# W Gregory Sawyer

List of Publications by Year
in descending order



| | | | |
|---|---|---|---|
| 204 papers | 12,118 citations | 22146 59 h-index | 30920 102 g-index |
| 207 all docs | 207 docs citations | 207 times ranked | 9245 citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | 3D In Vitro Platform for Cell and Explant Culture in Liquid-like Solids. Cells, 2022, 11, 967. | 4.1 | 6 |
| 2 | CAR T Cell Locomotion in Solid Tumor Microenvironment. Cells, 2022, 11, 1974. | 4.1 | 15 |
| 3 | Amphiphilic gel lubrication and the solvophilic transition. Biotribology, 2021, 26, 100170. | 1.9 | 3 |
| 4 | Leonardo da Vinci on Wear. Biotribology, 2021, 26, 100160. | 1.9 | 7 |
| 5 | Ex vivo SARS-CoV-2 infection of human lung reveals heterogeneous host defense and therapeutic responses. JCI Insight, 2021, 6, . | 5.0 | 26 |
| 6 | Superficial Modulus, Water-Content, and Mesh-Size at Hydrogel Surfaces. Tribology Letters, 2021, 69, 1. | 2.6 | 8 |
| 7 | Gel-Forming Mucin Improves Lubricity Across Model Gemini Epithelial Cell Interfaces. Tribology Letters, 2021, 69, 1. | 2.6 | 4 |
| 8 | Surface Gel Layers Reduce Shear Stress and Damage of Corneal Epithelial Cells. Tribology Letters, 2020, 68, 1. | 2.6 | 16 |
| 9 | Adult immuno-oncology: using past failures to inform the future. Neuro-Oncology, 2020, 22, 1249-1261. | 1.2 | 19 |
| 10 | Soft Textured Implants: Roughness, Friction, and the Complications. Biotribology, 2020, 22, 100127. | 1.9 | 8 |
| 11 | Quantitative characterization of 3D bioprinted structural elements under cell generated forces. Nature Communications, 2019, 10, 3029. | 12.8 | 73 |
| 12 | Friction-Induced Apoptosis. Tribology Letters, 2019, 67, 1. | 2.6 | 8 |
| 13 | Temperature-Dependent Friction of Gemini Hydrogels. Tribology Letters, 2019, 67, 1. | 2.6 | 6 |
| 14 | Hydration Control of Gel-Adhesion and Muco-Adhesion. Langmuir, 2019, 35, 15769-15775. | 3.5 | 9 |
| 15 | Normal Load Scaling of Friction in Gemini Hydrogels. Biotribology, 2018, 13, 30-35. | 1.9 | 34 |
| 16 | Polyelectrolyte scaling laws for microgel yielding near jamming. Soft Matter, 2018, 14, 1559-1570. | 2.7 | 42 |
| 17 | In Situ Measurements of Contact Dynamics in Speed-dependent Hydrogel Friction. Biotribology, 2018, 13, 23-29. | 1.9 | 26 |
| 18 | Effect of silicon and oxygen dopants on the stability of hydrogenated amorphous carbon under harsh environmental conditions. Carbon, 2018, 130, 127-136. | 10.3 | 45 |

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| 19 | Considerations for Biotribometers: Cells, Gels, and Tissues. Tribology Letters, 2018, 66, 1. | 2.6 | 16 |
| 20 | Commercially available microgels for 3D bioprinting. Bioprinting, 2018, 11, e00037. | 5.8 | 36 |
| 21 | The contact mechanics challenge: tribology meets soft matter. Soft Matter, 2018, 14, 5706-5709. | 2.7 | 6 |
| 22 | Lubricity of High Water Content Aqueous Gels. Tribology Letters, 2018, 66, 1. | 2.6 | 30 |
| 23 | Friction-Induced Inflammation. Tribology Letters, 2018, 66, 1. | 2.6 | 37 |
| 24 | The effect of surface roughness and viscoelasticity on rubber adhesion. Soft Matter, 2017, 13, 3602-3621. | 2.7 | 89 |
| 25 | Polymer Osmotic Pressure in Hydrogel Contact Mechanics. Biotribology, 2017, 11, 3-7. | 1.9 | 50 |
| 26 | Spherically capped membrane probes for low contact pressure tribology. Biotribology, 2017, 11, 69-72. | 1.9 | 16 |
| 27 | Self-assembled micro-organogels for 3D printing silicone structures. Science Advances, 2017, 3, e1602800. | 10.3 | 195 |
| 28 | A Confocal Fluorescence Microscopy Method for Measuring Mucous Layer Growth on Living Corneal Epithelia. Biotribology, 2017, 11, 73-76. | 1.9 | 7 |
| 29 | Corneal cell friction: Survival, lubricity, tear films, and mucin production over extended duration in vitro studies. Biotribology, 2017, 11, 77-83. | 1.9 | 32 |
| 30 | Elastic modulus and hydraulic permeability of MDCK monolayers. Journal of Biomechanics, 2017, 53, 210-213. | 2.1 | 26 |
| 31 | Lubricous Hydrogel Surface Coatings on Polydimethylsiloxane (PDMS). Tribology Letters, 2017, 65, 1. | 2.6 | 20 |
| 32 | Contact and Deformation of Randomly Rough Surfaces with Varying Root-Mean-Square Gradient. Tribology Letters, 2017, 65, 1. | 2.6 | 17 |
| 33 | Meeting the Contact-Mechanics Challenge. Tribology Letters, 2017, 65, 1. | 2.6 | 232 |
| 34 | Deformation Measurements of Randomly Rough Surfaces. Tribology Letters, 2017, 65, 1. | 2.6 | 9 |
| 35 | Contact Measurements of Randomly Rough Surfaces. Tribology Letters, 2017, 65, 1. | 2.6 | 28 |
| 36 | Measuring Contact Mechanics Deformations Using DIC through a Transparent Medium. Experimental Mechanics, 2017, 57, 1445-1455. | 2.0 | 8 |

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| 37 | Three-dimensional printing with sacrificial materials for soft matter manufacturing. MRS Bulletin, 2017, 42, 571-577. | 3.5 | 108 |
| 38 | Challenges and opportunities in soft tribology. Tribology - Materials, Surfaces and Interfaces, 2017, 11, 180-186. | 1.4 | 14 |
| 39 | Eliminating the surface location from soft matter contact mechanics measurements. Tribology - Materials, Surfaces and Interfaces, 2017, 11, 187-192. | 1.4 | 23 |
| 40 | Superlubricity in Gemini Hydrogels. Journal of Tribology, 2016, 138, . | 1.9 | 31 |
| 41 | Lubricity from Entangled Polymer Networks on Hydrogels. Journal of Tribology, 2016, 138, . | 1.9 | 22 |
| 42 | Stability of High Speed 3D Printing in Liquid-Like Solids. ACS Biomaterials Science and Engineering, 2016, 2, 1796-1799. | 5.2 | 57 |
| 43 | Ultralow wear Perfluoroalkoxy (PFA) and alumina composites. Wear, 2016, 362-363, 179-185. | 3.1 | 36 |
| 44 | Temperature-Dependent Friction and Wear Behavior of PTFE and MoS2. Tribology Letters, 2016, 63, 1. | 2.6 | 47 |
| 45 | Janus Blocks: A Binary System Wear Instability. Tribology Letters, 2016, 63, 1. | 2.6 | 2 |
| 46 | Traction and wear of an elastomer in combined rolling and sliding. Lubrication Science, 2016, 28, 97-106. | 2.1 | 3 |
| 47 | Liquid-like Solids Support Cells in 3D. ACS Biomaterials Science and Engineering, 2016, 2, 1787-1795. | 5.2 | 124 |
| 48 | Ultralow wear fluoropolymer composites: Nanoscale functionality from microscale fillers. Tribology International, 2016, 95, 245-255. | 5.9 | 79 |
| 49 | Paleo-tribology: development of wear measurement techniques and a three-dimensional model revealing how grinding dentitions self-wear to enable functionality. Surface Topography: Metrology and Properties, 2016, 4, 024001. | 1.6 | 27 |
| 50 | Mechanical properties derived from phase separation in co-polymer hydrogels. Journal of the Mechanical Behavior of Biomedical Materials, 2016, 55, 286-294. | 3.1 | 5 |
| 51 | Multicellular density fluctuations in epithelial monolayers. Physical Review E, 2015, 92, 032729. | 2.1 | 38 |
| 52 | PTFE Tribology and the Role of Mechanochemistry in the Development of Protective Surface Films. Macromolecules, 2015, 48, 3739-3745. | 4.8 | 216 |
| 53 | Kinetics of aqueous lubrication in the hydrophilic hydrogel Gemini interface. Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine, 2015, 229, 889-894. | 1.8 | 14 |
| 54 | Interrupted Measurement Repositioning Using Elastic Averaging. Tribology Letters, 2015, 59, 1. | 2.6 | 3 |

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| 56 | Evolution and Wear of Fluoropolymer Transfer Films. Tribology Letters, 2015, 57, 1. | 2.6 | 47 |
| 57 | Ultralow Wear PTFE and Alumina Composites: It is All About Tribochemistry. Tribology Letters, 2015, 57, 1. | 2.6 | 112 |
| 58 | Wear biomechanics in the slicing dentition of the giant horned dinosaur Triceratops. Science Advances, 2015, 1, e1500055. | 10.3 | 51 |
| 59 | Effect of Temperature on the Friction and Wear of PTFE by Atomic-Level Simulation. Tribology Letters, 2015, 58, 1. | 2.6 | 38 |
| 60 | Mesh Size Control of Polymer Fluctuation Lubrication in Gemini Hydrogels. Biotribology, 2015, 1-2, 24-29. | 1.9 | 100 |
| 61 | Writing in the granular gel medium. Science Advances, 2015, 1, e1500655. | 10.3 | 466 |
| 62 | Complex Dental Structure and Wear Biomechanics in Hadrosaurid Dinosaurs. The Paleontological Society Special Publications, 2014, 13, 88-89. | 0.0 | 0 |
| 63 | Leonardo da Vinciâ€™s Friction Experiments: An Old Story Acknowledged and Repeated. Tribology Letters, 2014, 56, 509-515. | 2.6 | 34 |
| 64 | Mechanistic Studies in Friction and Wear of Bulk Materials. Annual Review of Materials Research, 2014, 44, 395-427. | 9.3 | 108 |
| 65 | Lessons from the Lollipop: Biotribology, Tribocorrosion, and Irregular Surfaces. Tribology Letters, 2014, 56, 273-280. | 2.6 | 1 |
| 66 | In Vacuo Tribological Behavior of Polytetrafluoroethylene (PTFE) and Alumina Nanocomposites: The Importance of Water for Ultralow Wear. Tribology Letters, 2014, 53, 189-197. | 2.6 | 83 |
| 67 | Evolution in Surfaces: Interaction of Topography with Contact Pressure During Wear of Composites Including Dinosaur Dentition. Tribology Letters, 2014, 54, 249-255. | 2.6 | 15 |
| 68 | Gemini Interfaces in Aqueous Lubrication with Hydrogels. Tribology Letters, 2014, 54, 59-66. | 2.6 | 96 |
| 69 | Polymer fluctuation lubrication in hydrogel gemini interfaces. Soft Matter, 2014, 10, 8955-8962. | 2.7 | 77 |
| 70 | Lâ€™Escargot Rapide: Soft Contacts at High Speeds. Tribology Letters, 2014, 55, 65-68. | 2.6 | 5 |
| 71 | Dynamic In Situ Measurements of Frictional Heating on an Isolated Surface Protrusion. Tribology Letters, 2014, 55, 205-210. | 2.6 | 6 |
| 72 | Polytetrafluoroethylene matrix nanocomposites for tribological applications. , 2013, , 571-617. | | 2 |

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| 73 | Lubrication regimes in contact lens wear during a blink. Tribology International, 2013, 63, 45-50. | 5.9 | 55 |
| 74 | Intermolecular Forces, Adhesion, and the Elastic Foundation. Tribology Letters, 2013, 50, 245-260. | 2.6 | 7 |
| 75 | Friction Coefficient Measurement of an In Vivo Murine Cornea. Tribology Letters, 2013, 49, 145-149. | 2.6 | 19 |
| 76 | Plasmonic Diagnostics for Tribology: In Situ Observations Using Surface Plasmon Resonance in Combination with Surface-Enhanced Raman Spectroscopy. Tribology Letters, 2013, 49, 95-102. | 2.6 | 18 |
| 77 | Lubricity of Surface Hydrogel Layers. Tribology Letters, 2013, 49, 371-378. | 2.6 | 96 |
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| 81 | Three-dimensional visualization of nanoscale structure and deformation. Journal of Materials Research, 2013, 28, 2637-2643. | 2.6 | 1 |
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| 83 | Influence of surface passivation on the friction and wear behavior of ultrananocrystalline diamond and tetrahedral amorphous carbon thin films. Physical Review B, 2012, 85, . | 3.2 | 184 |
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| 88 | Frictional Voltammetry with Copper. Tribology Letters, 2012, 46, 337-342. | 2.6 | 12 |
| 89 | Data-Driven Model for Estimation of Friction Coefficient Via Informatics Methods. Tribology Letters, 2012, 47, 211-221. | 2.6 | 28 |
| 90 | Environmental dependence of ultra-low wear behavior of polytetrafluoroethylene (PTFE) and alumina composites suggests tribochemical mechanisms. Tribology International, 2012, 51, 42-46. | 5.9 | 138 |

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| 93 | Optical In Situ Micro Tribometer for Analysis of Real Contact Area for Contact Mechanics, Adhesion, and Sliding Experiments. Tribology Letters, 2012, 45, 185-194. | 2.6 | 170 |
| 94 | Effect of Fluorocarbon Molecules Confined between Sliding Self-Mated PTFE Surfaces. Langmuir, 2011, 27, 9910-9919. | 3.5 | 9 |
| 95 | Energetics of Oxidation in MoS<sub>2</sub>Nanoparticles by Density Functional Theory. Journal of Physical Chemistry C, 2011, 115, 10606-10616. | 3.1 | 55 |
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| 99 | Influence of the Molecular Level Structure of Polyethylene and Polytetrafluoroethylene on Their Tribological Response. Tribology Letters, 2011, 42, 193-201. | 2.6 | 25 |
| 100 | Environmental Effects on the Tribology and Microstructure of MoS2â€“Sb2O3â€“C Films. Tribology Letters, 2011, 42, 203-213. | 2.6 | 40 |
| 101 | A Raman Spectroscopic Study of MoS2 and MoO3: Applications to Tribological Systems. Tribology Letters, 2011, 42, 301-310. | 2.6 | 575 |
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| 103 | Polytetrafluoroethylene (PTFE) fiber reinforced polyetheretherketone (PEEK) composites. Wear, 2011, 270, 737-741. | 3.1 | 74 |
| 104 | Comparison Between Elastic Foundation and Contact Force Models in Wear Analysis of Planar Multibody System. Journal of Tribology, 2010, 132, . | 1.9 | 47 |
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| 106 | Energy, Adhesion, and the Elastic Foundation. Tribology Letters, 2010, 37, 453-461. | 2.6 | 15 |
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| 112 | Copperâ€"beryllium metal fiber brushes in high current density sliding electrical contacts. Wear, 2010, 268, 1230-1236. | 3.1 | 50 |
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| 114 | ZhaoetÂal.Reply:. Physical Review Letters, 2010, 105, . | 7.8 | 2 |
| 115 | Mechanical Response of Living Cells to Contacting Shear Forces. Studies in Mechanobiology, Tissue Engineering and Biomaterials, 2010, , 125-141. | 1.0 | 0 |
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| 124 | Measurement Uncertainties in Wear Rates. Tribology Letters, 2009, 36, 81-87. | 2.6 | 66 |
| 125 | Numerical integration schemes and parallel computation for wear prediction using finite element method. Wear, 2009, 266, 822-831. | 3.1 | 106 |
| 126 | High current density copper-on-copper sliding electrical contacts at low sliding velocities. Wear, 2009, 267, 417-424. | 3.1 | 50 |

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| 127 | A route to wear resistant PTFE via trace loadings of functionalized nanofillers. Wear, 2009, 267, 653-660. | 3.1 | 94 |
| 128 | Multifunctionality of single-walled carbon nanotubeâ€"polytetrafluoroethylene nanocomposites. Wear, 2009, 267, 619-624. | 3.1 | 72 |
| 129 | In situ graphite lubrication of metallic sliding electrical contacts. Wear, 2009, 267, 1462-1469. | 3.1 | 26 |
| 130 | Material Property Identification and Sensitivity Analysis Using Micro-Indentation. Journal of Tribology, 2009, 131, . | 1.9 | 4 |
| 131 | Mechanical characterization of contact lenses by microindentation: Constant velocity and relaxation testing. Acta Biomaterialia, 2008, 4, 1560-1568. | 8.3 | 18 |
| 132 | Friction Coefficient Measurement of Hydrogel Materials on Living Epithelial Cells. Tribology Letters, 2008, 30, 13-19. | 2.6 | 61 |
| 133 | A Possible Link Between Macroscopic Wear and Temperature Dependent Friction Behaviors of MoS2 Coatings. Tribology Letters, 2008, 32, 91-98. | 2.6 | 64 |
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| 136 | Tribological investigation of the effects of particle size, loading and crystallinity on poly(ethylene) terephthalate nanocomposites. Wear, 2008, 264, 632-637. | 3.1 | 45 |
| 137 | Spatial geometric effects on the friction coefficients of UHMWPe. Wear, 2008, 264, 648-653. | 3.1 | 14 |
| 138 | Effect of Particle Size on the Wear Resistance of Alumina-Filled PTFE Micro- and Nanocomposites. Tribology Transactions, 2008, 51, 247-253. | 2.0 | 129 |
| 139 | The Electrical Contact Resistance of Two Rough Surfaces with Varying Phase Conductivity. , 2008, , . | | 1 |
| 140 | Polytetrafluoroethylene matrix nanocomposites for tribological applications. Tribology and Interface Engineering Series, 2008, , 403-438. | 0.0 | 10 |
| 141 | Predicting Knee Replacement Damage in a Simulator Machine Using a Computational Model With a Consistent Wear Factor. Journal of Biomechanical Engineering, 2008, 130, 011004. | 1.3 | 50 |
| 142 | Electrical Switching Using Compliant Metal Infiltrated Multi-Wall Nanotube Arrays. Materials Research Society Symposia Proceedings, 2008, 1085, 20501. | 0.1 | 2 |
| 143 | Observing Interfacial Sliding Processes in Solidâ€"Solid Contacts. MRS Bulletin, 2008, 33, 1159-1167. | 3.5 | 45 |
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| 146 | Origin of Ultralow Friction and Wear in Ultrananocrystalline Diamond. Physical Review Letters, 2008, 100, 235502. | 7.8 | 211 |
| 147 | First-principles determination of static potential energy surfaces for atomic friction in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mi mathvariant="normal">Mo</mml:mi><mml:msub><mml:mi mathvariant="normal">S</mml:mi><mml:mn>2</mml:mn></mml:msub></mml:mrow></mml:math>and<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mi mathvariant="normal">Mo</mml:mi><mml:msub><mml:mi mathvariant="normal">O</mml:mi><mml:mn | 3.2 | 106 |
| 148 | Dynamic Modeling of a Slider-Crank Mechanism Under Joint Wear. , 2008, , . | | 8 |
| 149 | Environmental Performance Limits of Ultrananocrystalline Diamond Films. , 2008, , . | | 1 |
| 150 | Effect of the sliding orientation on the tribological properties of polyethylene in molecular dynamics simulations. Journal of Applied Physics, 2008, 103, 083502. | 2.5 | 33 |
| 151 | Sliding orientation effects on the tribological properties of polytetrafluoroethylene. Journal of Applied Physics, 2007, 102, . | 2.5 | 54 |
| 152 | Direct Contact-Area Computation for MEMS Using Real Topographic Surface Data. Journal of Microelectromechanical Systems, 2007, 16, 1263-1268. | 2.5 | 16 |
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| 154 | A Biphasic Model for Micro-Indentation of a Hydrogel-Based Contact Lens. Journal of Biomechanical Engineering, 2007, 129, 156-163. | 1.3 | 38 |
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| 156 | Polymeric Nanocomposites for Tribological Applications. Macromolecular Materials and Engineering, 2007, 292, 387-402. | 3.6 | 226 |
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| 160 | Thermally Activated Friction. Tribology Letters, 2007, 27, 113-117. | 2.6 | 92 |
| 161 | Macroscopic Friction Coefficient Measurements on Living Endothelial Cells. Tribology Letters, 2007, 27, 233-238. | 2.6 | 58 |
| 162 | Macroscopic Evidence of Thermally Activated Friction with Polytetrafluoroethylene. Tribology Letters, 2007, 27, 323-328. | 2.6 | 29 |

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| 164 | Polymer nanocomposites: A small part of the story. Jom, 2007, 59, 53-60. | 1.9 | 229 |
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| 173 | Computational wear prediction of a total knee replacement from in vivo kinematics. Journal of Biomechanics, 2005, 38, 305-314. | 2.1 | 148 |
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