Akif Kaynak

List of Publications by Year
in descending order

119 papers	4,144 citations	101384 36 h-index	128067 60 g-index
120 all docs	120 docs citations	120 times ranked	3925 citing authors

#	Article	IF	Citations
1	A Bioinspired Compliant 3D-Printed Soft Gripper. Soft Robotics, 2022, 9, 680-689.	4.6	16
2	Advanced Design, Fabrication, and Applications of 3D-Printable Piezoelectric Nanogenerators. Electronic Materials Letters, 2022, 18, 129-144.	1.0	13
3	A 3D printable dynamic nanocellulose/nanochitin self-healing hydrogel and soft strain sensor. Carbohydrate Polymers, 2022, 291, 119545.	5.1	29
4	4D printing modeling via machine learning. , 2022, , 73-102.		2
5	Closed-loop control of 4D-printed hydrogel soft robots. , 2022, , 251-278.		1
6	Electrothermal Modeling and Analysis of Polypyrrole-Coated Wearable E-Textiles. Materials, 2021, 14, 550.	1.3	11
7	3Dâ€Printed Triboelectric Nanogenerators: State of the Art, Applications, and Challenges. Advanced Energy and Sustainability Research, 2021, 2, 2000045.	2.8	32
8	Dynamic Nanohybrid-Polysaccharide Hydrogels for Soft Wearable Strain Sensing. Sensors, 2021, 21, 3574.	2.1	11
9	4D printing soft robots guided by machine learning and finite element models. Sensors and Actuators A: Physical, 2021, 328, 112774.	2.0	55
10	Dynamic nanocellulose hydrogels: Recent advancements and future outlook. Carbohydrate Polymers, 2021, 270, 118357.	5.1	32
11	Topology-Optimized 4D Printing of a Soft Actuator. Acta Mechanica Solida Sinica, 2020, 33, 418-430.	1.0	61
12	Dynamic plant-derived polysaccharide-based hydrogels. Carbohydrate Polymers, 2020, 231, 115743.	5.1	57
13	Closed-loop 4D-printed soft robots. Materials and Design, 2020, 188, 108411.	3.3	127
14	Double dynamic cellulose nanocomposite hydrogels with environmentally adaptive self-healing and pH-tuning properties. Cellulose, 2020, 27, 1407-1422.	2.4	27
15	Functional Polymers in Sensors and Actuators: Fabrication and Analysis. Polymers, 2020, 12, 1569.	2.0	9
16	3D/4D-printed bending-type soft pneumatic actuators: fabrication, modelling, and control. Virtual and Physical Prototyping, 2020, 15, 373-402.	5.3	103
17	Rational Design of Musselâ€Inspired Hydrogels with Dynamic Catecholatoâ^'Metal Coordination Bonds. Macromolecular Rapid Communications, 2020, 41, e2000439.	2.0	26
18	Control-Based 4D Printing: Adaptive 4D-Printed Systems. Applied Sciences (Switzerland), 2020, 10, 3020.	1.3	66

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19	Finite Element Methods in Smart Materials and Polymers. Polymers, 2020, 12, 1229.	2.0	1
20	The Performance of the DES Sensor for Estimating Soil Bulk Density under the Effect of Different Agronomic Practices. Geosciences (Switzerland), 2020, 10, 117.	1.0	4
21	Dynamic Mussel-Inspired Chitin Nanocomposite Hydrogels for Wearable Strain Sensors. Polymers, 2020, 12, 1416.	2.0	19
22	Fracture Resistance Analysis of 3D-Printed Polymers. Polymers, 2020, 12, 302.	2.0	48
23	Effects of Topology Optimization in Multimaterial 3D Bioprinting of Soft Actuators. International Journal of Bioprinting, 2020, 6, 260.	1.7	20
24	Effects of Topology Optimization in Multimaterial 3D Bioprinting of Soft Actuators. International Journal of Bioprinting, 2020, 6, 260.	1.7	2
25	Stimuli-Responsive Polymer Systemsâ€"Recent Manufacturing Techniques and Applications. Materials, 2019, 12, 2380.	1.3	13
26	Bending control of a 3D printed polyelectrolyte soft actuator with uncertain model. Sensors and Actuators A: Physical, 2019, 288, 134-143.	2.0	24
27	Dynamic Hydrogels and Polymers as Inks for Three-Dimensional Printing. ACS Biomaterials Science and Engineering, 2019, 5, 2688-2707.	2.6	67
28	System identification and robust tracking of a 3D printed soft actuator. Smart Materials and Structures, 2019, 28, 075025.	1.8	10
29	Wet 3â€D printing of epoxy crossâ€linked chitosan/carbon microtube composite. Polymers for Advanced Technologies, 2019, 30, 1732-1737.	1.6	0
30	Nanogrooved carbon microtubes for wet threeâ€dimensional printing of conductive composite structures. Polymer International, 2019, 68, 922-928.	1.6	2
31	Uniform Micellization: The Key to Enhanced Mechanical Strength and Swelling Efficiency of Chitosan Hydrogel. Fibers and Polymers, 2019, 20, 11-18.	1.1	1
32	Control-Oriented Modelling of a 3D-Printed Soft Actuator. Materials, 2019, 12, 71.	1.3	19
33	A Review on Miniaturized Ultrasonic Wireless Power Transfer to Implantable Medical Devices. IEEE Access, 2019, 7, 2092-2106.	2.6	49
34	Rigid elements dynamics modeling of a 3D printed soft actuator. Smart Materials and Structures, 2019, 28, 025003.	1.8	14
35	Polyelectrolyte Soft Actuators: 3D Printed Chitosan and Cast Gelatin. 3D Printing and Additive Manufacturing, 2018, 5, 138-150.	1.4	53
36	Pattern-driven 4D printing. Sensors and Actuators A: Physical, 2018, 274, 231-243.	2.0	81

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37	3D printed soft parallel actuator. Smart Materials and Structures, 2018, 27, 045019.	1.8	24
38	An electroactive polymer composite with reinforced bending strength, based on tubular micro carbonized-cellulose. Chemical Engineering Journal, 2018, 334, 1775-1780.	6.6	10
39	Cyclic cryogelation: a novel approach to control the distribution of carbonized cellulose fibres within polymer hydrogels. Cellulose, 2018, 25, 549-558.	2.4	4
40	Soil Bulk Density Estimation Methods: A Review. Pedosphere, 2018, 28, 581-596.	2.1	193
41	Surface nanogrooving of carbon microtubes. Scientific Reports, 2018, 8, 9924.	1.6	7
42	Sodium alginate/magnesium oxide nanocomposite scaffolds for bone tissue engineering. Polymers for Advanced Technologies, 2018, 29, 2553-2559.	1.6	19
43	Development and analysis of a 3D printed hydrogel soft actuator. Sensors and Actuators A: Physical, 2017, 265, 94-101.	2.0	62
44	Experimental Investigation of Thermo-Physical Properties of Soil Using Solarisation Technology. American Journal of Applied Sciences, 2017, 14, 649-661.	0.1	2
45	3D Printing of a Photo-thermal Self-folding Actuator. KnE Engineering, 2017, 2, 15.	0.1	17
46	Change in Dielectric Properties in the Microwave Frequency Region of Polypyrroleâ€“Coated Textiles during Aging. Materials, 2016, 9, 609.	1.3	4
47	A study on tunable bulk acoustic wave macro resonators. , 2016, , .		0
48	3D printed hydrogel soft actuators. , 2016, , .		15
49	Evolution of 3D printed soft actuators. Sensors and Actuators A: Physical, 2016, 250, 258-272.	2.0	232
50	Control-Oriented Modeling of a Polymeric Soft Robot. Soft Robotics, 2016, 3, 82-97.	4.6	14
51	Development of a novel soft parallel robot equipped with polymeric artificial muscles. Smart Materials and Structures, 2015, 24, 035017.	1.8	48
52	RF rectifiers for EM power harvesting in a Deep Brain Stimulating device. Australasian Physical and Engineering Sciences in Medicine, 2015, 38, 157-172.	1.4	10
53	Equivalent dynamic thermoviscoelastic modeling of ionic polymers. Polymers for Advanced Technologies, 2015, 26, 385-391.	1.6	5
54	A protocol for improving fabrication yield of thin SU-8 microcantilevers for use in an aptasensor. Microsystem Technologies, 2015, 21, 371-380.	1.2	9

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55	Nonlinear large deformation dynamic analysis of electroactive polymer actuators. Smart Structures and Systems, 2015, 15, 1601-1623.	1.9	10
56	Theoretical Modeling and Experimental Validation of Surface Stress in Thrombin Aptasensor. IEEE Transactions on Nanobioscience, 2014, 13, 384-391.	2.2	2
57	Development of a Compact Rectenna for Wireless Powering of a Head-Mountable Deep Brain Stimulation Device. IEEE Journal of Translational Engineering in Health and Medicine, 2014, 2, 1-13.	2.2	38
58	A Surface-Stress-Based Microcantilever Aptasensor. IEEE Transactions on Biomedical Circuits and Systems, 2014, 8, 15-24.	2.7	9
59	Design and evaluation of a microcantilever aptasensor. , 2014, , .		1
60	Nonlinear dynamic modeling of ionic polymer conductive network composite actuators using rigid finite element method. Sensors and Actuators A: Physical, 2014, 217, 168-182.	2.0	24
61	Study of oxygen plasma pre-treatment of polyester fabric for improved polypyrrole adhesion. Materials Chemistry and Physics, 2014, 143, 668-675.	2.0	55
62	Study of Radio Frequency Plasma Treatment of PVDF Film Using Ar, O2 and (Ar + O2) Gases for Improved Polypyrrole Adhesion. Materials, 2013, 6, 3482-3493.	1.3	41
63	Compact stacked planar inverted-F antenna for passive deep brain stimulation implants. , 2012, 2012, 851-4.		6
64	Investigating nanoparticle-substrate interaction in LSPR biosensing using the image-charge theory. , 2012, 2012, 2363-6.		4
65	Improved Bonding and Conductivity of Polypyrrole on Polyester by Gaseous Plasma Treatment. Plasma Processes and Polymers, 2012, 9, 1006-1014.	1.6	15
66	Low Actuation Wideband RF MEMS Shunt Capacitive Switch. Procedia Engineering, 2012, 29, 1292-1297.	1.2	7
67	DEVELOPING LSPR DESIGN GUIDELINES. Progress in Electromagnetics Research, 2012, 126, 203-235.	1.6	28
68	Optimization of polymerization conditions and thermal degradation of conducting polypyrrole coated polyester fabrics. Fibers and Polymers, 2012, 13, 153-158.	1.1	8
69	A micromechanical biosensor with interdigitated capacitor readout. , 2011, , .		1
70	Electromagnetic field and other physical methods influencing cell growth in mammal cell culture systems. , 2011, , .		0
71	Nano-plasmonic biosensors: A review. , 2011, , .		13
72	Methods of Coating Textiles with Soluble Conducting Polymers. Research Journal of Textile and Apparel, 2011, 15, 107-113.	0.6	30

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73	Electrochemical fabrication and modelling of mechanical behavior of a tri-layer polymer actuator. Materials Chemistry and Physics, 2011, 125, 113-117.	2.0	14
74	Synthesis and Characterization of Soluble Conducting Polymers. Research Journal of Textile and Apparel, 2010, 14, 45-52.	0.6	7
75	Synthesis, Characterization and Analytical Modelling of Mechanical Behavior of a Conducting Polymer Actuator. Materials Science Forum, 2010, 654-656, 2467-2470.	0.3	2
76	Design and construction of a micropump for drug delivery applications. , 2010, , .		1
77	Effects of design parameters on sensitivity of microcantilever biosensors. , 2010, , .		19
78	Fluorescence and conductivity studies on wool. Materials Chemistry and Physics, 2009, 113, 480-484.	2.0	15
79	Decay of electrical conductivity in p-toluene sulfonate doped polypyrrole films. Fibers and Polymers, 2009, 10, 590-593.	1.1	19
80	The influence of polymerization time and dopant concentration on the absorption of microwave radiation in conducting polypyrrole coated textiles. Synthetic Metals, 2009, 159, 1373-1380.	2.1	36
81	Characterization of conducting polymer coated fabrics at microwave frequencies. International Journal of Clothing Science and Technology, 2009, 21, 117-126.	0.5	20
82	Conducting nylon, cotton and wool yarns by continuous vapor polymerization of pyrrole. Synthetic Metals, 2008, 158, 1-5.	2.1	95
83	Short-term heating tests on doped polypyrrole-coated polyester fabrics. Synthetic Metals, 2008, 158, 350-354.	2.1	15
84	Conductive wool yarns by continuous vapour phase polymerization of pyrrole. Synthetic Metals, 2007, 157, 1-4.	2.1	70
85	Improvement of adhesion of conductive polypyrrole coating on wool and polyester fabrics using atmospheric plasma treatment. Synthetic Metals, 2007, 157, 41-47.	2.1	95
86	Conductive poly(Î±,Ï‰-bis(3-pyrrolyl)alkanes)-coated wool fabrics. Synthetic Metals, 2007, 157, 534-539.	2.1	11
87	Effect of weight reduction pre-treatment on the electrical and thermal properties of polypyrrole coated woven polyester fabrics. Synthetic Metals, 2007, 157, 764-769.	2.1	28
88	Synthesis and polymerization studies of 3-(+) and (âˆ’)-menthyl carboxylate pyrroles. Synthetic Metals, 2007, 157, 924-929.	2.1	6
89	Dielectric characterization of conducting textiles using free space transmission measurements: Accuracy and methods for improvement. Synthetic Metals, 2007, 157, 1054-1063.	2.1	32
90	Synthesis and polymerisation of Î±,Ï‰-bis(3-pyrrolyl)alkanes. Tetrahedron, 2007, 63, 4237-4242.	1.0	5

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91	Electromagnetic interference shielding and radiation absorption in thin polypyrrole films. European Polymer Journal, 2007, 43, 205-213.	2.6	105
92	Effects of Laundering on Conductivity of Polypyrrole-Coated Textiles. Research Journal of Textile and Apparel, 2007, 11, 11-17.	0.6	20
93	Application of soluble poly(3-alkylpyrrole) polymers on textiles. Synthetic Metals, 2006, 156, 637-642.	2.1	24
94	Electromagnetic shielding properties of polypyrrole/polyester composites in the 1â€"18GHz frequency range. Synthetic Metals, 2006, 156, 917-925.	2.1	133
95	The effects of dye dopants on the conductivity and optical absorption properties of polypyrrole. Synthetic Metals, 2006, 156, 1194-1202.	2.1	92
96	Synthesis, polymerization and wool coating studies of 3-iso-butylpyrrole and 3-iso-pentylpyrrole. Synthetic Metals, 2006, 156, 1333-1340.	2.1	11
97	Thermal conductivity studies on wool fabrics with conductive coatings. Journal of the Textile Institute, 2006, 97, 265-270.	1.0	22
98	Generating heat from conducting polypyrrole-coated PET fabrics. Advances in Polymer Technology, 2005, 24, 194-207.	0.8	32
99	Polymerising pyrrole on polyester textiles and controlling the conductivity through coating thickness. Thin Solid Films, 2005, 479, 77-82.	0.8	97
100	Frictional and tensile properties of conducting polymer coated wool and alpaca fibers. Fibers and Polymers, 2005, 6, 259-262.	1.1	31
101	Development of a cooling fabric from conducting polymer coated fibres: Proof of concept. Synthetic Metals, 2005, 150, 139-143.	2.1	53
102	Polypyrrole nanoparticles and dye absorption properties. Synthetic Metals, 2005, 151, 136-140.	2.1	46
103	Soluble poly-3-alkylpyrrole polymers on films and fabrics. Synthetic Metals, 2005, 155, 185-190.	2.1	30
104	Characterization of conducting polymer coated synthetic fabrics for heat generation. Synthetic Metals, 2004, 144, 21-28.	2.1	144
105	Effect of synthesis parameters on the electrical conductivity of polypyrrole-coated poly(ethylene) Tj ETQq1 1 0.784314 rgBT /Overlock 1	1.6	90
106	Characterization of conductive polypyrrole coated wool yarns. Fibers and Polymers, 2002, 3, 24-30.	1.1	66
107	Correlating the fineness and residual gum content of degummed hemp fibres. Fibers and Polymers, 2002, 3, 129-133.	1.1	16
108	FT-RAMAN SPECTROSCOPIC STUDY OF THE FORMATION OF POLYENES DURING THERMAL DEGRADATION OF POLY(VINYL CHLORIDE) AND POLY (N-VINYL-2-PYRROLIDONE) BLENDS. Journal of Macromolecular Science - Pure and Applied Chemistry, 2001, 38, 1033-1048.	1.2	5

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109	Aging studies on conducting polypyrrole. Fibers and Polymers, 2001, 2, 171-177.	1.1	19
110	Change of mechanical and electrical properties of polypyrrole films with dopant concentration and oxidative aging. Materials Research Bulletin, 2000, 35, 813-824.	2.7	74
111	Electrical Conductivity of Polypyrrole Films at a Temperature Range of 70 K to 350 K. Materials Research Bulletin, 1998, 33, 81-88.	2.7	24
112	Effect of synthesis parameters on the surface morphology of conducting polypyrrole films. Materials Research Bulletin, 1997, 32, 271-285.	2.7	70
113	Electromagnetic shielding effectiveness of galvanostatically synthesized conducting polypyrrole films in the 300â€“2000 MHz frequency range. Materials Research Bulletin, 1996, 31, 845-860.	2.7	116
114	Some microwave and mechanical properties of carbon fiber-polypropylene and carbon black-polypropylene composites. Materials Research Bulletin, 1996, 31, 1195-1206.	2.7	77
115	Conducting Polymers: Properties and Applications. Journal of Intelligent Material Systems and Structures, 1994, 5, 595-604.	1.4	18
116	Plane-wave shielding effectiveness studies on conducting polypyrrole. Journal of Materials Science Letters, 1994, 13, 1121-1123.	0.5	18
117	A study of microwave transmission, reflection, absorption, and shielding effectiveness of conducting polypyrrole films. Journal of Applied Polymer Science, 1994, 54, 269-278.	1.3	69
118	Study of conducting polypyrrole films in the microwave region. Materials Research Bulletin, 1993, 28, 1109-1125.	2.7	24
119	Technical Review : Conducting Polymer Electronics. Journal of Intelligent Material Systems and Structures, 1992, 3, 380-395.	1.4	56