

Chang-Lae Kim

List of Publications by Year in descending order

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100
papers

2,973
citations

185998

28
h-index

174990

52
g-index

101
all docs

101
docs citations

101
times ranked

4003
citing authors

#	ARTICLE	IF	CITATIONS
1	Highly Sensitive Pressure Sensor Based on Bioinspired Porous Structure for Real-Time Tactile Sensing. <i>Advanced Electronic Materials</i> , 2016, 2, 1600356.	2.6	264
2	Non-volatile organic memory with sub-millimetre bending radius. <i>Nature Communications</i> , 2014, 5, 3583.	5.8	196
3	Tribology of graphene: A review. <i>International Journal of Precision Engineering and Manufacturing</i> , 2014, 15, 577-585.	1.1	167
4	Tribology of multilayer coatings for wear reduction: A review. <i>Friction</i> , 2017, 5, 248-262.	3.4	145
5	Rough-Surface-Enabled Capacitive Pressure Sensors with 3D Touch Capability. <i>Small</i> , 2017, 13, 1700368.	5.2	142
6	Mechanically Recoverable and Highly Efficient Perovskite Solar Cells: Investigation of Intrinsic Flexibility of Organic-Inorganic Perovskite. <i>Advanced Energy Materials</i> , 2015, 5, 1501406.	10.2	131
7	Review of 4D printing materials and their properties. <i>International Journal of Precision Engineering and Manufacturing - Green Technology</i> , 2017, 4, 349-357.	2.7	125
8	Fundamental Investigation of Micro Wear Rate Using an Atomic Force Microscope. <i>Tribology Letters</i> , 2003, 15, 135-144.	1.2	95
9	A highly flexible transparent conductive electrode based on nanomaterials. <i>NPG Asia Materials</i> , 2017, 9, e438-e438.	3.8	92
10	Water Lubrication of Stainless Steel using Reduced Graphene Oxide Coating. <i>Scientific Reports</i> , 2015, 5, 17034.	1.6	84
11	3D touchless multiorder reflection structural color sensing display. <i>Science Advances</i> , 2020, 6, eabb5769.	4.7	81
12	Nano-scale friction: A review. <i>International Journal of Precision Engineering and Manufacturing</i> , 2009, 10, 141-151.	1.1	78
13	Nano-scale wear: A review. <i>International Journal of Precision Engineering and Manufacturing</i> , 2012, 13, 1709-1718.	1.1	68
14	Nanostructured β -type titanium alloy fabricated by ultrasonic nanocrystal surface modification. <i>Ultrasonics Sonochemistry</i> , 2017, 39, 698-706.	3.8	50
15	Tribological properties of nanostructured DLC coatings deposited by C60 ion beam. <i>Tribology International</i> , 2013, 60, 127-135.	3.0	49
16	Effect of Ag content on the microstructure, tribological and corrosion properties of amorphous carbon coatings on 316L SS. <i>Surface and Coatings Technology</i> , 2014, 240, 128-136.	2.2	48
17	Highly efficient perovskite solar cells based on mechanically durable molybdenum cathode. <i>Nano Energy</i> , 2015, 17, 131-139.	8.2	48
18	Development of polyimide films reinforced with boron nitride and boron nitride nanosheets for transparent flexible device applications. <i>Nano Research</i> , 2018, 11, 2366-2378.	5.8	45

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19	Toward Zero Micro/Macro-Scale Wear Using Periodic Nano-Layered Coatings. ACS Applied Materials & Interfaces, 2015, 7, 18136-18144.	4.0	42
20	Highly wear-resistant and biocompatible carbon nanocomposite coatings for dental implants. Biomaterials, 2016, 102, 130-136.	5.7	41
21	Nano-lubrication: A review. International Journal of Precision Engineering and Manufacturing, 2016, 17, 829-841.	1.1	40
22	Frictional behavior between silicon and steel coated with graphene oxide in dry sliding and water lubrication conditions. International Journal of Precision Engineering and Manufacturing - Green Technology, 2016, 3, 91-97.	2.7	39
23	Sliding and rolling frictional behavior of a single ZnO nanowire during manipulation with an AFM. Nanoscale, 2013, 5, 6081.	2.8	36
24	Functional Multi-Nanolayer Coatings of Amorphous Carbon/Tungsten Carbide with Exceptional Mechanical Durability and Corrosion Resistance. ACS Applied Materials & Interfaces, 2017, 9, 30149-30160.	4.0	35
25	Smart wearable heaters with high durability, flexibility, water-repellent and shape memory characteristics. Composites Science and Technology, 2017, 152, 173-180.	3.8	32
26	Minimum lubrication technique using silicone oil for friction reduction of stainless steel. International Journal of Precision Engineering and Manufacturing, 2013, 14, 875-880.	1.1	31
27	Self-healing Characteristics of Collagen Coatings with Respect to Surface Abrasion. Scientific Reports, 2016, 6, 20563.	1.6	31
28	Friction and Wear Characteristics of C/Si Bi-layer Coatings Deposited on Silicon Substrate by DC Magnetron Sputtering. Tribology Letters, 2012, 48, 123-131.	1.2	30
29	Tribological characteristics of probe tip and PZT media for AFM-based recording technology. IEEE Transactions on Magnetics, 2005, 41, 849-854.	1.2	28
30	Ultra-thin nano-patterned wear-protective diamond-like carbon coatings deposited on glass using a C 60 ion beam. Carbon, 2014, 80, 534-543.	5.4	27
31	Tribological Properties of Graphene Oxide Nanosheet Coating Fabricated by Using Electrodynamic Spraying Process. Tribology Letters, 2015, 57, 1.	1.2	27
32	Changes in tribological and antibacterial properties of poly(methyl methacrylate)-based 3D-printed intra-oral appliances by incorporating nanodiamonds. Journal of the Mechanical Behavior of Biomedical Materials, 2020, 110, 103992.	1.5	25
33	Investigation of penetration force of living cell using an atomic force microscope. Journal of Mechanical Science and Technology, 2009, 23, 1932-1938.	0.7	24
34	Durability and Self-healing Effects of Hydrogel Coatings with respect to Contact Condition. Scientific Reports, 2017, 7, 6896.	1.6	24
35	Highly durable and biocompatible periodical Si/DLC nanocomposite coatings. Nanoscale, 2018, 10, 4852-4860.	2.8	23
36	Effect of friction on the contact stress of a coated polymer gear. Friction, 2020, 8, 1169-1177.	3.4	21

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37	Assessment of adhesion between thin film and silicon based on a scratch test. <i>Journal of Mechanical Science and Technology</i> , 2010, 24, 97-101.	0.7	20
38	Design and Construction of a Micro-Tribotester for Precise In-Situ Wear Measurements. <i>Micromachines</i> , 2017, 8, 103.	1.4	20
39	Ion-beam irradiation of DLC-based nanocomposite: Creation of a highly biocompatible surface. <i>Applied Surface Science</i> , 2019, 469, 896-903.	3.1	19
40	In vitro study of a novel multi-substituted hydroxyapatite nanopowder synthesized by an ultra-fast, efficient and green microwave-assisted method. <i>Materials Science and Engineering C</i> , 2020, 117, 111310.	3.8	19
41	Fundamental Investigation of the Wear Progression of Silicon Atomic Force Microscope Probes. <i>Tribology Letters</i> , 2013, 52, 315-325.	1.2	18
42	Investigation of mechanical behavior of single- and multi-layer graphene by using molecular dynamics simulation. <i>International Journal of Precision Engineering and Manufacturing</i> , 2016, 17, 1693-1701.	1.1	18
43	Self-Healing Phenomenon and Dynamic Hardness of C ₆₀ -Based Nanocomposite Coatings. <i>Nano Letters</i> , 2014, 14, 2536-2540.	4.5	17
44	Fabrication of polytetrafluoroethylene-carbon nanotube composite coatings for friction and wear reduction. <i>Polymer Composites</i> , 2018, 39, E710.	2.3	16
45	Mechanism of Heat-Induced Fusion of Silver Nanowires. <i>Scientific Reports</i> , 2020, 10, 9271.	1.6	16
46	Ultra-thin carbon-based nanocomposite coatings for superior wear resistance under lubrication with nano-diamond additives. <i>RSC Advances</i> , 2016, 6, 56918-56929.	1.7	15
47	60 years of Rabinowicz's criterion for adhesive wear. <i>Friction</i> , 2018, 6, 341-348.	3.4	14
48	RF magnetron sputtering mediated NiTi/Ag coating on Ti-alloy substrate with enhanced biocompatibility and durability. <i>Materials Science and Engineering C</i> , 2019, 99, 304-314.	3.8	14
49	Tribological characteristics of ZnO nanowires investigated by atomic force microscope. <i>Applied Physics A: Materials Science and Processing</i> , 2008, 92, 267-274.	1.1	13
50	Superior surface protection governed by optimized interface characteristics in WC/DLC multilayer coating. <i>Surface and Coatings Technology</i> , 2020, 385, 125446.	2.2	13
51	Propagating acoustic waves on a culture substrate regulate the directional collective cell migration. <i>Microsystems and Nanoengineering</i> , 2021, 7, 90.	3.4	13
52	Vapor phase lubrication using high molecular weight lubricant for friction reduction of metals. <i>International Journal of Precision Engineering and Manufacturing</i> , 2014, 15, 867-873.	1.1	12
53	Increased elasticity and damping capacity of diamond-like carbon coatings by immobilized C ₆₀ fullerene clusters. <i>Nanoscale</i> , 2019, 11, 2863-2870.	2.8	12
54	Assessment of the Physical, Mechanical, and Tribological Properties of PDMS Thin Films Based on Different Curing Conditions. <i>Materials</i> , 2021, 14, 4489.	1.3	12

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55	A Study on Frictional Characteristics of PDMS Under Various Conditions. Journal of the Korean Society for Precision Engineering, 2018, 35, 803-807.	0.1	12
56	Formation of discrete periodic nanolayered coatings through tailoring of nanointerfacesâ€”Toward zero macroscale wear. Science Advances, 2021, 7, eabk1224.	4.7	11
57	Investigation of micro-abrasion characteristics of thin metallic coatings by in-situ SEM scratch test. International Journal of Precision Engineering and Manufacturing, 2016, 17, 1139-1147.	1.1	10
58	Hard, Flexible, and Transparent Nanolayered SiN _x /BN Periodical Coatings. ACS Applied Materials & Interfaces, 2019, 11, 9685-9690.	4.0	10
59	Molecular dynamics investigation on the nano-mechanical behaviour of C60 fullerene and its crystallized structure. Nanoscale, 2020, 12, 9849-9858.	2.8	10
60	Tribological Performance Investigation of a Commercial Engine Oil Incorporating Reduced Graphene Oxide as Additive. Nanomaterials, 2021, 11, 386.	1.9	10
61	Friction and Wear Characteristics of Polydimethylsiloxane under Water-Based Lubrication Conditions. Materials, 2022, 15, 3262.	1.3	10
62	Experimental Investigation of the Influence of Machining Condition on the Contact Sliding Behavior of Metals. Journal of Manufacturing Science and Engineering, Transactions of the ASME, 1998, 120, 395-400.	1.3	9
63	Adhesion characteristics of the snail foot under various surface conditions. International Journal of Precision Engineering and Manufacturing, 2010, 11, 623-628.	1.1	9
64	Effect of elevated annealing temperature on the microstructure and nano-hardness of ZnO films deposited by the sol-gel process. International Journal of Precision Engineering and Manufacturing, 2012, 13, 2005-2009.	1.1	9
65	Development of flexible polymer sheet with high surface durability using discretely embedded micro-balls. CIRP Annals - Manufacturing Technology, 2017, 66, 527-530.	1.7	9
66	Friction and wear behaviors of bare and diamond-like carbon/chromium bi-layer coated SKH51 steel at low temperatures. Surface and Coatings Technology, 2021, 412, 127018.	2.2	9
67	Effect of Glass Bubbles on Friction and Wear Characteristics of PDMS-Based Composites. Coatings, 2021, 11, 603.	1.2	8
68	One-step method to enhance biotribological properties and biocompatibility of DLC coating by ion beam irradiation. Friction, 2022, 10, 1114-1126.	3.4	8
69	Fabrication of TiO ₂ / KH550 / PEG Super-Hydrophilic Coating on Glass Surface without UV/Plasma Treatment for Self-Cleaning and Anti-Fogging Applications. Materials, 2022, 15, 3292.	1.3	8
70	Friction and wear reduction effect of glass bubbles embedded in PDMS surface. Journal of Mechanical Science and Technology, 2022, 36, 1997-2005.	0.7	7
71	Microsphereâ€”Based Nanoindentation for the Monitoring of Cellular Cortical Stiffness Regulated by MT1â€”MMP. Small, 2018, 14, e1803000.	5.2	6
72	Formation and Growth of Intermetallic Compounds during Reactions between Liquid Gallium and Solid Nickel. Materials, 2021, 14, 5694.	1.3	6

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73	Formation of wear-resistant graphite/diamond-like carbon nanocomposite coatings on Ti using accelerated C60-ions. <i>Surface and Coatings Technology</i> , 2021, 424, 127670.	2.2	6
74	Surface damage behavior of polyurethane O-rings in automated material handling system for glass panels. <i>International Journal of Precision Engineering and Manufacturing</i> , 2016, 17, 43-50.	1.1	5
75	Molecular weight tuning optimizes poly(2-methoxyethyl acrylate) dispersion to enhance the aging resistance and anti-fouling behavior of denture base resin. <i>Biomaterials Science</i> , 2022, 10, 2224-2236.	2.6	5
76	Micro-Patterning of Silicon by Frictional Interaction and Chemical Reaction. <i>Journal of Tribology</i> , 1998, 120, 353-357.	1.0	4
77	High-performance alternating current electroluminescent layers solution blended with mechanically and electrically robust nonradiating polymers. <i>Journal of Polymer Science, Part B: Polymer Physics</i> , 2015, 53, 1629-1640.	2.4	4
78	Frictional Characteristics of Sub-100- μm Borosilicate Glass Balls for Actuator Applications. <i>Journal of Microelectromechanical Systems</i> , 2015, 24, 2161-2169.	1.7	4
79	Wear Reduction of Borosilicate Glass Microballs Using Vapor-Phase Lubrication With n-Pentanol. <i>Tribology Transactions</i> , 2016, 59, 507-512.	1.1	4
80	Study on Electroconductive Tribological Properties of Ag-Based Composite Coating. <i>International Journal of Precision Engineering and Manufacturing</i> , 2019, 20, 1405-1413.	1.1	4
81	Nano-mechanical and tribological characteristics of ultra-thin amorphous carbon film investigated by afm. <i>Journal of Mechanical Science and Technology</i> , 2004, 18, 1772-1781.	0.4	3
82	Comparison of Indentation and Scribing Behaviors of Crystalline and Initially Deformed Silicon Tips by Molecular Dynamics Simulation. <i>IEEE Transactions on Magnetics</i> , 2009, 45, 2328-2331.	1.2	3
83	Characterization of durability of coatings for cell phone cover by wear, erosion, and pull-off tests. <i>International Journal of Precision Engineering and Manufacturing</i> , 2012, 13, 1633-1639.	1.1	3
84	Flexible Solar Cells: Mechanically Recoverable and Highly Efficient Perovskite Solar Cells: Investigation of Intrinsic Flexibility of Organic-Inorganic Perovskite (<i>Adv. Energy Mater.</i> 22/2015). <i>Advanced Energy Materials</i> , 2015, 5, n/a-n/a.	10.2	3
85	Friction and Deformation Behaviors of $\sim 60\text{-}\mu\text{m}$ Stainless Steel Micro-balls for Application in Small Precision Devices. <i>Tribology Letters</i> , 2015, 59, 1.	1.2	3
86	Enhanced biolubrication on biomedical devices using hyaluronic acid-silica nanohybrid hydrogels. <i>Colloids and Surfaces B: Biointerfaces</i> , 2019, 184, 110503.	2.5	3
87	Development of rotary tool for removal of intravascular blood clots. <i>International Journal of Precision Engineering and Manufacturing</i> , 2012, 13, 413-419.	1.1	2
88	Fundamental investigation of micro-scale wear characteristics of ultra-fine gold wires under low contact force and long sliding distance. <i>Wear</i> , 2016, 348-349, 1-9.	1.5	2
89	Design of a Tribotester Based on Non-Contact Displacement Measurements. <i>Micromachines</i> , 2019, 10, 748.	1.4	2
90	Effect of V-Groove Surface Pattern on the Tribological Properties of Epoxy. <i>Tribology Transactions</i> , 2021, 64, 302-312.	1.1	2

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91	Tribological properties of the hierarchically structured graphene oxide composite coatings reinforced with polyvinyl alcohol. <i>Wear</i> , 2022, 490-491, 204212.	1.5	2
92	Pressure Sensors: Highly Sensitive Pressure Sensor Based on Bioinspired Porous Structure for Real-Time Tactile Sensing (<i>Adv. Electron. Mater.</i> 12/2016). <i>Advanced Electronic Materials</i> , 2016, 2, .	2.6	1
93	Numerical and experimental study of tribological properties of glass/polymer-based micro ball bearings. <i>Wear</i> , 2022, 488-489, 204173.	1.5	1
94	Head-disk interface in near-field recording disks. , 2002, , .		0
95	Tribological characteristics of probe tip and PZT media for AFM-based recording technology. , 0, , .		0
96	Characteristics of Progressive Damage of ZnO Nanowires during Contact Sliding under Relatively Low Loads. <i>Journal of Nanomaterials</i> , 2011, 2011, 1-7.	1.5	0
97	Tribological Self-healing Coating based on Hydrogel. <i>Mechanisms and Machine Science</i> , 2019, , 3771-3774.	0.3	0
98	Near-Field Magneto-Optical Media. <i>Transactions of the Magnetism Society of Japan</i> , 2002, 2, 348-351.	0.5	0
99	Design of Optical Flying Head for Near-Field Recording. <i>Transactions of the Magnetism Society of Japan</i> , 2002, 2, 341-344.	0.5	0
100	Lubrication of Carbon-based Coatings. <i>Mechanisms and Machine Science</i> , 2019, , 3775-3778.	0.3	0