

# Changgu Lee

## List of Publications by Year in descending order

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84  
papers

42,069  
citations

81743

39  
h-index

54797

84  
g-index

87  
all docs

87  
docs citations

87  
times ranked

42307  
citing authors

#	ARTICLE	IF	CITATIONS
1	Measurement of the Elastic Properties and Intrinsic Strength of Monolayer Graphene. <i>Science</i> , 2008, 321, 385-388.	6.0	17,513
2	Atomically Thin $\text{MoS}_2$ : A New Direct-Gap Semiconductor. <i>Physical Review Letters</i> , 2010, 105, 136805.	2.9	12,565
3	Anomalous Lattice Vibrations of Single- and Few-Layer $\text{MoS}_2$ . <i>ACS Nano</i> , 2010, 4, 2695-2700.	7.3	4,028
4	Frictional Characteristics of Atomically Thin Sheets. <i>Science</i> , 2010, 328, 76-80.	6.0	1,504
5	Flexible and Transparent $\text{MoS}_2$ Field-Effect Transistors on Hexagonal Boron Nitride-Graphene Heterostructures. <i>ACS Nano</i> , 2013, 7, 7931-7936.	7.3	947
6	Chemical Vapor Deposition-Grown Graphene: The Thinnest Solid Lubricant. <i>ACS Nano</i> , 2011, 5, 5107-5114.	7.3	462
7	Synthesis of large-area multilayer hexagonal boron nitride for high material performance. <i>Nature Communications</i> , 2015, 6, 8662.	5.8	403
8	Nonlinear elastic behavior of two-dimensional molybdenum disulfide. <i>Physical Review B</i> , 2013, 87, .	1.1	400
9	Friction Anisotropy—Driven Domain Imaging on Exfoliated Monolayer Graphene. <i>Science</i> , 2011, 333, 607-610.	6.0	284
10	Direct exfoliation and dispersion of two-dimensional materials in pure water via temperature control. <i>Nature Communications</i> , 2015, 6, 8294.	5.8	277
11	Hard magnetic properties in nanoflake van der Waals $\text{Fe}_3\text{GeTe}_2$ . <i>Nature Communications</i> , 2018, 9, 1554.	5.8	272
12	Substrate effect on thickness-dependent friction on graphene. <i>Physica Status Solidi (B): Basic Research</i> , 2010, 247, 2909-2914.	0.7	206
13	Low-temperature Synthesis of Large-scale Molybdenum Disulfide Thin Films Directly on a Plastic Substrate Using Plasma-enhanced Chemical Vapor Deposition. <i>Advanced Materials</i> , 2015, 27, 5223-5229.	11.1	180
14	Work function variation of $\text{MoS}_2$ atomic layers grown with chemical vapor deposition: The effects of thickness and the adsorption of water/oxygen molecules. <i>Applied Physics Letters</i> , 2015, 106, .	1.5	167
15	Synthesis of wafer-scale uniform molybdenum disulfide films with control over the layer number using a gas phase sulfur precursor. <i>Nanoscale</i> , 2014, 6, 2821.	2.8	166
16	Effect of surface morphology on friction of graphene on various substrates. <i>Nanoscale</i> , 2013, 5, 3063.	2.8	148
17	Evaluation of hexagonal boron nitride nano-sheets as a lubricant additive in water. <i>Wear</i> , 2013, 302, 981-986.	1.5	146
18	Antisymmetric magnetoresistance in van der Waals $\text{Fe}_3\text{GeTe}_2$ /graphite/ $\text{Fe}_3\text{GeTe}_2$ trilayer heterostructures. <i>Science Advances</i> , 2019, 5, eaaw0409.	4.7	119

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19	Field-effect transistor with a chemically synthesized MoS <sub>2</sub> sensing channel for label-free and highly sensitive electrical detection of DNA hybridization. <i>Nano Research</i> , 2015, 8, 2340-2350.	5.8	116
20	Recoverable Slippage Mechanism in Multilayer Graphene Leads to Repeatable Energy Dissipation. <i>ACS Nano</i> , 2016, 10, 1820-1828.	7.3	112
21	Enhanced Raman Scattering of Rhodamine 6G Films on Two-Dimensional Transition Metal Dichalcogenides Correlated to Photoinduced Charge Transfer. <i>Chemistry of Materials</i> , 2016, 28, 180-187.	3.2	112
22	Graphene oxide membrane for liquid phase organic molecular separation. <i>Carbon</i> , 2014, 77, 933-938.	5.4	93
23	Characteristics and effects of diffused water between graphene and a SiO <sub>2</sub> substrate. <i>Nano Research</i> , 2012, 5, 710-717.	5.8	91
24	Structural and Optical Properties of Single- and Few-Layer Magnetic Semiconductor CrPS <sub>4</sub> . <i>ACS Nano</i> , 2017, 11, 10935-10944.	7.3	85
25	Thickness Dependence of the Mechanical Properties of Free-standing Graphene Oxide Papers. <i>Advanced Functional Materials</i> , 2015, 25, 3756-3763.	7.8	75
26	Ultrahigh Photoresponsive Device Based on ReS <sub>2</sub> /Graphene Heterostructure. <i>Small</i> , 2018, 14, e1802593.	5.2	75
27	Visualization and manipulation of magnetic domains in the quasi-two-dimensional material $F_3\text{GeTe}_2$ . <i>Physical Review B</i> , 2018, 97, .	11.1	74
28	Multifunctional van der Waals Broken-gap Heterojunction. <i>Small</i> , 2019, 15, e1804885.	5.2	71
29	Gate-tunable Hole and Electron Carrier Transport in Atomically Thin Dual-channel WSe <sub>2</sub> /MoS <sub>2</sub> Heterostructure for Ambipolar Field-effect Transistors. <i>Advanced Materials</i> , 2016, 28, 9519-9525.	11.1	70
30	Large-Area CVD-Grown Sub-2 V ReS <sub>2</sub> Transistors and Logic Gates. <i>Nano Letters</i> , 2017, 17, 2999-3005.	4.5	68
31	Optical properties of large-area ultrathin MoS <sub>2</sub> films: Evolution from a single layer to multilayers. <i>Journal of Applied Physics</i> , 2014, 116, .	1.1	66
32	Graphene oxide papers with high water adsorption capacity for air dehumidification. <i>Scientific Reports</i> , 2017, 7, 9761.	1.6	63
33	Van der Waals Broken-Gap $\text{p-n}$ Heterojunction Tunnel Diode Based on Black Phosphorus and Rhenium Disulfide. <i>ACS Applied Materials &amp; Interfaces</i> , 2019, 11, 8266-8275.	4.0	58
34	Antiferromagnetic coupling of van der Waals ferromagnetic Fe <sub>3</sub> GeTe <sub>2</sub> . <i>Nanotechnology</i> , 2019, 30, 245701.	1.3	53
35	On-stack two-dimensional conversion of MoS <sub>2</sub> into MoO <sub>3</sub> . <i>2D Materials</i> , 2017, 4, 014003.	2.0	51
36	Large-area niobium disulfide thin films as transparent electrodes for devices based on two-dimensional materials. <i>Nanoscale</i> , 2018, 10, 1056-1062.	2.8	44

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37	A robust and conductive metal-impregnated graphene oxide membrane selectively separating organic vapors. <i>Chemical Communications</i> , 2015, 51, 2671-2674.	2.2	42
38	Ultraclean and Direct Transfer of a Wafer-Scale MoS <sub>2</sub> Thin Film onto a Plastic Substrate. <i>Advanced Materials</i> , 2017, 29, 1603928.	11.1	42
39	A conductive copolymer of graphene oxide/poly(1-(3-aminopropyl)pyrrole) and the adsorption of metal ions. <i>Polymer Chemistry</i> , 2014, 5, 4466.	1.9	41
40	Resonant tunnelling diodes based on twisted black phosphorus homostructures. <i>Nature Electronics</i> , 2021, 4, 269-276.	13.1	41
41	Wafer-scale monolayer MoS <sub>2</sub> grown by chemical vapor deposition using a reaction of MoO <sub>3</sub> and H <sub>2</sub> S. <i>Journal of Physics Condensed Matter</i> , 2016, 28, 184002.	0.7	39
42	Wafer-Scale Substitutional Doping of Monolayer MoS <sub>2</sub> Films for High-Performance Optoelectronic Devices. <i>ACS Applied Materials &amp; Interfaces</i> , 2019, 11, 12613-12621.	4.0	39
43	Direct Observation of Fe-Ge Ordering in Fe <sub>5</sub> GeTe <sub>2</sub> Crystals and Resultant Helimagnetism. <i>Advanced Functional Materials</i> , 2021, 31, 2009758.	7.8	33
44	Ambipolar transport based on CVD-synthesized ReSe <sub>2</sub> . <i>2D Materials</i> , 2017, 4, 025014.	2.0	31
45	Growth of serpentine carbon nanotubes on quartz substrates and their electrical properties. <i>Nano Research</i> , 2008, 1, 427-433.	5.8	28
46	A comprehensive study of piezomagnetic response in CrPS <sub>4</sub> monolayer: mechanical, electronic properties and magnetic ordering under strains. <i>Journal of Physics Condensed Matter</i> , 2017, 29, 405801.	0.7	28
47	Vertically Stacked CVD-Grown 2D Heterostructure for Wafer-Scale Electronics. <i>ACS Applied Materials &amp; Interfaces</i> , 2019, 11, 35444-35450.	4.0	27
48	Phase-Engineered Molybdenum Telluride/Black Phosphorus Van der Waals Heterojunctions for Tunable Multivalued Logic. <i>ACS Applied Materials &amp; Interfaces</i> , 2020, 12, 14119-14124.	4.0	27
49	A Silicon Microturbopump for a Rankine-Cycle Power Generation Microsystem—Part I: Component and System Design. <i>Journal of Microelectromechanical Systems</i> , 2011, 20, 312-325.	1.7	26
50	Nanopatched Graphene with Molecular Self-Assembly Toward Graphene-Organic Hybrid Soft Electronics. <i>Advanced Materials</i> , 2018, 30, e1706480.	11.1	26
51	First-principles study of ferromagnetic metal Fe <sub>5</sub> GeTe <sub>2</sub> . <i>Nano Materials Science</i> , 2019, 1, 299-303.	3.9	26
52	Crossover between Photochemical and Photothermal Oxidations of Atomically Thin Magnetic Semiconductor CrPS <sub>4</sub> . <i>Nano Letters</i> , 2019, 19, 4043-4051.	4.5	26
53	Topological Insulator-Based van der Waals Heterostructures for Effective Control of Massless and Massive Dirac Fermions. <i>Nano Letters</i> , 2018, 18, 8047-8053.	4.5	25
54	A Silicon Microturbopump for a Rankine-Cycle Power-Generation Microsystem—Part II: Fabrication and Characterization. <i>Journal of Microelectromechanical Systems</i> , 2011, 20, 326-338.	1.7	23

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55	Large-area single-crystal graphene grown on a recrystallized Cu(111) surface by using a hole-pocket method. <i>Nanoscale</i> , 2016, 8, 13781-13789.	2.8	23
56	Measurements of the Electrical Conductivity of Monolayer Graphene Flakes Using Conductive Atomic Force Microscopy. <i>Nanomaterials</i> , 2021, 11, 2575.	1.9	23
57	Line-defect mediated formation of hole and Mo clusters in monolayer molybdenum disulfide. <i>2D Materials</i> , 2016, 3, 014002.	2.0	21
58	Spin Dynamics Slowdown near the Antiferromagnetic Critical Point in Atomically Thin FePS <sub>3</sub> . <i>Nano Letters</i> , 2021, 21, 5045-5052.	4.5	21
59	Terahertz, optical, and Raman signatures of monolayer graphene behavior in thermally reduced graphene oxide films. <i>Journal of Applied Physics</i> , 2013, 113, .	1.1	20
60	Adhesion and Self-Healing between Monolayer Molybdenum Disulfide and Silicon Oxide. <i>Scientific Reports</i> , 2017, 7, 14740.	1.6	18
61	Designing Carbon/Oxygen Ratios of Graphene Oxide Membranes for Proton Exchange Membrane Fuel Cells. <i>Journal of Nanomaterials</i> , 2019, 2019, 1-9.	1.5	18
62	Selectively Metallized 2D Materials for Simple Logic Devices. <i>ACS Applied Materials &amp; Interfaces</i> , 2019, 11, 18571-18579.	4.0	17
63	Comparison of Frictional Properties of CVD-Grown MoS <sub>2</sub> and Graphene Films under Dry Sliding Conditions. <i>Nanomaterials</i> , 2019, 9, 293.	1.9	17
64	Mechanical characterization of phase-changed single-layer MoS <sub>2</sub> sheets. <i>2D Materials</i> , 2019, 6, 025024.	2.0	14
65	Energy Dissipation in Black Phosphorus Heterostructured Devices. <i>Advanced Materials Interfaces</i> , 2019, 6, 1801528.	1.9	14
66	Exchange Bias Effect in Ferro-/Antiferromagnetic van der Waals Heterostructures. <i>Nano Letters</i> , 2020, 20, 3978-3985.	4.5	13
67	Polarized Raman Spectra and Complex Raman Tensors of Antiferromagnetic Semiconductor CrPS <sub>4</sub> . <i>Journal of Physical Chemistry C</i> , 2021, 125, 2691-2698.	1.5	12
68	Interlayer magnetism in $\text{FeCrP}_3$ . <i>Physical Review Materials</i> , 2020, 4, .	0.9	12
69	Raman Scattering Measurement of Suspended Graphene under Extreme Strain Induced by Nanoindentation. <i>Advanced Materials</i> , 2022, 34, .	11.1	12
70	Bias-assisted atomic force microscope nanolithography on NbS <sub>2</sub> thin films grown by chemical vapor deposition. <i>Journal Physics D: Applied Physics</i> , 2016, 49, 484001.	1.3	11
71	Bionanoelectronic platform with a lipid bilayer/CVD-grown MoS <sub>2</sub> hybrid. <i>Biosensors and Bioelectronics</i> , 2019, 142, 111512.	5.3	11
72	Ultrafast and low-temperature synthesis of patternable MoS <sub>2</sub> using laser irradiation. <i>Journal Physics D: Applied Physics</i> , 2019, 52, 18LT01.	1.3	8

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73	Interface Engineering of Magnetic Anisotropy in van der Waals Ferromagnet-based Heterostructures. ACS Nano, 2021, 15, 16395-16403.	7.3	7
74	Design Principles and Measured Performance of Multistage Radial Flow Microturbomachinery at Low Reynolds Numbers. Journal of Fluids Engineering, Transactions of the ASME, 2008, 130, .	0.8	6
75	Self-Assembly of Silver Nanowire Ring Structures Driven by the Compressive Force of a Liquid Droplet. Langmuir, 2017, 33, 3367-3372.	1.6	6
76	Wafer-scale and patternable synthesis of NbS <sub>2</sub> for electrodes of organic transistors and logic gates. Journal of Materials Chemistry C, 2019, 7, 8599-8606.	2.7	6
77	Dominant in-plane cleavage direction of CrPS4. Computational Materials Science, 2019, 162, 277-280.	1.4	6
78	Iron-based ferromagnetic van der Waals materials. Journal Physics D: Applied Physics, 2021, 54, 473002.	1.3	5
79	Asymmetric carrier transport and weak localization in few layer graphene grown directly on a dielectric substrate. Physical Chemistry Chemical Physics, 2021, 23, 25284-25290.	1.3	5
80	Synthesis of 2D semiconducting single crystalline Bi <sub>2</sub> S <sub>3</sub> for high performance electronics. Physical Chemistry Chemical Physics, 2021, 23, 26806-26812.	1.3	4
81	Preface for a special issue on 2D materials: growth, characterisation, properties and devices. Journal Physics D: Applied Physics, 2017, 50, 440401.	1.3	1
82	Photoresponsive Devices: Ultrahigh Photoresponsive Device Based on ReS <sub>2</sub> /Graphene Heterostructure (Small 45/2018). Small, 2018, 14, 1870211.	5.2	1
83	$\langle \text{mml:math} \text{xmlns:mml="http://www.w3.org/1998/Math/MathML"} \rangle \langle \text{mml:mrow} \rangle \langle \text{mml:msub} \rangle \langle \text{mml:mi} \rangle \text{Cr} \langle \text{mml:mi} \rangle \langle \text{mml:mn} \rangle 2 \langle \text{mml:mn} \rangle \langle \text{mml:math} \text{mathvariant="normal"} \rangle \text{S} \langle \text{mml:mi} \rangle \langle \text{mml:mn} \rangle 3 \langle \text{mml:mn} \rangle \langle \text{mml:msub} \rangle \langle \text{mml:mrow} \rangle \langle \text{mml:math} \rangle$ a bipolar semiconducting fully compensated ferrimagnet. Physical Review Materials, 2022, 6, .	0.9	1
84	Terahertz study of reduced graphene oxide. , 2012, , .		0