Michael Nosonovsky

List of Publications by Year
in descending order

140 papers	7,860 citations	50276 46 h-index	51608 86 g-index
152 all docs	152 docs citations	152 times ranked	6469 citing authors

#	Article	IF	Citations
1	Triboinformatics Approach for Friction and Wear Prediction of Al-Graphite Composites Using Machine Learning Methods. Journal of Tribology, 2022, 144, .	1.9	56
2	Machine learning models of the transition from solid to liquid lubricated friction and wear in aluminum-graphite composites. Tribology International, 2022, 165, 107326.	5.9	32
3	Translation or Divination? Sacred Languages and Bilingualism in Judaism and LucumÃ-Traditions. Religions, 2022, 13, 57.	0.6	0
4	Application of Triboinformatics Approach in Tribological Studies of Aluminum Alloys and Aluminum-Graphite Metal Matrix Composites. Minerals, Metals and Materials Series, 2022, , 41-51.	0.4	5
5	Synthesis of ZnO/TiO2-Based Hydrophobic Antimicrobial Coatings for Steel and Their Roughness, Wetting, and Tribological Characterization. Journal of Tribology, 2022, 144, .	1.9	5
6	Triboinformatics: machine learning algorithms and data topology methods for tribology. Surface Innovations, 2022, 10, 229-242.	2.3	13
7	Analysis of the friction and wear of graphene reinforced aluminum metal matrix composites using machine learning models. Tribology International, 2022, 170, 107527.	5.9	37
8	Topological Data Analysis of Nanoscale Roughness in Brass Samples. ACS Applied Materials & Interfaces, 2022, 14, 2351-2359.	8.0	9
9	When Bubbles Are Not Spherical: Artificial Intelligence Analysis of Ultrasonic Cavitation Bubbles in Solutions of Varying Concentrations. Journal of Physical Chemistry B, 2022, 126, 3161-3169.	2.6	2
10	Branched droplet clusters and the Kramers theorem. Physical Review E, 2022, 105, .	2.1	0
11	A hierarchical levitating cluster containing transforming small aggregates of water droplets. Microfluidics and Nanofluidics, 2022, 26, .	2.2	2
12	Topological bio-scaling analysis as a universal measure of protein folding. Royal Society Open Science, 2022, 9, .	2.4	5
13	Machine-learning methods to predict the wetting properties of iron-based composites. Surface Innovations, 2021, 9, 111-119.	2.3	19
14	Evaporation of droplets capable of bearing viruses airborne and on hydrophobic surfaces. Journal of Applied Physics, 2021, 129, .	2.5	11
15	Survival of Virus Particles in Water Droplets: Hydrophobic Forces and Landauerâ€™s Principle. Entropy, 2021, 23, 181.	2.2	13
16	Predictive Analysis of Wettability of Alâ€“Si Based Multiphase Alloys and Aluminum Matrix Composites by Machine Learning and Physical Modeling. Langmuir, 2021, 37, 3766-3777.	3.5	15
17	Topological data analysis for friction modeling. Europhysics Letters, 2021, 135, 56001.	2.0	5
18	Triboinformatic modeling of dry friction and wear of aluminum base alloys using machine learning algorithms. Tribology International, 2021, 161, 107065.	5.9	63

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19	Vertical oscillations of droplets in small droplet clusters. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2021, 628, 127271.	4.7	3
20	Continuous Symmetry Measure vs Voronoi Entropy of Droplet Clusters. Journal of Physical Chemistry C, 2021, 125, 2431-2436.	3.1	18
21	Separation of motions and vibrational separation of fractions for biocide brass. Ultrasonics Sonochemistry, 2021, 80, 105817.	8.2	7
22	Thermal conditions for the formation of self-assembled cluster of droplets over the water surface. Journal of Physics: Conference Series, 2021, 2116, 012038.	0.4	1
23	A new hybrid robust control of MEMS gyroscope. Microsystem Technologies, 2020, 26, 853-860.	2.0	17
24	Modeling Evaporation of Water Droplets as Applied to Survival of Airborne Viruses. Atmosphere, 2020, 11, 965.	2.3	26
25	Stable cluster of identical water droplets formed under the infrared irradiation: Experimental study and theoretical modeling. International Journal of Heat and Mass Transfer, 2020, 161, 120255.	4.8	22
26	Impact of Surfactants on the Formation and Properties of Droplet Clusters. Langmuir, 2020, 36, 11154-11160.	3.5	9
27	Symmetry of small clusters of levitating water droplets. Physical Chemistry Chemical Physics, 2020, 22, 12239-12244.	2.8	9
28	Effect of external electric field on dynamics of levitating water droplets. International Journal of Thermal Sciences, 2020, 153, 106375.	4.9	25
29	Lotus Effect and Friction: Does Nonsticky Mean Slippery?. Biomimetics, 2020, 5, 28.	3.3	24
30	Scaling in Colloidal and Biological Networks. Entropy, 2020, 22, 622.	2.2	8
31	Friction and Dynamics of Verge and Foliot: How the Invention of the Pendulum Made Clocks Much More Accurate. Applied Mechanics, 2020, 1, 111-122.	1.5	3
32	Allometric scaling law and ergodicity breaking in the vascular system. Microfluidics and Nanofluidics, 2020, 24, 1.	2.2	9
33	The Effect of Surface Roughness and Composition on Wetting and Corrosion of Alâ^'Si Alloys. Israel Journal of Chemistry, 2020, 60, 577-585.	2.3	1
34	Clustering and self-organization in small-scale natural and artificial systems. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2020, 378, 20190443.	3.4	13
35	Method of separation of vibrational motions for applications involving wetting, superhydrophobicity, and microparticle extraction. Physical Review Fluids, 2020, 5, .	2.5	10
36	Not by Firkowiczâ€™s Fault: Daniel Chwolsonâ€™s Comic Blunders in Research of Hebrew Epigraphy of the Crimea and Caucasus, and their Impact on Jewish Studies in Russia. Acta Orientalia, 2020, 73, 633-668.	0.1	1

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37	Ternary Logic of Motion to Resolve Kinematic Frictional Paradoxes. Entropy, 2019, 21, 620.	2.2	7
38	Frictional Properties of a Nanocomposite Material With a Linear Polyimide Matrix and Tungsten Diselinide Nanoparticle Reinforcement. Journal of Tribology, 2019, 141, .	1.9	8
39	Self-Arranged Levitating Droplet Clusters: A Reversible Transition from Hexagonal to Chain Structure. Langmuir, 2019, 35, 15330-15334.	3.5	13
40	Revisiting Epigraphic Evidence of the Oldest Synagogue in Morocco in Volubilis. Arts, 2019, 8, 127.	0.3	1
41	Oscillatory Motion of a Droplet Cluster. Journal of Physical Chemistry C, 2019, 123, 23572-23576.	3.1	13
42	Droplet clusters: nature-inspired biological reactors and aerosols. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2019, 377, 20190121.	3.4	25
43	Surfaces for water-related applications. Surface Topography: Metrology and Properties, 2019, 7, 010201.	1.6	1
44	Effect of Microstructure on Contact Angle and Corrosion of Ductile Iron: Ironâ€"Graphite Composite. Langmuir, 2019, 35, 16120-16129.	3.5	26
45	On relative contribution of electrostatic and aerodynamic effects to dynamics of a levitating droplet cluster. International Journal of Heat and Mass Transfer, 2019, 133, 712-717.	4.8	24
46	Tribological and Wetting Properties of TiO2 Based Hydrophobic Coatings for Ceramics. Journal of Tribology, 2019, 141, .	1.9	23
47	Logical and information aspects in surface science: friction, capillarity, and superhydrophobicity. International Journal of Parallel, Emergent and Distributed Systems, 2018, 33, 307-318.	1.0	2
48	Ultraslow frictional sliding and the stick-slip transition. Applied Physics Letters, 2018, 113, .	3.3	32
49	Einsteinâ€™s Viscosity Equation for Nanolubricated Friction. Langmuir, 2018, 34, 12968-12973.	3.5	32
50	Langevin Approach to Modeling of Small Levitating Ordered Droplet Clusters. Journal of Physical Chemistry Letters, 2018, 9, 3834-3838.	4.6	15
51	Beyond the Sticking Point. Mechanical Engineering, 2018, 140, 30-35.	0.1	3
52	Cultural implications of biomimetics: changing the perception of living and non-living. MOJ Applied Bionics and Biomechanics, 2018, 2, .	0.3	3
53	Characterization of Self-Assembled 2D Patterns with Voronoi Entropy. Entropy, 2018, 20, 956.	2.2	49
54	Self-assembled levitating clusters of water droplets: pattern-formation and stability. Scientific Reports, 2017, 7, 1888.	3.3	61

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55	Revisiting lowest possible surface energy of a solid. Surface Topography: Metrology and Properties, 2017, 5, 045001.	1.6	11
56	Small Levitating Ordered Droplet Clusters: Stability, Symmetry, and Voronoi Entropy. Journal of Physical Chemistry Letters, 2017, 8, 5599-5602.	4.6	41
57	Connecting Sacred and Mundane: From Bilingualism to Hermeneutics in Hebrew Epitaphs. Studia Humana, 2017, 6, 96-106.	0.2	3
58	Vibrations and Spatial Patterns Change Effective Wetting Properties of Superhydrophobic and Regular Membranes. Biomimetics, 2016, 1, 4.	3.3	5
59	Anti-Icing Superhydrophobic Surfaces: Controlling Entropic Molecular Interactions to Design Novel Icephobic Concrete. Entropy, 2016, 18, 132.	2.2	79
60	Micro-/Nanostructured Icephobic Materials. , 2016, , 2125-2128.		0
61	Vibrations and spatial patterns in biomimetic surfaces: using the shark-skin effect to control blood clotting. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2016, 374, 20160133.	3.4	17
62	Why re-entrant surface topography is needed for robust oleophobicity. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2016, 374, 20160185.	3.4	53
63	Self-Repairing Materials. , 2016, , 3619-3622.		0
64	Biomimetic approaches for green tribology: from the lotus effect to blood flow control. Surface Topography: Metrology and Properties, 2015, 3, 034001.	1.6	8
65	Geometric Interpretation of Surface Tension Equilibrium in Superhydrophobic Systems. Entropy, 2015, 17, 4684-4700.	2.2	28
66	Nano-engineered Superhydrophobic and Overhydrophobic Concrete. , 2015, , 443-449.		2
67	Coupling of surface energy with electric potential makes superhydrophobic surfaces corrosion-resistant. Physical Chemistry Chemical Physics, 2015, 17, 24988-24997.	2.8	57
68	Dynamics of Droplet Impact on Hydrophobic/Icephobic Concrete with the Potential for Superhydrophobicity. Langmuir, 2015, 31, 1437-1444.	3.5	88
69	Micro/Nanostructured Icephobic Materials. , 2015, , 1-4.		0
70	Vibro-levitation and inverted pendulum: parametric resonance in vibrating droplets and soft materials. Soft Matter, 2014, 10, 4633-4639.	2.7	18
71	Surface micro/nanotopography, wetting properties and the potential for biomimetic icephobicity of skunk cabbage <i>Symplocarpus foetidus</i>. Soft Matter, 2014, 10, 7797-7803.	2.7	53
72	Beyond Wenzel and Cassieâ€“Baxter: Second-Order Effects on the Wetting of Rough Surfaces. Langmuir, 2014, 30, 9423-9429.	3.5	59

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73	From superhydrophobicity to icephobicity: forces and interaction analysis. Scientific Reports, 2013, 3, 2194.	3.3	273
74	Self-Assembling Particle-Siloxane Coatings for Superhydrophobic Concrete. ACS Applied Materials & Interfaces, 2013, 5, 13284-13294.	8.0	150
75	Study of contact angle hysteresis using the Cellular Potts Model. Physical Chemistry Chemical Physics, 2013, 15, 2749.	2.8	22
76	Contact angle hysteresis in multiphase systems. Colloid and Polymer Science, 2013, 291, 329-338.	2.1	39
77	Stability of Frictional Sliding With the Coefficient of Friction Depended on the Temperature. Journal of Tribology, 2012, 134, .	1.9	9
78	Biomimetics in Materials Science. Springer Series in Materials Science, 2012, , .	0.6	42
79	Why Superhydrophobic Surfaces Are Not Always Icephobic. ACS Nano, 2012, 6, 8488-8491.	14.6	339
80	A model for diffusion-driven hydrophobic recovery in plasma treated polymers. Applied Surface Science, 2012, 258, 6876-6883.	6.1	93
81	Wetting Transitions in Underwater Oleophobic Surface of Brass. Advanced Materials, 2012, 24, 5963-5966.	21.0	62
82	Wear-Resistant and Oleophobic Biomimetic Composite Materials. Green Energy and Technology, 2012, , 149-172.	0.6	1
83	Wetting Transitions in Two-, Three-, and Four-Phase Systems. Langmuir, 2012, 28, 2173-2180.	3.5	83
84	Ecological Aspects of Water Desalination Improving Surface Properties of Reverse Osmosis Membranes. Green Energy and Technology, 2012, , 531-564.	0.6	3
85	Lotus Versus Rose: Biomimetic Surface Effects. Green Energy and Technology, 2012, , 25-40.	0.6	46
86	Self-Organization at the Frictional Interface. Green Energy and Technology, 2012, , 41-78.	0.6	1
87	Green Tribology, its History, Challenges, and Perspectives. Green Energy and Technology, 2012, , 3-22.	0.6	1
88	Friction-Induced Pattern Formation and Turing Systems. Langmuir, 2011, 27, 4772-4779.	3.5	22
89	Thermodynamic Principles of Self-Healing Metallic Materials. Springer Series in Materials Science, 2011, , 25-51.	0.6	5
90	Metal Matrix Composites for Sustainable Lotus-Effect Surfaces. Langmuir, 2011, 27, 14419-14424.	3.5	31

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91	Slippery when wetted. Nature, 2011, 477, 412-413.	27.8	175
92	Lotus Effect and Self-Cleaning. Springer Series in Materials Science, 2011, , 319-341.	0.6	8
93	Wear-Induced Microtopography Evolution and Wetting Properties of Self-Cleaning, Lubricating and Healing Surfaces. Journal of Adhesion Science and Technology, 2011, 25, 1337-1359.	2.6	14
94	Case Study of Self-Healing in Metallic Composite with Embedded Low Melting Temperature Solders. Springer Series in Materials Science, 2011, , 53-73.	0.6	1
95	Thermodynamic Methods in Tribology and Friction-Induced Self-Organization. Springer Series in Materials Science, 2011, , 153-194.	0.6	0
96	Green tribology. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2010, 368, 4675-4676.	3.4	10
97	Self-organization at the frictional interface for green tribology. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2010, 368, 4755-4774.	3.4	37
98	The rose petal effect and the modes of superhydrophobicity. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2010, 368, 4713-4728.	3.4	418
99	Surface self-organization: From wear to self-healing in biological and technical surfaces. Applied Surface Science, 2010, 256, 3982-3987.	6.1	49
100	Entropy in Tribology: in the Search for Applications. Entropy, 2010, 12, 1345-1390.	2.2	75
101	Towards the â€œGreen Tribologyâ€ Biomimetic Surfaces, Biodegradable Lubrication, and Renewable Energy. , 2010, , .		3
102	Green tribology: principles, research areas and challenges. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2010, 368, 4677-4694.	3.4	94
103	Lotus Effect: Surfaces with Roughness-Induced Superhydrophobicity, Self-Cleaning, and Low Adhesion. , 2010, , 1437-1524.		23
104	On the accuracy of Monte Carlo Potts models for grain growth. Journal of Computational Methods in Sciences and Engineering, 2009, 8, 227-243.	0.2	1
105	Thermodynamics of surface degradation, self-organization and self-healing for biomimetic surfaces. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2009, 367, 1607-1627.	3.4	77
106	Multiscale effects and capillary interactions in functional biomimetic surfaces for energy conversion and green engineering. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2009, 367, 1511-1539.	3.4	72
107	Monte Carlo simulation of grain growth of single-phase systems with anisotropic boundary energies. International Journal of Mechanical Sciences, 2009, 51, 434-442.	6.7	14
108	Superhydrophobic surfaces and emerging applications: Non-adhesion, energy, green engineering. Current Opinion in Colloid and Interface Science, 2009, 14, 270-280.	7.4	531

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109	Scaling of Monte Carlo simulations of grain growth in metals. Modelling and Simulation in Materials Science and Engineering, 2009, 17, 025004.	2.0	18
110	Physical chemistry of self-organization and self-healing in metals. Physical Chemistry Chemical Physics, 2009, 11, 9530.	2.8	49
111	Biologically Inspired Surfaces: Broadening the Scope of Roughness**. Advanced Functional Materials, 2008, 18, 843-855.	14.9	244
112	Nanoscale water capillary bridges under deeply negative pressure. Chemical Physics Letters, 2008, 451, 88-92.	2.6	75
113	Response to the comment on â€˜Nanoscale water capillary bridges under deeply negative pressureâ€™ by Caupin et al.. Chemical Physics Letters, 2008, 463, 286-287.	2.6	3
114	Capillary effects and instabilities in nanocontacts. Ultramicroscopy, 2008, 108, 1181-1185.	1.9	22
115	Patterned Nonadhesive Surfaces:â€‰ Superhydrophobicity and Wetting Regime Transitions. Langmuir, 2008, 24, 1525-1533.	3.5	193
116	Do hierarchical mechanisms of superhydrophobicity lead to self-organized criticality?. Scripta Materialia, 2008, 59, 941-944.	5.2	19
117	Phase behavior of capillary bridges: towards nanoscale water phase diagram. Physical Chemistry Chemical Physics, 2008, 10, 2137.	2.8	47
118	Energy transitions in superhydrophobicity: low adhesion, easy flow and bouncing. Journal of Physics Condensed Matter, 2008, 20, 395005.	1.8	76
119	Roughness-induced superhydrophobicity: a way to design non-adhesive surfaces. Journal of Physics Condensed Matter, 2008, 20, 225009.	1.8	144
120	Multiscale Dissipative Mechanisms and Hierarchical Surfaces. Nanoscience and Technology, 2008, , .	1.5	195
121	Multiscale effects in crystal grain growth and physical properties of metals. Physical Chemistry Chemical Physics, 2008, 10, 5192.	2.8	5
122	Effects of Contact Geometry on Pull-Off Force Measurements with a Colloidal Probe. Langmuir, 2008, 24, 743-748.	3.5	43
123	Modelling size, load and velocity effect on friction at micro/nanoscale. International Journal of Surface Science and Engineering, 2007, 1, 22.	0.4	10
124	Biomimetic Superhydrophobic Surfaces:â€‰ Multiscale Approach. Nano Letters, 2007, 7, 2633-2637.	9.1	338
125	On the Range of Applicability of the Wenzel and Cassie Equations. Langmuir, 2007, 23, 9919-9920.	3.5	197
126	Model for solid-liquid and solid-solid friction of rough surfaces with adhesion hysteresis. Journal of Chemical Physics, 2007, 126, 224701.	3.0	123

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127	Oil as a Lubricant in the Ancient Middle East. Tribology Online, 2007, 2, 44-49.	0.9	40
128	Multiscale friction mechanisms and hierarchical surfaces in nano- and bio-tribology. Materials Science and Engineering Reports, 2007, 58, 162-193.	31.8	235
129	Towards optimization of patterned superhydrophobic surfaces. Journal of the Royal Society Interface, 2007, 4, 643-648.	3.4	132
130	Multiscale Roughness and Stability of Superhydrophobic Biomimetic Interfaces. Langmuir, 2007, 23, 3157-3161.	3.5	458
131	Hierarchical roughness optimization for biomimetic superhydrophobic surfaces. Ultramicroscopy, 2007, 107, 969-979.	1.9	236
132	Stochastic model for metastable wetting of roughness-induced superhydrophobic surfaces. Microsystem Technologies, 2006, 12, 231-237.	2.0	61
133	Wetting of rough three-dimensional superhydrophobic surfaces. Microsystem Technologies, 2006, 12, 273-281.	2.0	61
134	Roughness optimization for biomimetic superhydrophobic surfaces. Microsystem Technologies, 2005, 11, 535-549.	2.0	270
135	Scale Effect in Dry Friction During Multiple-Asperity Contact. Journal of Tribology, 2005, 127, 37-46.	1.9	49
136	Scale effects in dry and wet friction, wear, and interface temperature. Nanotechnology, 2004, 15, 749-761.	2.6	78
137	Comprehensive model for scale effects in friction due to adhesion and two- and three-body deformation (plowing). Acta Materialia, 2004, 52, 2461-2474.	7.9	90
138	Scale effects in friction using strain gradient plasticity and dislocation-assisted sliding (microslip). Acta Materialia, 2003, 51, 4331-4345.	7.9	107
139	Friction and wear of polyetheretherketone (PEEK) samples with different melt flow indices. Journal of Tribology, 0, , 1-11.	1.9	1
140	Thermal conditions for the formation of self-assembled cluster of droplets over the water surface and diversity of levitating droplet clusters. Heat and Mass Transfer, 0, , .	2.1	4