

# Steven W Cranford

## List of Publications by Year in descending order

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Version: 2024-02-01

42  
papers

2,956  
citations

331670

21  
h-index

302126

39  
g-index

44  
all docs

44  
docs citations

44  
times ranked

4187  
citing authors

| #  | ARTICLE  | IF   | CITATIONS |
|----|--|------|-----------|
| 1  | Tuning the Mechanical Properties of Graphene Oxide Paper and Its Associated Polymer Nanocomposites by Controlling Cooperative Intersheet Hydrogen Bonding. ACS Nano, 2012, 6, 2008-2019. | 14.6 | 409       |
| 2  | Mechanical properties of graphyne. Carbon, 2011, 49, 4111-4121.  | 10.3 | 385       |
| 3  | Nonlinear material behaviour of spider silk yields robust webs. Nature, 2012, 482, 72-76.  | 27.8 | 383       |
| 4  | Selective hydrogen purification through graphdiyne under ambient temperature and pressure. Nanoscale, 2012, 4, 4587.   | 5.6  | 194       |
| 5  | Meso-origami: Folding multilayer graphene sheets. Applied Physics Letters, 2009, 95, .   | 3.3  | 181       |
| 6  | Extended graphynes: simple scaling laws for stiffness, strength and fracture. Nanoscale, 2012, 4, 7797.  | 5.6  | 167       |
| 7  | Materiomics: An <i>omics</i> Approach to Biomaterials Research. Advanced Materials, 2013, 25, 802-824.   | 21.0 | 134       |
| 8  | Packing efficiency and accessible surface area of crumpled graphene. Physical Review B, 2011, 84, .  | 3.2  | 110       |
| 9  | Mechanical Properties and Defect Sensitivity of Diamond Nanothreads. Nano Letters, 2015, 15, 1585-1590.  | 9.1  | 108       |
| 10 | Twisted and coiled ultralong multilayer graphene ribbons. Modelling and Simulation in Materials Science and Engineering, 2011, 19, 054003.   | 2.0  | 100       |
| 11 | <i>In silico</i> assembly and nanomechanical characterization of carbon nanotube buckypaper. Nanotechnology, 2010, 21, 265706.   | 2.6  | 93        |
| 12 | Mechanical properties of silicene. Computational Materials Science, 2014, 82, 50-55.   | 3.0  | 90        |
| 13 | Mechanomutable properties of a PAA/PAH polyelectrolyte complex: rate dependence and ionization effects on tunable adhesion strength. Soft Matter, 2010, 6, 4175.                         | 2.7  | 82        |
| 14 | When is 6 less than 5? Penta- to hexa-graphene transition. Carbon, 2016, 96, 421-428.  | 10.3 | 69        |
| 15 | Biomateriomics. Springer Series in Materials Science, 2012, , .  | 0.6  | 51        |
| 16 | Increasing silk fibre strength through heterogeneity of bundled fibrils. Journal of the Royal Society Interface, 2013, 10, 20130148.   | 3.4  | 48        |
| 17 | Synergetic Material and Structure Optimization Yields Robust Spider Web Anchorages. Small, 2013, 9, 2747-2756.   | 10.0 | 46        |
| 18 | Materiomics: biological protein materials, from nano to macro. Nanotechnology, Science and Applications, 2010, 3, 127.   | 4.6  | 45        |

| #  | ARTICLE  | IF   | CITATIONS |
|----|--|------|-----------|
| 19 | Bioinspired noncovalently crosslinked "fuzzy" carbon nanotube bundles with superior toughness and strength. <i>Journal of Materials Chemistry</i> , 2010, 20, 10465.                                 | 6.7  | 38        |
| 20 | Confinement and controlling the effective compressive stiffness of carbyne. <i>Nanotechnology</i> , 2014, 25, 335709.  | 2.6  | 28        |
| 21 | Polyethylene-Assisted Exfoliation of Hexagonal Boron Nitride in Composite Fibers: A Combined Experimental and Computational Study. <i>Macromolecular Chemistry and Physics</i> , 2015, 216, 847-855. | 2.2  | 21        |
| 22 | Compliant threads maximize spider silk connection strength and toughness. <i>Journal of the Royal Society Interface</i> , 2014, 11, 20140561.  | 3.4  | 20        |
| 23 | Thermal conductivity of 1D carbyne chains. <i>Computational Materials Science</i> , 2017, 129, 226-230.  | 3.0  | 20        |
| 24 | Strength and Toughness of Graphdiyne/Copper Nanocomposites. <i>Advanced Engineering Materials</i> , 2014, 16, 862-871.   | 3.5  | 19        |
| 25 | Thermal stability of idealized folded carbyne loops. <i>Nanoscale Research Letters</i> , 2013, 8, 490.   | 5.7  | 18        |
| 26 | Buckling induced delamination of graphene composites through hybrid molecular modeling. <i>Applied Physics Letters</i> , 2013, 102, .  | 3.3  | 15        |
| 27 | Defect sensitivity and Weibull strength analysis of monolayer silicene. <i>Mechanics of Materials</i> , 2019, 133, 13-25.  | 3.2  | 14        |
| 28 | Mapping temperature and confinement dependence of carbyne formation within carbon nanotubes. <i>Carbon</i> , 2019, 141, 209-217.   | 10.3 | 14        |
| 29 | Critical cross-linking to mechanically couple polyelectrolytes and flexible molecules. <i>Soft Matter</i> , 2013, 9, 1076-1090.  | 2.7  | 11        |
| 30 | Sparse fulleryne structures enhance potential hydrogen storage and mobility. <i>Journal of Materials Chemistry A</i> , 2017, 5, 21223-21233.   | 10.3 | 10        |
| 31 | Compressive deformation of ultralong amyloid fibrils. <i>Acta Mechanica Sinica/Lixue Xuebao</i> , 2010, 26, 977-986.   | 3.4  | 8         |
| 32 | Tunable Toughness of Model Fibers With Bio-Inspired Progressive Uncoiling Via Sacrificial Bonds and Hidden Length. <i>Journal of Applied Mechanics, Transactions ASME</i> , 2018, 85, .              | 2.2  | 5         |
| 33 | Materiomics for Oral Disease Diagnostics and Personal Health Monitoring: Designer Biomaterials for the Next Generation Biomarkers. <i>OMICS A Journal of Integrative Biology</i> , 2016, 20, 12-29.  | 2.0  | 4         |
| 34 | "Unsticking"™ and exposing the surface area of graphene bilayers via randomly distributed nanoparticles. <i>Chemical Physics Letters</i> , 2014, 609, 65-69.   | 2.6  | 3         |
| 35 | Mutable polyelectrolyte tube arrays: mesoscale modeling and lateral force microscopy. <i>Soft Matter</i> , 2017, 13, 5543-5557.  | 2.7  | 3         |
| 36 | Compressive failure of a carbon nano-tesseract: Sci-Fi inspired materials and the strength of thanos. <i>Extreme Mechanics Letters</i> , 2018, 22, 19-26.  | 4.1  | 3         |

| #  | ARTICLE   | IF  | CITATIONS |
|----|---|-----|-----------|
| 37 | In-plane Mechanically Graded 2D Materials: Exploring Graphene/SiC/Silicene Transition via Full Atomistic Simulation. <i>Advanced Theory and Simulations</i> , 2019, 2, 1800126. | 2.8 | 3         |
| 38 | Composing molecular music with carbon. <i>MRS Communications</i> , 2015, 5, 57-62.  | 1.8 | 2         |
| 39 | Quantifying Cooperativity via Geometric Gyration-Based Metrics of Coupled Macromolecules. <i>Journal of Nanomechanics &amp; Micromechanics</i> , 2014, 4, .                     | 1.4 | 1         |
| 40 | Carbyne: A One Dimensional Carbon Allotrope. , 2016, , 3-25.  |     | 1         |
| 41 | Statistical Nanomechanics of Ice and Effect of Embedded Carbon Dioxide. , 2015, , .   |     | 0         |
| 42 | Monomolecular wire cutting of copper nanocolumns via carbyne. <i>Extreme Mechanics Letters</i> , 2020, 40, 100922.  | 4.1 | 0         |