllable adhesive structure for manipulation of millimeter-sized objects. Smart Materials and Structures, 2021, 30, 115003. | 3.5 | 6 |
| 99 | Load Sharing Design of a Multi-legged Adaptable Gripper With Gecko-Inspired Controllable Adhesion. IEEE Robotics and Automation Letters, 2021, 6, 8482-8489. | 5.1 | 6 |
| 100 | Imaging dynamic three-dimensional traction stresses. Science Advances, 2022, 8, eabm0984. | 10.3 | 6 |
| 101 | Differences in Tribological Behaviors upon Switching Fixed and Moving Materials of Tribo-pairs including Metal and Polymer. Scientific Reports, 2017, 7, 13041. | 3.3 | 5 |
| 102 | Scaling magneto-rheology based on Newtonian and non-Newtonian host fluids. Smart Materials and Structures, 2018, 27, 105019. | 3.5 | 5 |
| 103 | Role of Interfacial Water and Applied Potential on Friction at Au(111) Surfaces. Frontiers in Mechanical Engineering, 2019, 5, . | 1.8 | 5 |
| 104 | Voltage-Assisted Tribofilm Formation of Sulfur- and Phosphorus-Free Organic Molybdenum Additive on Bearing Steel Surfaces in Industrial Base Oils. Tribology Letters, 2022, 70, 1. | 2.6 | 5 |
| 105 | Peanut shaped titanium oxide micro-particles achieved by cathode plasma electrolysis and their electrorheological characteristics. Smart Materials and Structures, 2018, 27, 115017. | 3.5 | 4 |
| 106 | Clumping Stability of Vertical Nanofibers on Surfaces. Langmuir, 2018, 34, 11629-11636. | 3.5 | 4 |
| 107 | A Shadow-Based Nano Scale Precision Force Sensor. IEEE Sensors Journal, 2019, 19, 2072-2078. | 4.7 | 4 |
| 108 | Fluffy Polyfluoroalkoxy Layer Produced by Air Plasma Spraying Based on â€œGrapeshotâ€•Effect. Journal of Thermal Spray Technology, 2020, 29, 462-470. | 3.1 | 4 |

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| 109 | Light-Controlled Friction by Carboxylic Azobenzene Molecular Self-Assembly Layers. Frontiers in Chemistry, 2021, 9, 707232. | 3.6 | 4 |
| 110 | Walking of spider on water surface studied from its leg shadows. Chinese Physics B, 2018, 27, 084702. | 1.4 | 3 |
| 111 | Fluid Property Effects on the Splashing in Teapot Effect. Journal of Physical Chemistry C, 2018, 122, 21411-21417. | 3.1 | 3 |
| 112 | Potential-Dependent Interfacial Frictional Behavior between Charged Microspheres and Gold in Aqueous Solutions. Journal of Physical Chemistry C, 2022, 126, 4555-4562. | 3.1 | 3 |
| 113 | Thinning of glycerol in the presence of multi-walled carbon nanotubes. Journal of Chemical Physics, 2019, 151, 054302. | 3.0 | 2 |
| 114 | Role of structural stiffness on the loading capacity of fibrillar adhesive composite. Extreme Mechanics Letters, 2020, 41, 101001. | 4.1 | 2 |
| 115 | Development of a nanoscale displacement sensor based on the shadow method. Applied Optics, 2022, 61, G9. | 1.8 | 2 |
| 116 | Nanofibers: Clumping Criteria of Vertical Nanofibers on Surfaces (Adv. Mater. Interfaces 5/2015). Advanced Materials Interfaces, 2015, 2, . | 3.7 | 1 |
| 117 | Effect of Surface Roughness on the Stick-slip Behavior of Magnetic Field Controlled-dipolar Suspensions in Simple Linear Shear Mode. MATEC Web of Conferences, 2016, 67, 03032. | 0.2 | 1 |
| 118 | Paper-Like Visual Indicator Films for Harmful Hydrophilic Liquids and Vapors. ACS Applied Polymer Materials, 2021, 3, 4027-4034. | 4.4 | 1 |
| 119 | Influence of magnetic property of test plates on magneto-rheological behavior. Smart Materials and Structures, 2022, 31, 055015. | 3.5 | 1 |
| 120 | Dynamic Viscoelasticity of Electrorheological Fluids Under Enhanced Electric Field. Current Smart Materials, 2017, 2, . | 0.5 | 0 |
| 121 | Effects of square micro-pillar array porosity on the liquid motion of near surface layer*. Chinese Physics B, 2020, 29, 024702. | 1.4 | 0 |
| 122 | Fast Opticalâ€Thermal Responsive Intelligent Glass Realized by Hydrated Poly( N â€Isopropylacrylamide) Film. Macromolecular Materials and Engineering, 2021, 306, 2100272. | 3.6 | 0 |
| 123 | Friction Contrast of High-Purity Titanium in Microscale. Tribology Letters, 2021, 69, 1. | 2.6 | 0 |
| 124 | Influence of Adsorption Characteristics of Surfactants Sodium Dodecyl Sulfate and Aerosolâ€“OT on Dynamic Process of Water-Based Lubrication. Lubricants, 2022, 10, 147. | 2.9 | 0 |