

Emmanuel P Giannelis

List of Publications by Year in descending order

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107
papers

15,355
citations

44066

48
h-index

34984

98
g-index

107
all docs

107
docs citations

107
times ranked

14089
citing authors

#	ARTICLE	IF	CITATIONS
1	Polymer Layered Silicate Nanocomposites. <i>Advanced Materials</i> , 1996, 8, 29-35.	21.0	3,291
2	Synthesis and barrier properties of poly(ϵ -caprolactone)-layered silicate nanocomposites. <i>Journal of Polymer Science Part A</i> , 1995, 33, 1047-1057.	2.3	1,159
3	Polymer Melt Intercalation in Organically-Modified Layered Silicates: A Model Predictions and Experiment. <i>Macromolecules</i> , 1997, 30, 8000-8009.	4.8	977
4	Structure and Dynamics of Polymer-Layered Silicate Nanocomposites. <i>Chemistry of Materials</i> , 1996, 8, 1728-1734.	6.7	864
5	Lattice Model of Polymer Melt Intercalation in Organically-Modified Layered Silicates. <i>Macromolecules</i> , 1997, 30, 7990-7999.	4.8	791
6	Rheology of End-Tethered Polymer Layered Silicate Nanocomposites. <i>Macromolecules</i> , 1997, 30, 4097-4102.	4.8	742
7	Polymer-layered silicate nanocomposites: Synthesis, properties and applications. <i>Applied Organometallic Chemistry</i> , 1998, 12, 675-680.	3.5	620
8	Photoluminescent Carbogenic Dots. <i>Chemistry of Materials</i> , 2008, 20, 4539-4541.	6.7	571
9	High efficiency nanocomposite sorbents for CO ₂ capture based on amine-functionalized mesoporous capsules. <i>Energy and Environmental Science</i> , 2011, 4, 444-452.	30.8	446
10	Functionalized graphene sheet/Poly(vinylidene fluoride) conductive nanocomposites. <i>Journal of Polymer Science, Part B: Polymer Physics</i> , 2009, 47, 888-897.	2.1	421
11	Relaxations of confined chains in polymer nanocomposites: Glass transition properties of poly(ethylene oxide) intercalated in montmorillonite. <i>Journal of Polymer Science, Part B: Polymer Physics</i> , 1997, 35, 59-67.	2.1	312
12	In situ formation of silver nanoparticles on thin-film composite reverse osmosis membranes for biofouling mitigation. <i>Water Research</i> , 2014, 62, 260-270.	11.3	244
13	Solution-printed organic semiconductor blends exhibiting transport properties on par with single crystals. <i>Nature Communications</i> , 2015, 6, 8598.	12.8	219
14	Facile and Scalable Synthesis of Monodispersed Spherical Capsules with a Mesoporous Shell. <i>Chemistry of Materials</i> , 2010, 22, 2693-2695.	6.7	205
15	Gd(III)-doped carbon dots as a dual fluorescent-MRI probe. <i>Journal of Materials Chemistry</i> , 2012, 22, 23327.	6.7	199
16	Highly porous scaffolds of PEDOT:PSS for bone tissue engineering. <i>Acta Biomaterialia</i> , 2017, 62, 91-101.	8.3	198
17	Electrocatalysis in Alkaline Media and Alkaline Membrane-Based Energy Technologies. <i>Chemical Reviews</i> , 2022, 122, 6117-6321.	47.7	195
18	A facile approach for the synthesis of monolithic hierarchical porous carbons "high performance materials for amine based CO ₂ capture and supercapacitor electrode. <i>Energy and Environmental Science</i> , 2013, 6, 1785.	30.8	181

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19	Luminescent Surface Quaternized Carbon Dots. <i>Chemistry of Materials</i> , 2012, 24, 6-8.	6.7	176
20	Hairy nanoparticle assemblies as one-component functional polymer nanocomposites: opportunities and challenges. <i>MRS Communications</i> , 2013, 3, 13-29.	1.8	169
21	Highly Elastic, Transparent, and Conductive 3D-Printed Ionic Composite Hydrogels. <i>Advanced Functional Materials</i> , 2017, 27, 1701807.	14.9	162
22	From nanocomposite to nanogel polymer electrolytes. <i>Journal of Materials Chemistry</i> , 2003, 13, 1-5.	6.7	149
23	Compatibilizing Poly(vinylidene fluoride)/Nylon-6 Blends with Nanoclay. <i>Macromolecules</i> , 2007, 40, 8271-8276.	4.8	146
24	Nanostructure and properties of polysiloxane-layered silicate nanocomposites. <i>Journal of Polymer Science, Part B: Polymer Physics</i> , 2000, 38, 1595-1604.	2.1	144
25	Efficient CO ₂ sorbents based on silica foam with ultra-large mesopores. <i>Energy and Environmental Science</i> , 2012, 5, 7368.	30.8	140
26	Autonomic perspiration in 3D-printed hydrogel actuators. <i>Science Robotics</i> , 2020, 5, .	17.6	121
27	3D conducting polymer platforms for electrical control of protein conformation and cellular functions. <i>Journal of Materials Chemistry B</i> , 2015, 3, 5040-5048.	5.8	116
28	Polyacrylonitrile/polyaniline core/shell nanofiber mat for removal of hexavalent chromium from aqueous solution: mechanism and applications. <i>RSC Advances</i> , 2013, 3, 8978.	3.6	114
29	Dielectric study of Poly(styrene- <i>co</i> -butadiene) Composites with Carbon Black, Silica, and Nanoclay. <i>Macromolecules</i> , 2011, 44, 6162-6171.	4.8	106
30	Sponges with covalently tethered amines for high-efficiency carbon capture. <i>Nature Communications</i> , 2014, 5, 5796.	12.8	103
31	Design Principles for Optimum Performance of Porous Carbons in Lithium-Sulfur Batteries. <i>Advanced Energy Materials</i> , 2016, 6, 1600134.	19.5	98
32	A new nanocomposite polymer electrolyte based on poly(vinyl alcohol) incorporating hypergrafted nano-silica. <i>Journal of Materials Chemistry</i> , 2012, 22, 18961.	6.7	78
33	The synthesis and properties of nanoscale ionic materials. <i>Applied Organometallic Chemistry</i> , 2010, 24, 581-589.	3.5	76
34	Entanglements in marginal solutions: a means of tuning pre-aggregation of conjugated polymers with positive implications for charge transport. <i>Journal of Materials Chemistry C</i> , 2015, 3, 7394-7404.	5.5	75
35	3D printable tough silicone double networks. <i>Nature Communications</i> , 2020, 11, 4000.	12.8	74
36	Studying the Mechanism of Hybrid Nanoparticle Photoresists: Effect of Particle Size on Photopatterning. <i>Chemistry of Materials</i> , 2015, 27, 5027-5031.	6.7	73

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37	Clay-Organosiloxane Hybrids: A Route to Cross-Linked Clay Particles and Clay Monoliths. <i>Chemistry of Materials</i> , 2004, 16, 2404-2410.	6.7	70
38	Photoluminescent carbogenic nanoparticles directly derived from crude biomass. <i>Green Chemistry</i> , 2012, 14, 3141.	9.0	70
39	Fire Retardant Polyetherimide Nanocomposites. <i>Materials Research Society Symposia Proceedings</i> , 1996, 457, 513.	0.1	66
40	Metal-Organic Framework-Inspired Metal-Containing Clusters for High-Resolution Patterning. <i>Chemistry of Materials</i> , 2018, 30, 4124-4133.	6.7	65
41	Effect of Heating Rate on the Sintering of Titanium Dioxide Thin Films: Competition between Densification and Crystallization. <i>Journal of the American Ceramic Society</i> , 1991, 74, 2669-2671.	3.8	64
42	Interrelationship between Densification, Crystallization, and Chemical Evolution in Sol-Gel Titania Thin Films. <i>Journal of the American Ceramic Society</i> , 1994, 77, 1592-1596.	3.8	62
43	Strain Hardening in Model Polymer Brushes under Shear. <i>Langmuir</i> , 2001, 17, 1448-1452.	3.5	62
44	Silicate Dispersion and Mechanical Reinforcement in Polysiloxane/Layered Silicate Nanocomposites. <i>Chemistry of Materials</i> , 2010, 22, 167-174.	6.7	60
45	High refractive index and high transparency HfO ₂ nanocomposites for next generation lithography. <i>Journal of Materials Chemistry</i> , 2010, 20, 5186.	6.7	56
46	Nanoparticle photoresists from HfO ₂ and ZrO ₂ for EUV patterning. <i>Journal of Photopolymer Science and Technology</i> = [Fotoporima Konwakai Shi], 2012, 25, 583-586.	0.3	54
47	Solubility studies of inorganic-organic hybrid nanoparticle photoresists with different surface functional groups. <i>Nanoscale</i> , 2016, 8, 1338-1343.	5.6	51
48	Yellow emitting carbon dots with superior colloidal, thermal, and photochemical stabilities. <i>Journal of Materials Chemistry C</i> , 2016, 4, 9798-9803.	5.5	50
49	Development of Effective Lipase-Hybrid Nanoflowers Enriched with Carbon and Magnetic Nanomaterials for Biocatalytic Transformations. <i>Nanomaterials</i> , 2019, 9, 808.	4.1	50
50	Nanostructured Polymer Particles as Additives for High Conductivity, High Modulus Solid Polymer Electrolytes. <i>Macromolecules</i> , 2017, 50, 4699-4706.	4.8	44
51	Shape-Memory Behavior of Polylactide/Silica Ionic Hybrids. <i>Macromolecules</i> , 2017, 50, 2896-2905.	4.8	43
52	Synthesis and properties of core-shell fluorescent hybrids with distinct morphologies based on carbon dots. <i>Journal of Materials Chemistry</i> , 2012, 22, 16219.	6.7	40
53	Characterization of Sulfur and Nanostructured Sulfur Battery Cathodes in Electron Microscopy Without Sublimation Artifacts. <i>Microscopy and Microanalysis</i> , 2017, 23, 155-162.	0.4	40
54	On the dielectric response of complex layered oxides: Mica-type silicates and layered double hydroxides. <i>Journal of Applied Physics</i> , 1992, 72, 1039-1048.	2.5	36

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55	Superhydrophilic Wrinkle-Free Cotton Fabrics via Plasma and Nanofluid Treatment. ACS Applied Materials & Interfaces, 2017, 9, 38109-38116.	8.0	36
56	Superhydrophilic and solvent resistant coatings on polypropylene fabrics by a simple deposition process. Journal of Materials Chemistry, 2010, 20, 1651.	6.7	35
57	Ion-Beam-Induced Densification of Zirconia Sol-Gel Thin Films. Journal of the American Ceramic Society, 1993, 76, 1369-1372.	3.8	33
58	Self-Assembled Complexes of Horseradish Peroxidase with Magnetic Nanoparticles Showing Enhanced Peroxidase Activity. Advanced Functional Materials, 2012, 22, 1940-1951.	14.9	31
59	3D Printing of Viscoelastic Suspensions via Digital Light Synthesis for Tough Nanoparticle-Elastomer Composites. Advanced Materials, 2020, 32, e2001646.	21.0	31
60	Role of Mesopore Structure of Hierarchical Porous Carbons on the Electrosorption Performance of Capacitive Deionization Electrodes. ACS Sustainable Chemistry and Engineering, 2019, 7, 7580-7596.	6.7	27
61	Ferroelectric behavior of pulsed laser deposited Ba _x Sr _{1-x} TiO ₃ thin films. Journal of Materials Research, 1993, 8, 1209-1212.	2.6	25
62	Synthesis of Poly(butylene terephthalate) Nanocomposite by In-situ Interlayer Polymerization and Characterization of Its Fiber (I). Polymer Bulletin, 2003, 51, 69-75.	3.3	24
63	A plasmonic fluid with dynamically tunable optical properties. Journal of Materials Chemistry, 2009, 19, 8728.	6.7	24
64	Oxide Nanoparticle EUV (ONE) Photoresists: Current Understanding of the Unusual Patterning Mechanism. Journal of Photopolymer Science and Technology = [Fotoporima Konwakai Shi], 2015, 28, 515-518.	0.3	21
65	Simple Synthesis of Elastomeric Photomechanical Switches That Self-Heal. Macromolecular Rapid Communications, 2019, 40, e1800815.	3.9	21
66	Effect of Nitridation Rate on the Composition and Conductivity of Titanium Nitride Films Prepared from Sol-Gel Titania. Journal of the American Ceramic Society, 1991, 74, 2937-2940.	3.8	18
67	Making bioinspired 3D-printed autonomic perspiring hydrogel actuators. Nature Protocols, 2021, 16, 2068-2087.	12.0	18
68	An improved process for the surface modification of SiO ₂ nanoparticles. Green Chemistry, 2012, 14, 3013.	9.0	17
69	Encapsulation of an Anionic Surfactant into Hollow Spherical Nanosized Capsules: Size Control, Slow Release, and Potential Use for Enhanced Oil Recovery Applications and Environmental Remediation. ACS Omega, 2021, 6, 5689-5697.	3.5	17
70	EUV photolithography: resist progress in metal-organic complex photoresists. Journal of Micro/Nanolithography, MEMS, and MOEMS, 2018, 18, 1.	0.9	17
71	Solvent-mediated pathways to gelation and phase separation in suspensions of grafted nanoparticles. Soft Matter, 2009, 5, 4256.	2.7	16
72	Poly(styrene-block-isoprene) nanocomposites: Kinetics of intercalation and effects of copolymer on intercalation behaviors. Journal of Polymer Science, Part B: Polymer Physics, 2003, 41, 3264-3271.	2.1	15

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73	Synthesis and magnetic properties of Ni ²⁺ /Al ₂ O ₃ thin films. <i>Journal of Applied Physics</i> , 1997, 82, 1189-1195.	2.5	14
74	Acoustophoretic Liquefaction for 3D Printing Ultrahigh-Viscosity Nanoparticle Suspensions. <i>Advanced Materials</i> , 2022, 34, e2106183.	21.0	14
75	Mesoporous amine-bridged polysilsesquioxane for CO ₂ capture. , 2011, 1, 278-284.		13
76	A novel fabrication approach for three-dimensional hierarchical porous metal oxide/carbon nanocomposites for enhanced solar photocatalytic performance. <i>Catalysis Science and Technology</i> , 2017, 7, 1965-1970.	4.1	13
77	Scalable Synthesis of Switchable Assemblies of Gold Nanorod Lyotropic Liquid Crystal Nanocomposites. <i>Small</i> , 2019, 15, 1901666.	10.0	12
78	Nanometer-Scale Iron Oxide Magnetic Particles: Synthesis and Magnetic Properties. <i>Materials Research Society Symposia Proceedings</i> , 1990, 206, 561.	0.1	10
79	Relationship between Water Desorption and Low-Temperature Densification of Colloidal Anatase Thin Films. <i>Journal of the American Ceramic Society</i> , 1993, 76, 2529-2533.	3.8	10
80	Carbon-dot organic surface modifier analysis by solution-state NMR spectroscopy. <i>Journal of Nanoparticle Research</i> , 2013, 15, 1.	1.9	10
81	Nanofibers from Polylactic Acid Nanocomposites: Effect of Nanoclays on Molecular Structures. <i>ACS Symposium Series</i> , 2006, , 217-230.	0.5	8
82	The Challenges of Highly Sensitive EUV Photoresists. <i>Journal of Photopolymer Science and Technology</i> = [Fotoporima Konwakai Shi], 2018, 31, 261-265.	0.3	8
83	Direct Observation of Fracture Mechanisms in Polymer-Layered Silicate Nanocomposites. <i>Materials Research Society Symposia Proceedings</i> , 1996, 457, 495.	0.1	7
84	Deintercalation of a chemically switchable polymer from a layered silicate nanocomposite. <i>Journal of Polymer Science, Part B: Polymer Physics</i> , 2003, 41, 3151-3159.	2.1	7
85	Positive Tone Nanoparticle Photoresists: New Insight on the Patterning Mechanism. <i>Journal of Photopolymer Science and Technology</i> = [Fotoporima Konwakai Shi], 2016, 29, 509-512.	0.3	7
86	Progress in metal organic cluster EUV photoresists. <i>Journal of Vacuum Science and Technology B: Nanotechnology and Microelectronics</i> , 2018, 36, .	1.2	7
87	Recent Progress in EUV Metal Oxide Photoresists. <i>Journal of Photopolymer Science and Technology</i> = [Fotoporima Konwakai Shi], 2017, 30, 93-97.	0.3	6
88	Stimuli-Responsive, Hydrolyzable Poly(Vinyl Laurate-co-vinyl Acetate) Nanoparticle Platform for In Situ Release of Surfactants. <i>ACS Applied Materials & Interfaces</i> , 2021, 13, 25553-25562.	8.0	6
89	Mastering Superior Performance Origins of Ionic Polyurethane/Silica Hybrids. <i>ACS Applied Polymer Materials</i> , 2021, 3, 6684-6693.	4.4	6
90	Nanohybrid Nafion Membranes for Fuel Cells. <i>ACS Symposium Series</i> , 2010, , 171-185.	0.5	5

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91	Neutron Reflectometry Characterization of Interface Width between Sol-Gel Titanium Dioxide and Silicon Dioxide Thin Films. <i>Journal of the American Ceramic Society</i> , 1993, 76, 2534-2538.	3.8	4
92	Relaxations of confined chains in polymer nanocomposites: Glass transition properties of poly(ethylene oxide) intercalated in montmorillonite. <i>Journal of Polymer Science, Part B: Polymer Physics</i> , 1997, 35, 59-67.	2.1	4
93	Monitoring the Early Stages of Formation of Oil-Water Emulsions Using Flow Cytometry. <i>Langmuir</i> , 2022, 38, 62-71.	3.5	4
94	Simple synthesis of soft, tough, and cytocompatible biohybrid composites. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2022, 119, .	7.1	4
95	Engineering of silica monoliths and the effect of clay doping on their properties. <i>Journal of Materials Chemistry</i> , 2004, 14, 1995.	6.7	3
96	Metal Organic Cluster Photoresists for EUV Lithography. <i>Journal of Photopolymer Science and Technology = [Fotoporima Konwakai Shi]</i> , 2019, 32, 711-714.	0.3	3
97	Nanostructured Materials for Environmentally Conscious Applications. <i>ACS Symposium Series</i> , 2013, , 59-72.	0.5	2
98	Ion-Irradiation-Induced Densification of Zirconia Sol -Gel Thin Films. <i>Materials Research Society Symposia Proceedings</i> , 1993, 316, 99.	0.1	1
99	Synthesis and Oxidation Kinetics of Sol-Gel and Sputtered Tantalum Nitride Thin Films. <i>Materials Research Society Symposia Proceedings</i> , 1995, 410, 295.	0.1	1
100	The Nature of Nanometer-Thick Lubricating Films. <i>Materials Research Society Symposia Proceedings</i> , 1998, 522, 165.	0.1	1
101	Polymer-layered silicate nanocomposites: Synthesis, properties and applications. , 1998, 12, 675.		1
102	On the Development of Biomimetic Sensors: Immobilization of Lipid Bilayers in Layered Ceramics. <i>Materials Research Society Symposia Proceedings</i> , 1990, 218, 153.	0.1	0
103	Nanometer Size Lead Iodide Particles. <i>Materials Research Society Symposia Proceedings</i> , 1992, 242, 761.	0.1	0
104	New Chemical Processing Technique Deposits Good Quality TiN Thin Films for Microelectronic Applications. <i>Materials and Processing Report</i> , 1992, 7, 5-6.	0.0	0
105	Tribomechanical Properties of Ion-Beam-Densified Sol-Gel Zirconia Thin Films on Cubic Zirconia. <i>Materials Research Society Symposia Proceedings</i> , 1993, 308, 635.	0.1	0
106	High Quality, Low Cost Continuous Poly-GaN Film on Si and Glass Substrates Produced by Spin Coating. <i>Materials Research Society Symposia Proceedings</i> , 2004, 831, 619.	0.1	0
107	Nanobiohybrids: Bioinspired Sensors. <i>Materials Research Society Symposia Proceedings</i> , 2005, 873, 1.	0.1	0