Hynek Biederman

List of Publications by Year
in descending order

113 papers	2,701 citations	159585 30 h-index	265206 42 g-index
115 all docs	115 docs citations	115 times ranked	2672 citing authors

#	Article	IF	Citations
1	Plasma Polymer Films. , 2004, , .		147
2	Mechanistic Studies of Plasma Polymerization of Allylamine. Journal of Physical Chemistry B, 2005, 109, 23086-23095.	2.6	107
3	Superâ€Hydrophobic Coatings Prepared by RF Magnetron Sputtering of PTFE. Plasma Processes and Polymers, 2010, 7, 544-551.	3.0	86
4	Sputter process diagnostics by negative ions. Journal of Applied Physics, 1998, 83, 5083-5086.	2.5	83
5	Substrate-Independent Approach for the Generation of Functional Protein Resistant Surfaces. Biomacromolecules, 2011, 12, 1058-1066.	5.4	73
6	Poly(ethylene oxide)â€like Plasma Polymers Produced by Plasmaâ€Assisted Vacuum Evaporation. Plasma Processes and Polymers, 2010, 7, 445-458.	3.0	56
7	Polymer films prepared by plasma polymerization and their potential application. Vacuum, 1987, 37, 367-373.	3.5	55
8	Modification of glass fibers to improve reinforcement: A plasma polymerization technique. Dental Materials, 2007, 23, 335-342.	3.5	53
9	Vacuum Thermal Degradation of Poly(ethylene oxide). Journal of Physical Chemistry B, 2009, 113, 2984-2989.	2.6	53
10	Effect of different surface nanoroughness of titanium dioxide films on the growth of human osteoblastâ€like MG63 cells. Journal of Biomedical Materials Research - Part A, 2012, 100A, 1016-1032.	4.0	50
11	Characterization of nanoparticle flow produced by gas aggregation source. Vacuum, 2013, 96, 32-38.	3.5	48
12	Hydrophobic and super-hydrophobic coatings based on nanoparticles overcoated by fluorocarbon plasma polymer. Vacuum, 2014, 100, 57-60.	3.5	48
13	Growth of primary and secondary amine films from polyatomic ion deposition. Vacuum, 2004, 75, 195-205.	3.5	46
14	Preparation of metal oxide nanoparticles by gas aggregation cluster source. Vacuum, 2015, 120, 162-169.	3.5	46
15	Magnetron-sputtered copper nanoparticles: lost in gas aggregation and found by <i>in situ</i> X-ray scattering. Nanoscale, 2018, 10, 18275-18281.	5.6	46
16	Influence of reactive gas admixture on transition metal cluster nucleation in a gas aggregation cluster source. Journal of Applied Physics, 2012, 112, .	2.5	44
17	Effect of substrate adhesion and hydrophobicity on hydrogel friction. Soft Matter, 2008, 4, 1033.	2.7	43
18	Does Crossâ€Link Density of PEOâ€Like Plasma Polymers Influence their Resistance to Adsorption of Fibrinogen?. Plasma Processes and Polymers, 2012, 9, 48-58.	3.0	43

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19	Organic films prepared by polymer sputtering. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2000, 18, 1642-1648.	2.1	42
20	Morphology of Titanium Nanocluster Films Prepared by Gas Aggregation Cluster Source. Plasma Processes and Polymers, 2011, 8, 640-650.	3.0	41
21	Variability in Plasma Polymerization Processes â€“ An International Roundâ€<scp>R</scp>obin Study. Plasma Processes and Polymers, 2013, 10, 767-778.	3.0	40
22	From super-hydrophilic to super-hydrophobic surfaces using plasma polymerization combined with gas aggregation source of nanoparticles. Vacuum, 2014, 110, 58-61.	3.5	39
23	Deposition of nanostructured fluorocarbon plasma polymer films by RF magnetron sputtering of polytetrafluoroethylene. Thin Solid Films, 2011, 519, 6426-6431.	1.8	38
24	Characterization of glow-discharge-treated cellulose acetate membrane surfaces for single-layer enzyme electrode studies. Journal of Applied Polymer Science, 2001, 81, 1341-1352.	2.6	36
25	Huge increase in gas phase nanoparticle generation by pulsed direct current sputtering in a reactive gas admixture. Applied Physics Letters, 2013, 103, .	3.3	35
26	Etching of polymers, proteins and bacterial spores by atmospheric pressure DBD plasma in air. Journal Physics D: Applied Physics, 2017, 50, 135201.	2.8	35
27	Advances and challenges in the field of plasma polymer nanoparticles. Beilstein Journal of Nanotechnology, 2017, 8, 2002-2014.	2.8	35
28	Control of Wettability of Plasma Polymers by Application of Ti Nanoâ€Clusters. Plasma Processes and Polymers, 2012, 9, 180-187.	3.0	33
29	Comparison of magnetron sputtering and gas aggregation nanoparticle source used for fabrication of silver nanoparticle films. Surface and Coatings Technology, 2015, 275, 296-302.	4.8	32
30	Structured Ti/Hydrocarbon Plasma Polymer Nanocomposites Produced By Magnetron Sputtering with Glancing Angle Deposition. Plasma Processes and Polymers, 2010, 7, 25-32.	3.0	30
31	Influence of Deposition Conditions on Structure and Aging of C:H:O Plasma Polymer Films Prepared from Acetone/CO₂Mixtures. Plasma Processes and Polymers, 2014, 11, 496-508.	3.0	30
32	Nucleation and Growth of Magnetronâ€Sputtered Ag Nanoparticles as Witnessed by Timeâ€Resolved Small Angle Xâ€Ray Scattering. Particle and Particle Systems Characterization, 2020, 37, 1900436.	2.3	30
33	Treatment of poly(ethylene terephthalate) foils by atmospheric pressure air dielectric barrier discharge and its influence on cell growth. Applied Surface Science, 2015, 357, 689-695.	6.1	29
34	Magnetron Sputtering of Polymeric Targets: From Thin Films to Heterogeneous Metal/Plasma Polymer Nanoparticles. Materials, 2019, 12, 2366.	2.9	29
35	Deposition of Al nanoparticles and their nanocomposites using a gas aggregation cluster source. Journal of Materials Science, 2014, 49, 3352-3360.	3.7	28
36	Surfaces With Roughness Gradient and Invariant Surface Chemistry Produced by Means of Gas Aggregation Source and Magnetron Sputtering. Plasma Processes and Polymers, 2016, 13, 663-671.	3.0	27

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37	Single-step generation of metal-plasma polymer multicore@shell nanoparticles from the gas phase. Scientific Reports, 2017, 7, 8514.	3.3	27
38	Plasma treatment in air at atmospheric pressure that enables reagent-free covalent immobilization of biomolecules on polytetrafluoroethylene (PTFE). Applied Surface Science, 2020, 518, 146128.	6.1	26
39	Nanocomposite and nanostructured films with plasma polymer matrix. Surface and Coatings Technology, 2012, 211, 127-137.	4.8	24
40	RMS roughness-independent tuning of surface wettability by tailoring silver nanoparticles with a fluorocarbon plasma polymer. Nanoscale, 2017, 9, 2616-2625.	5.6	24
41	Investigation of Ag/a-C:H Nanocomposite Coatings on Titanium for Orthopedic Applications. ACS Applied Materials & Interfaces, 2020, 12, 23655-23666.	8.0	24
42	Composite Ag/C:H films prepared by DC planar magnetron deposition. Thin Solid Films, 2003, 442, 86-92.	1.8	23
43	Nanocomposites and nanostructures based on plasma polymers. Surface and Coatings Technology, 2011, 205, S10-S14.	4.8	23
44	In Situ Diagnostics of RF Magnetron Sputtering of Nylon. Plasma Processes and Polymers, 2009, 6, S803.	3.0	22
45	Noble metal nanostructures for double plasmon resonance with tunable properties. Optical Materials, 2017, 64, 276-281.	3.6	22
46	Composite TiO_{<i>x</i>}/Hydrocarbon Plasma Polymer Films Prepared by Magnetron Sputtering of TiO₂ and Poly(propylene). Plasma Processes and Polymers, 2007, 4, 654-663.	3.0	21
47	PEOâ€like Plasma Polymers Prepared by Atmospheric Pressure Surface Dielectric Barrier Discharge. Plasma Processes and Polymers, 2012, 9, 782-791.	3.0	21
48	Study of the effect of atmospheric pressure air dielectric barrier discharge on nylon 6,6 foils. Polymer Degradation and Stability, 2014, 110, 378-388.	5.8	21
49	Constrained Swelling of Polymer Networks: Characterization of Vapor-Deposited Cross-Linked Polymer Thin Films. Macromolecules, 2014, 47, 4417-4427.	4.8	21
50	Nitrogenâ€Doped TiO₂ Nanoparticles and Their Composites with Plasma Polymer as Deposited by Atmospheric Pressure DBD. Plasma Processes and Polymers, 2014, 11, 864-877.	3.0	21
51	Ag/C:F Antibacterial and hydrophobic nanocomposite coatings. Functional Materials Letters, 2017, 10, 1750029.	1.2	21
52	Calorimetric investigations in a gas aggregation source. Journal of Applied Physics, 2018, 124, .	2.5	21
53	Covalent Attachment and Bioactivity of Horseradish Peroxidase on Plasmaâ€Polymerized Hexane Coatings. Plasma Processes and Polymers, 2008, 5, 727-736.	3.0	20
54	Amination of NCD Films for Possible Application in Biosensing. Plasma Processes and Polymers, 2015, 12, 336-346.	3.0	20

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55	Deposition of Cu/a-C:H Nanocomposite Films. Plasma Processes and Polymers, 2016, 13, 879-887.	3.0	20
56	The evolution of Ag nanoparticles inside a gas aggregation cluster source. Plasma Processes and Polymers, 2019, 16, 1900079.	3.0	20
57	Deposition of Fluorocarbon Nanoclusters by Gas Aggregation Cluster Source. Plasma Processes and Polymers, 2012, 9, 390-397.	3.0	19
58	Deposition and characterization of Pt nanocluster films by means of gas aggregation cluster source. Thin Solid Films, 2014, 571, 13-17.	1.8	19
59	Biological activity and antimicrobial property of Cu/a-C:H nanocomposites and nanolayered coatings on titanium substrates. Materials Science and Engineering C, 2021, 119, 111513.	7.3	19
60	Behavior of Polymeric Matrices Containing Silver Inclusions, 1 â€" Review of Adsorption and Oxidation of Hydrocarbons on Silver Surfaces/Interfaces as Witnessed by FTâ€IR Spectroscopy. Plasma Processes and Polymers, 2008, 5, 807-824.	3.0	17
61	Long-term aging of Ag/a-C:H:O nanocomposite coatings in air and in aqueous environment. Science and Technology of Advanced Materials, 2015, 16, 025005.	6.1	17
62	Deposition of Non-Fouling PEO-Like Coatings Using a Low Temperature Atmospheric Pressure Plasma Jet. Plasma Processes and Polymers, 2016, 13, 241-252.	3.0	17
63	Dielectric properties of plasma polymerized poly(ethylene oxide) thin films. Thin Solid Films, 2016, 616, 279-286.	1.8	17
64	Deposition of Ag/a-C:H nanocomposite films with Ag surface enrichment. Plasma Processes and Polymers, 2017, 14, 1600256.	3.0	17
65	Behavior of Polymeric Matrices Containing Silver Inclusions, 2 â€" Oxidative Aging of Nanocomposite Ag/C:H and Ag/C:H:O Films. Plasma Processes and Polymers, 2009, 6, 34-44.	3.0	16
66	Nanocomposite Ti/hydrocarbon plasma polymer films from reactive magnetron sputtering as growth support for osteoblastâ€like and endothelial cells. Journal of Biomedical Materials Research - Part A, 2009, 88A, 952-966.	4.0	15
67	Wetting and drying on gradient-nanostructured C:F surfaces synthesized using a gas aggregation source of nanoparticles combined with magnetron sputtering of polytetrafluoroethylene. Vacuum, 2019, 166, 50-56.	3.5	15
68	Some Remarks to Macroscopic Kinetics of Plasma Polymerization. Plasma Processes and Polymers, 2011, 8, 475-477.	3.0	14
69	In situ coupling of chitosan onto polypropylene foils by an Atmospheric Pressure Air Glow Discharge with a liquid cathode. Carbohydrate Polymers, 2016, 154, 30-39.	10.2	14
70	Core@shell Cu/hydrocarbon plasma polymer nanoparticles prepared by gas aggregation cluster source followed by inâ€flight plasma polymer coating. Plasma Processes and Polymers, 2018, 15, 1700109.	3.0	14
71	In-flight modification of Ni nanoparticles by tubular magnetron sputtering. Journal Physics D: Applied Physics, 2019, 52, 205302.	2.8	14
72	Surface DBD for Deposition of PEOâ€Like Plasma Polymers. Plasma Processes and Polymers, 2012, 9, 83-89.	3.0	13

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73	Direct covalent coupling of proteins to nanostructured plasma polymers: a route to tunable cell adhesion. Applied Surface Science, 2015, 351, 537-545.	6.1	13
74	Microphase-Separated PE/PEO Thin Films Prepared by Plasma-Assisted Vapor Phase Deposition. ACS Applied Materials & Interfaces, 2016, 8, 8201-8212.	8.0	13
75	Superwettable antibacterial textiles for versatile oil/water separation. Plasma Processes and Polymers, 2019, 16, 1900003.	3.0	13
76	Localized surface plasmon resonance tuning via nanostructured gradient Ag surfaces. Materials Letters, 2017, 192, 119-122.	2.6	11
77	Composite Ni@Ti nanoparticles produced in arrow-shaped gas aggregation source. Journal Physics D: Applied Physics, 2020, 53, 195303.	2.8	11
78	The sputter-based synthesis of tantalum oxynitride nanoparticles with architecture and bandgap controlled by design. Applied Surface Science, 2021, 559, 149974.	6.1	11
79	Gas barrier properties of hydrogenated amorphous carbon films coated on polyethylene terephthalate by plasma polymerization in argon/n-hexane gas mixture. Thin Solid Films, 2013, 540, 65-68.	1.8	10
80	Dynamic scaling and kinetic roughening of poly(ethylene) islands grown by vapor phase deposition. Thin Solid Films, 2014, 565, 249-260.	1.8	10
81	HARD PLASMA POLYMERS, COMPOSITES AND PLASMA POLYMER FILMS PREPARED BY RF SPUTTERING OF CONVENTIONAL POLYMERS. , 2004, , 289-324.		9
82	A Comparative Study of Poly(propylene) Surface Oxidation in DC Lowâ€Pressure Oxygen and Water Vapor Discharges and in Flowing Afterglow of Water Vapor Discharge. Plasma Processes and Polymers, 2008, 5, 778-787.	3.0	8
83	Sensors on Textile Fibres Based on Ag/a-C:H:O Nanocomposite Coatings. Nanomaterials and Nanotechnology, 2013, 3, 13.	3.0	8
84	Plasma polymers: From thin films to nanocolumnar coatings. Thin Solid Films, 2017, 630, 86-91.	1.8	8
85	RF Magnetron Sputtering of Poly(propylene) in a Mixture of Argon and Nitrogen. Plasma Processes and Polymers, 2007, 4, S806-S811.	3.0	7
86	Dimerization of titanyl phthalocyanine in thin films prepared by surface polymerization by ion-assisted deposition. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2008, 26, 212-218.	2.1	7
87	PEO-Like Coatings Prepared by Plasma-Based Techniques. Plasma Processes and Polymers, 2009, 6, S21-S24.	3.0	7
88	Modification of cellulose/chitin mix fibers under different cold plasma conditions. Cellulose, 2013, 20, 509-524.	4.9	7
89	Plasma Polymerization on Mesoporous Surfaces: <i>n</i>-Hexane on Titanium Nanoparticles. Journal of Physical Chemistry C, 2015, 119, 28906-28916.	3.1	7
90	Deposition of Poly(Ethylene Oxide)â€Like Plasma Polymers on Inner Surfaces of Cavities by Means of Atmosphericâ€Pressure SDBDâ€Based Jet. Plasma Processes and Polymers, 2016, 13, 823-833.	3.0	7

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91	In Situ Nanocalorimetric Investigations of Plasma Assisted Deposited Poly(ethylene oxide)-like Films by Specific Heat Spectroscopy. Journal of Physical Chemistry B, 2016, 120, 3954-3962.	2.6	7
92	Effect of magnetic field on the formation of Cu nanoparticles during magnetron sputtering in the gas aggregation cluster source. Plasma Processes and Polymers, 2019, 16, 1900133.	3.0	7
93	Degradable plasma polymer films with tailored hydrolysis behavior. Vacuum, 2020, 173, 109062.	3.5	7
94	In-flight plasma modification of nanoparticles produced by means of gas aggregation sources as an effective route for the synthesis of core-satellite Ag/plasma polymer nanoparticles. Plasma Physics and Controlled Fusion, 2020, 62, 014005.	2.1	7
95	Glancing Angle Deposition of Silver Promoted by Preâ€Deposited Nanoparticles. Plasma Processes and Polymers, 2015, 12, 486-492.	3.0	6
96	In-situ monitoring of etching of bovine serum albumin using low-temperature atmospheric plasma jet. Applied Surface Science, 2017, 392, 1049-1054.	6.1	6
97	Plasmaâ€based synthesis of iron carbide nanoparticles. Plasma Processes and Polymers, 2020, 17, 2000105.	3.0	6
98	Impact of argon flow and pressure on the trapping behavior of nanoparticles inside a gas aggregation source. Plasma Processes and Polymers, 2022, 19, e2100125.	3.0	6
99	X-ray photoelectron spectroscopy investigation and characterisation of plasma polymerised isocyanatoethyl methacrylate. Vacuum, 2002, 68, 161-169.	3.5	5
100	NMR Study of Polyethyleneâ€Like Plasma Polymer Films. Plasma Processes and Polymers, 2009, 6, S362.	3.0	5
101	Nanocomposite gold/poly(ethylene oxide)-like plasma polymers prepared by plasma-assisted vacuum evaporation and magnetron sputtering. Surface and Coatings Technology, 2011, 205, 2830-2837.	4.8	5
102	Influence of atmospheric pressure dielectric barrier discharge on wettability and drying of poly(ether-ether-ketone) foils. Polymer Degradation and Stability, 2018, 150, 114-121.	5.8	5
103	Structure and Stability of C:H:O Plasma Polymer Films Co-Polymerized Using Dimethyl Carbonate. Plasma, 2018, 1, 156-176.	1.8	4
104	Convex vs concave surface nano-curvature of Ta2O5 thin films for tailoring the osteoblast adhesion. Surface and Coatings Technology, 2020, 393, 125805.	4.8	4
105	Novel gas aggregation cluster source based on post magnetron. Plasma Processes and Polymers, 2021, 18, 2100068.	3.0	4
106	In-flight coating of Ag nanoparticles with Cu. Journal Physics D: Applied Physics, 2021, 54, 015302.	2.8	4
107	Effect of various concentrations of Ti in hydrocarbon plasma polymer films on the adhesion, proliferation and differentiation of human osteoblast-like MG-63 cells. Applied Surface Science, 2015, 357, 459-472.	6.1	3
108	Synthesis and microstructure investigation of heterogeneous metalâ€plasma polymer Ag/HMDSO nanoparticles. Surface and Interface Analysis, 2020, 52, 1023-1028.	1.8	3

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109	Core@shell nanoparticles by inflight controlled coating. Journal Physics D: Applied Physics, 2022, 55, 215201.	2.8	3
110	Langmuir probe study of a magnetically enhanced RF plasma source at pressures below 0.1â€‰Pa. Plasma Sources Science and Technology, 2011, 20, 045018.	3.1	2
111	Analysis of aerodynamics and charging of nanoparticles in the gas aggregation source based on a planar magnetron. , 2012, , .		0
112	Back Cover: Plasma Process. Polym. 5â̂•2014. Plasma Processes and Polymers, 2014, 11, 509-509.	3.0	0
113	Back Cover: Plasma Process. Polym. 5â̂•2015. Plasma Processes and Polymers, 2015, 12, 502-502.	3.0	0