

Steven W Cranford

List of Publications by Year in descending order

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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	Monomolecular wire cutting of copper nanocolumns via carbyne. <i>Extreme Mechanics Letters</i> , 2020, 40, 100922.	4.1	0
2	Defect sensitivity and Weibull strength analysis of monolayer silicene. <i>Mechanics of Materials</i> , 2019, 133, 13-25.	3.2	14
3	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
4	Mapping temperature and confinement dependence of carbyne formation within carbon nanotubes. <i>Carbon</i> , 2019, 141, 209-217.	10.3	14
5	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
6	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
7	Thermal conductivity of 1D carbyne chains. <i>Computational Materials Science</i> , 2017, 129, 226-230.	3.0	20
8	Sparse fulleryne structures enhance potential hydrogen storage and mobility. <i>Journal of Materials Chemistry A</i> , 2017, 5, 21223-21233.	10.3	10
9	Mutable polyelectrolyte tube arrays: mesoscale modeling and lateral force microscopy. <i>Soft Matter</i> , 2017, 13, 5543-5557.	2.7	3
10	Carbyne: A One Dimensional Carbon Allotrope. , 2016, , 3-25.		1
11	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
12	When is 6 less than 5? Penta- to hexa-graphene transition. <i>Carbon</i> , 2016, 96, 421-428.	10.3	69
13	Statistical Nanomechanics of Ice and Effect of Embedded Carbon Dioxide. , 2015, , .		0
14	Mechanical Properties and Defect Sensitivity of Diamond Nanothreads. <i>Nano Letters</i> , 2015, 15, 1585-1590.	9.1	108
15	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
16	Composing molecular music with carbon. <i>MRS Communications</i> , 2015, 5, 57-62.	1.8	2
17	Compliant threads maximize spider silk connection strength and toughness. <i>Journal of the Royal Society Interface</i> , 2014, 11, 20140561.	3.4	20
18	Quantifying Cooperativity via Geometric Gyration-Based Metrics of Coupled Macromolecules. <i>Journal of Nanomechanics & Micromechanics</i> , 2014, 4, .	1.4	1

#	ARTICLE	IF	CITATIONS
19	Confinement and controlling the effective compressive stiffness of carbyne. Nanotechnology, 2014, 25, 335709.	2.6	28
20	Mechanical properties of silicene. Computational Materials Science, 2014, 82, 50-55.	3.0	90
21	“Unsticking”™ and exposing the surface area of graphene bilayers via randomly distributed nanoparticles. Chemical Physics Letters, 2014, 609, 65-69.	2.6	3
22	Strength and Toughness of Graphdiyne/Copper Nanocomposites. Advanced Engineering Materials, 2014, 16, 862-871.	3.5	19
23	Thermal stability of idealized folded carbyne loops. Nanoscale Research Letters, 2013, 8, 490.	5.7	18
24	Critical cross-linking to mechanically couple polyelectrolytes and flexible molecules. Soft Matter, 2013, 9, 1076-1090.	2.7	11
25	Materiomics: An “omics” Approach to Biomaterials Research. Advanced Materials, 2013, 25, 802-824.	21.0	134
26	Synergetic Material and Structure Optimization Yields Robust Spider Web Anchorages. Small, 2013, 9, 2747-2756.	10.0	46
27	Buckling induced delamination of graphene composites through hybrid molecular modeling. Applied Physics Letters, 2013, 102, .	3.3	15
28	Increasing silk fibre strength through heterogeneity of bundled fibrils. Journal of the Royal Society Interface, 2013, 10, 20130148.	3.4	48
29	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
30	Selective hydrogen purification through graphdiyne under ambient temperature and pressure. Nanoscale, 2012, 4, 4587.	5.6	194
31	Nonlinear material behaviour of spider silk yields robust webs. Nature, 2012, 482, 72-76.	27.8	383
32	Extended graphynes: simple scaling laws for stiffness, strength and fracture. Nanoscale, 2012, 4, 7797.	5.6	167
33	Biomateriomics. Springer Series in Materials Science, 2012, , .	0.6	51
34	Mechanical properties of graphyne. Carbon, 2011, 49, 4111-4121.	10.3	385
35	Packing efficiency and accessible surface area of crumpled graphene. Physical Review B, 2011, 84, .	3.2	110
36	Twisted and coiled ultralong multilayer graphene ribbons. Modelling and Simulation in Materials Science and Engineering, 2011, 19, 054003.	2.0	100

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37	Compressive deformation of ultralong amyloid fibrils. Acta Mechanica Sinica/Lixue Xuebao, 2010, 26, 977-986.	3.4	8
38	Materiomics: biological protein materials, from nano to macro. Nanotechnology, Science and Applications, 2010, 3, 127.	4.6	45
39	<i>In silico</i> assembly and nanomechanical characterization of carbon nanotube buckypaper. Nanotechnology, 2010, 21, 265706.	2.6	93
40	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
41	Bioinspired noncovalently crosslinked "fuzzy" carbon nanotube bundles with superior toughness and strength. Journal of Materials Chemistry, 2010, 20, 10465.	6.7	38
42	Meso-origami: Folding multilayer graphene sheets. Applied Physics Letters, 2009, 95, .	3.3	181