Behnam Akhavan

List of Publications by Year
in descending order

52 papers	1,437 citations	257450 24 h-index	345221 36 g-index
52 all docs	52 docs citations	52 times ranked	1541 citing authors

#	Article	IF	Citations
1	A review of biomimetic surface functionalization for bone-integrating orthopedic implants: Mechanisms, current approaches, and future directions. Progress in Materials Science, 2019, 106, 100588.	32.8	147
2	Hydrophobic Plasma Polymer Coated Silica Particles for Petroleum Hydrocarbon Removal. ACS Applied Materials & Interfaces, 2013, 5, 8563-8571.	8.0	80
3	Plasma Polymer-Functionalized Silica Particles for Heavy Metals Removal. ACS Applied Materials & Interfaces, 2015, 7, 4265-4274.	8.0	80
4	Electric fields control the orientation of peptides irreversibly immobilized on radical-functionalized surfaces. Nature Communications, 2018, 9, 357.	12.8	77
5	High entropy alloy thin films of AlCoCrCu0.5FeNi with controlled microstructure. Applied Surface Science, 2019, 495, 143560.	6.1	69
6	Plasma activated coatings with dual action against fungi and bacteria. Applied Materials Today, 2018, 12, 72-84.	4.3	52
7	Transparent Conductive Dielectricâ€"Metalâ€"Dielectric Structures for Electrochromic Applications Fabricated by High-Power Impulse Magnetron Sputtering. ACS Applied Materials & Interfaces, 2019, 11, 14871-14881.	8.0	45
8	RF magnetron sputtered AlCoCrCu0.5FeNi high entropy alloy (HEA) thin films with tuned microstructure and chemical composition. Journal of Alloys and Compounds, 2020, 836, 155348.	5.5	45
9	Direct covalent attachment of silver nanoparticles on radical-rich plasma polymer films for antibacterial applications. Journal of Materials Chemistry B, 2018, 6, 5845-5853.	5.8	40
10	External magnetic field increases both plasma generation and deposition rate in HiPIMS. Surface and Coatings Technology, 2018, 352, 671-679.	4.8	37
11	Radical-functionalized plasma polymers: Stable biomimetic interfaces for bone implant applications. Applied Materials Today, 2019, 16, 456-473.	4.3	37
12	Evolution of Hydrophobicity in Plasma Polymerised 1,7â€‹<scp>O</scp>ctadiene Films. Plasma Processes and Polymers, 2013, 10, 1018-1029.	3.0	36
13	Plasma Ion Implantation of Silk Biomaterials Enabling Direct Covalent Immobilization of Bioactive Agents for Enhanced Cellular Responses. ACS Applied Materials & Interfaces, 2018, 10, 17605-17616.	8.0	36
14	Tuning the hydrophobicity of plasma polymer coated silica particles. Powder Technology, 2013, 249, 403-411.	4.2	34
15	High entropy nitride (HEN) thin films of AlCoCrCu0.5FeNi deposited by reactive magnetron sputtering. Surface and Coatings Technology, 2020, 402, 126327.	4.8	34
16	A multifaceted biomimetic interface to improve the longevity of orthopedic implants. Acta Biomaterialia, 2020, 110, 266-279.	8.3	34
17	Bioactive Materials Facilitating Targeted Local Modulation of Inflammation. JACC Basic To Translational Science, 2019, 4, 56-71.	4.1	33
18	Influence of Retained Austenite on the Mechanical Properties of Low Carbon Martensitic Stainless Steel Castings. ISIJ International, 2011, 51, 471-475.	1.4	32

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19	Development of negatively charged particulate surfaces through a dry plasma-assisted approach. RSC Advances, 2015, 5, 12910-12921.	3.6	30
20	Development of Oxidized Sulfur Polymer Films through a Combination of Plasma Polymerization and Oxidative Plasma Treatment. Langmuir, 2014, 30, 1444-1454.	3.5	27
21	Substrate-Regulated Growth of Plasma-Polymerized Films on Carbide-Forming Metals. Langmuir, 2016, 32, 10835-10843.	3.5	27
22	Multifunctional Protein-Immobilized Plasma Polymer Films for Orthopedic Applications. ACS Biomaterials Science and Engineering, 2018, 4, 4084-4094.	5.2	27
23	HiPIMS carbon coatings show covalent protein binding that imparts enhanced hemocompatibility. Carbon, 2018, 139, 118-128.	10.3	27
24	Plasma polymerization of sulfur-rich and water-stable coatings on silica particles. Surface and Coatings Technology, 2015, 264, 72-79.	4.8	26
25	Hydrogelâˆ’Solid Hybrid Materials for Biomedical Applications Enabled by Surfaceâ€Embedded Radicals. Advanced Functional Materials, 2020, 30, 2004599.	14.9	26
26	Evolution of target condition in reactive HiPIMS as a function of duty cycle: An opportunity for refractive index grading. Journal of Applied Physics, 2017, 121, .	2.5	24
27	Dry Surface Treatments of Silk Biomaterials and Their Utility in Biomedical Applications. ACS Biomaterials Science and Engineering, 2020, 6, 5431-5452.	5.2	24
28	Cellular responses to radical propagation from ion-implanted plasma polymer surfaces. Applied Surface Science, 2018, 456, 701-710.	6.1	21
29	Reactive magnetron co-sputtering of Ti-xCuO coatings: Multifunctional interfaces for blood-contacting devices. Materials Science and Engineering C, 2020, 116, 111198.	7.3	21
30	Multifunctional Ti-xCu coatings for cardiovascular interfaces: Control of microstructure and surface chemistry. Materials Science and Engineering C, 2019, 104, 109969.	7.3	20
31	Carbon films deposited by mixed-mode high power impulse magnetron sputtering for high wear resistance: The role of argon incorporation. Thin Solid Films, 2019, 688, 137353.	1.8	20
32	Atmospheric Pressure Plasma Jet Treatment of Polymers Enables Reagent-Free Covalent Attachment of Biomolecules for Bioprinting. ACS Applied Materials & Interfaces, 2020, 12, 38730-38743.	8.0	18
33	Inhomogeneous Growth of Micrometer Thick Plasma Polymerized Films. Langmuir, 2016, 32, 4792-4799.	3.5	17
34	Nanostructured AlCoCrCu0.5FeNi high entropy oxide (HEO) thin films fabricated using reactive magnetron sputtering. Applied Surface Science, 2021, 553, 149491.	6.1	17
35	Biomimetic silk biomaterials: Perlecan-functionalized silk fibroin for use in blood-contacting devices. Acta Biomaterialia, 2021, 132, 162-175.	8.3	16
36	Mechanically robust nitrogen-rich plasma polymers: Biofunctional interfaces for surface engineering of biomedical implants. Materials Today Advances, 2021, 12, 100188.	5.2	13

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37	Catalytic Formation of Nitric Oxide Mediated by Tiâ€“Cu Coatings Provides Multifunctional Interfaces for Cardiovascular Applications. Advanced Materials Interfaces, 2018, 5, 1701487.	3.7	12
38	Noble gas control of diamond-like content and compressive stress in carbon films by arc-mixed mode high power impulse magnetron sputtering. Surface and Coatings Technology, 2021, 427, 127785.	4.8	11
39	External magnetic field guiding in HiPIMS to control sp³ fraction of tetrahedral amorphous carbon films. Journal Physics D: Applied Physics, 2021, 54, 045002.	2.8	10
40	ITO-free silver-doped DMD structures: HiPIMS transparent-conductive nano-composite coatings for electrochromic applications. Solar Energy Materials and Solar Cells, 2021, 231, 111268.	6.2	9
41	Effect of plasma ion immersion implantation on physiochemical and biological properties of silk towards creating a versatile biomaterial platform. Materials Today Advances, 2022, 13, 100212.	5.2	9
42	Design Optimization of Perfluorinated Liquidâ€Infused Surfaces for Bloodâ€Contacting Applications. Advanced Materials Interfaces, 2022, 9, .	3.7	8
43	Tiâ€“Cu Coatings Deposited by a Combination of HiPIMS and DC Magnetron Sputtering: The Role of Vacuum Annealing on Cu Diffusion, Microstructure, and Corrosion Resistance. Coatings, 2020, 10, 1064.	2.6	5
44	Biomimetic Culture Strategies for the Clinical Expansion of Mesenchymal Stromal Cells. ACS Biomaterials Science and Engineering, 2023, 9, 3742-3759.	5.2	5
45	Cold plasma treatment of porous scaffolds: Design principles. Plasma Processes and Polymers, 2022, 19, .	3.0	5
46	Shellac: A Bioactive Coating for Surface Engineering of Cardiovascular Devices. Advanced Materials Interfaces, 2022, 9, .	3.7	4
47	Continuum modelling of an asymmetric CCRF argon plasma reactor: Influence of higher excited states and sensitivity to model parameters. Plasma Processes and Polymers, 2021, 18, 2000243.	3.0	3
48	Truncated vascular endothelial cadherin enhances rapid endothelialization of small diameter synthetic vascular grafts. Materials Today Advances, 2022, 14, 100222.	5.2	3
49	Development of hydrophobic silica powders using plasma polymerization technology. , 2012, , .		1
50	Controlled deposition of plasma activated coatings on zirconium substrates. , 2015, , .		1
51	5. Surface-engineered silica via plasma polymer deposition. , 2017, , 99-112.		1
52	Design Optimization of Perfluorinated Liquidâ€Infused Surfaces for Bloodâ€Contacting Applications (Adv.) Tj ETQq0 0 0 rgBT /Overlock	3.7	1