

Babak Ziaie

List of Publications by Year in descending order

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Version: 2024-02-01

101
papers

3,912
citations

159358

30
h-index

123241

61
g-index

101
all docs

101
docs citations

101
times ranked

5272
citing authors

#	ARTICLE	IF	CITATIONS
1	Integrated sensing and delivery of oxygen for next-generation smart wound dressings. <i>Microsystems and Nanoengineering</i> , 2020, 6, 46.	3.4	96
2	Wearable and Flexible Ozone Generating System for Treatment of Infected Dermal Wounds. <i>Frontiers in Bioengineering and Biotechnology</i> , 2020, 8, 458.	2.0	12
3	Real-Time Tracking of a 3D-Printed Smart Capsule Using on-Board Near-Infrared Led Array. , 2019, , .		3
4	Laser-treated glass platform for rapid wicking-driven transport and particle separation in bio microfluidics. <i>RSC Advances</i> , 2019, 9, 19531-19538.	1.7	5
5	Rapid prototyping of a novel and flexible paper based oxygen sensing patch via additive inkjet printing process. <i>RSC Advances</i> , 2019, 9, 22695-22704.	1.7	30
6	A mass-customizable dermal patch with discrete colorimetric indicators for personalized sweat rate quantification. <i>Microsystems and Nanoengineering</i> , 2019, 5, 29.	3.4	30
7	A pH-regulated drug delivery dermal patch for targeting infected regions in chronic wounds. <i>Lab on A Chip</i> , 2019, 19, 2265-2274.	3.1	47
8	An Implantable Ultrasonically-Powered Micro-Light-Source (μ Light) for Photodynamic Therapy. <i>Scientific Reports</i> , 2019, 9, 1395.	1.6	59
9	Early Experience With Nonporous Polyethylene Barrier Sheet in Orbital Fracture Repair. <i>Ophthalmic Plastic and Reconstructive Surgery</i> , 2019, 35, 67-70.	0.4	3
10	Inkjet-printed Solid-state Potentiometric Nitrate Ion Selective Electrodes for Agricultural Application. , 2019, , .		11
11	Laser-enabled fabrication of flexible and transparent pH sensor with near-field communication for in-situ monitoring of wound infection. <i>Sensors and Actuators B: Chemical</i> , 2018, 267, 198-207.	4.0	60
12	A Smart Capsule With a Hydrogel-Based pH-Triggered Release Switch for GI-Tract Site-Specific Drug Delivery. <i>IEEE Transactions on Biomedical Engineering</i> , 2018, 65, 2808-2813.	2.5	25
13	Gradient-on-a-Chip with Reactive Oxygen Species Reveals Thresholds in the Nucleus Response of Cancer Cells Depending on the Matrix Environment. <i>ACS Biomaterials Science and Engineering</i> , 2018, 4, 432-445.	2.6	17
14	Comparison of Direct and Indirect Laser Ablation of Metallized Paper for Inexpensive Paper-Based Sensors. <i>ACS Applied Materials & Interfaces</i> , 2018, 10, 36332-36341.	4.0	23
15	An ultrasonically controlled switching system for power management in implantable devices. <i>Biomedical Microdevices</i> , 2018, 20, 42.	1.4	1
16	Fabrication and characterization of implantable flushable electrodes for electric field-mediated drug delivery in a brain tissue-mimic agarose gel. <i>Electrophoresis</i> , 2018, 39, 2262-2269.	1.3	7
17	Smart Bandage for Monitoring and Treatment of Chronic Wounds. <i>Small</i> , 2018, 14, e1703509.	5.2	257
18	Laser-Enabled Processing of Stretchable Electronics on a Hydrolytically Degradable Hydrogel. <i>Advanced Healthcare Materials</i> , 2018, 7, e1800231.	3.9	26

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19	Smart Bandages: Smart Bandage for Monitoring and Treatment of Chronic Wounds (Small 33/2018). Small, 2018, 14, 1870150.	5.2	4
20	Yeast Metabolic Response as an Indicator of Radiation Damage in Biological Tissue. Advanced Biology, 2018, 2, 1800126.	3.0	4
21	A manufacturable smart dressing with oxygen delivery and sensing capability for chronic wound management. , 2018, , .		2
22	Highly Stretchable Potentiometric pH Sensor Fabricated via Laser Carbonization and Machining of Carbon~Polyaniline Composite. ACS Applied Materials & Interfaces, 2017, 9, 9015-9023.	4.0	146
23	Flexible and transparent pH monitoring system with NFC communication for wound monitoring applications. , 2017, , .		17
24	A pH-sensitive hydrogel-based smart switch for GI-tract payload release. , 2017, , .		2
25	Directly embroidered microtubes for fluid transport in wearable applications. Lab on A Chip, 2017, 17, 1585-1593.	3.1	13
26	Laser-Fabricated, Self-Forming Swimmers With Catalytic Propulsion and Magnetic Navigation. Journal of Microelectromechanical Systems, 2017, 26, 802-808.	1.7	4
27	Skin Regeneration Using Dermal Substrates that Contain Autologous Cells and Silver Nanoparticles to Promote Antibacterial Activity: In Vitro Studies. Military Medicine, 2017, 182, 376-382.	0.4	5
28	Laser-Enabled Fabrication Technologies for Low-Cost Flexible/Conformal Cutaneous Wound Interfaces. Microsystems and Nanosystems, 2016, , 207-226.	0.1	4
29	A paper-based in vitro model for on-chip investigation of the human respiratory system. Lab on A Chip, 2016, 16, 4319-4325.	3.1	24
30	Radiosensitizing Pancreatic Cancer Xenografts by an Implantable Micro-Oxygen Generator. Radiation Research, 2016, 185, 431.	0.7	0
31	Direct Laser Writing of Porous-Carbon/Silver Nanocomposite for Flexible Electronics. ACS Applied Materials & Interfaces, 2016, 8, 16907-16913.	4.0	87
32	An Universal packaging technique for low-drift implantable pressure sensors. Biomedical Microdevices, 2016, 18, 32.	1.4	13
33	A low-cost flexible pH sensor array for wound assessment. Sensors and Actuators B: Chemical, 2016, 229, 609-617.	4.0	138
34	Laser treated glass platform with rapid wicking-driven transport and particle separation capabilities. , 2015, , .		0
35	Wireless Flexible Smart Bandage for Continuous Monitoring of Wound Oxygenation. IEEE Transactions on Biomedical Circuits and Systems, 2015, 9, 670-677.	2.7	83
36	An ultrasonically controlled power management system for implantable biomedical devices. , 2015, , .		5

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37	Highly Stretchable and Sensitive Unidirectional Strain Sensor via Laser Carbonization. ACS Applied Materials & Interfaces, 2015, 7, 4463-4470.	4.0	332
38	New and Emerging Energy Sources for Implantable Wireless Microdevices. IEEE Access, 2015, 3, 89-98.	2.6	64
39	A wearable smartphone-enabled camera-based system for gait assessment. Gait and Posture, 2015, 42, 138-144.	0.6	35
40	A Janus-paper PDMS platform for air-liquid interface cell culture applications. Journal of Micromechanics and Microengineering, 2015, 25, 055015.	1.5	16
41	A Smart Capsule With GI-Tract-Location-Specific Payload Release. IEEE Transactions on Biomedical Engineering, 2015, 62, 2289-2295.	2.5	29
42	UP-link: An ultra-low power implantable wireless system for long-term ambulatory urodynamics. , 2014, , .		2
43	Wireless flexible smart bandage for continuous monitoring of wound oxygenation. , 2014, , .		9
44	An Implantable Pressure Sensing System With Electromechanical Interrogation Scheme. IEEE Transactions on Biomedical Engineering, 2014, 61, 2209-2217.	2.5	37
45	Flexible Sensors for Chronic Wound Management. IEEE Reviews in Biomedical Engineering, 2014, 7, 73-86.	13.1	76
46	Biodegradable Nanofibrous Polymeric Substrates for Generating Elastic and Flexible Electronics. Advanced Materials, 2014, 26, 5823-5830.	11.1	117
47	A paper-based oxygen generating platform with spatially defined catalytic regions. Sensors and Actuators B: Chemical, 2014, 198, 472-478.	4.0	24
48	A wireless pressure sensor based on surface trapped ferrofluid plug. , 2013, , .		2
49	A ferrofluid-based wireless pressure sensor. Journal of Micromechanics and Microengineering, 2013, 23, 125031.	1.5	14
50	A Minimally Invasive Implantable Wireless Pressure Sensor for Continuous IOP Monitoring. IEEE Transactions on Biomedical Engineering, 2013, 60, 250-256.	2.5	113
51	Atomic force microscopy-coupled microcoils for cellular-scale nuclear magnetic resonance spectroscopy. Applied Physics Letters, 2013, 102, 143702.	1.5	7
52	Laser-micromachined cellulose acetate adhesive tape as a low-cost smart material. Journal of Polymer Science, Part B: Polymer Physics, 2013, 51, 1263-1267.	2.4	9
53	Reflective Diffraction Gratings From Hydrogels as Biochemical Sensors. IEEE Sensors Journal, 2012, 12, 2374-2379.	2.4	16
54	A Batch-Fabricated Single-Layer Elastomeric Actuator With Corrugated Surface. Journal of Microelectromechanical Systems, 2012, 21, 859-866.	1.7	4

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55	A fermentation-powered thermopneumatic pump for biomedical applications. Lab on A Chip, 2012, 12, 4044.	3.1	8
56	Polymeric microdevices for transdermal and subcutaneous drug delivery. Advanced Drug Delivery Reviews, 2012, 64, 1603-1616.	6.6	55
57	Ferrofluid-Impregnated Paper Actuators. Journal of Microelectromechanical Systems, 2011, 20, 59-64.	1.7	32
58	Laser-treated hydrophobic paper: an inexpensive microfluidic platform. Lab on A Chip, 2011, 11, 1161.	3.1	274
59	Laser-treated Parchment Paper: An Inexpensive Microfluidic Platform. Materials Research Society Symposia Proceedings, 2011, 1346, 1.	0.1	1
60	A Skin-Contact-Actuated Micropump for Transdermal Drug Delivery. IEEE Transactions on Biomedical Engineering, 2011, 58, 1492-1498.	2.5	30
61	An Ultrasonically Powered Implantable Micro-Oxygen Generator (IMOG). IEEE Transactions on Biomedical Engineering, 2011, 58, 3104-3111.	2.5	128
62	Hard and soft micro- and nanofabrication: An integrated approach to hydrogel-based biosensing and drug delivery. Journal of Controlled Release, 2010, 141, 303-313.	4.8	84
63	Diffractionometric biochemical sensing with smart hydrogels. , 2010, , .		5
64	Squeeze-Film Hydrogel Deposition and Dry Micropatterning. Analytical Chemistry, 2010, 82, 3377-3382.	3.2	15
65	Magnetic Tracking System for Radiation Therapy. IEEE Transactions on Biomedical Circuits and Systems, 2010, 4, 223-231.	2.7	26
66	Single-Touch Catalytically-Activated Electrochemical Micropump. , 2010, , .		0
67	A Corona-Charged Self-Biased Radiation Dosimeter. IEEE Electron Device Letters, 2010, 31, 767-769.	2.2	7
68	A Batch Fabricated Elastomeric Actuator with Large out of Plane Displacement. , 2010, , .		0
69	Self-Folding Smart 3D Microstructures Using a Hydrogel-Parylene Bilayer. , 2010, , .		6
70	A tunable hydrogel microlens array with light-switching capability. , 2009, , .		0
71	A pH-tunable hydrogel microlens array with temperature-actuated light-switching capability. Applied Physics Letters, 2009, 94, .	1.5	16
72	Vibration-Induced Frequency-Controllable Bidirectional Locomotion for Assembly and Microbotic Applications. IEEE Transactions on Robotics, 2009, 25, 1192-1196.	7.3	9

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73	Hydrogel-based microsensors for wireless chemical monitoring. <i>Biomedical Microdevices</i> , 2009, 11, 529-538.	1.4	81
74	An interpenetrating glass-thermosensitive hydrogel construct. <i>Sensors and Actuators B: Chemical</i> , 2009, 138, 631-636.	4.0	6
75	Sequential droplet manipulation via vibrating ratcheted microchannels. <i>Sensors and Actuators B: Chemical</i> , 2009, 142, 362-368.	4.0	5
76	Wireless magnetic tracking system for radiation therapy. , 2009, , .		4
77	Enhanced 3-D Folding of Silicon Microstructures via Thermal Shrinkage of a Composite Organic/Inorganic Bilayer. <i>Journal of Microelectromechanical Systems</i> , 2008, 17, 882-889.	1.7	13
78	Hydrogel-Based Integrated Antenna-pH Sensor. , 2007, , .		1
79	A hydrogel stamper with expandable height and built-in reservoirs for patterning biomolecules on 3D topologies. , 2007, , .		0
80	Uniform Nanoliter-Sized Droplet Deposition using Fluid Motion in Ratcheted Micro-Channels. , 2007, , .		0
81	Integration of Hydrogels with Hard and Soft Microstructures. <i>Journal of Nanoscience and Nanotechnology</i> , 2007, 7, 780-789.	0.9	26
82	Aqueous microdrop manipulation and mixing using ferrofluid dynamics. <i>Applied Physics Letters</i> , 2007, 90, 092501.	1.5	18
83	Time-multiplexed droplet manipulation via vibrating ratcheted micro-channels. , 2007, , .		1
84	A dynamic ferrofluid platform for micromanipulation. , 2007, , .		0
85	Homopolar Micromotor with Liquid Metal Rotor. , 2007, , .		2
86	Remotely adjustable check-valves with an electrochemical release mechanism for implantable biomedical microsystems. <i>Biomedical Microdevices</i> , 2007, 9, 385-394.	1.4	8
87	An Artificial Nano-Drainage Implant (ANDI) for Glaucoma Treatment. , 2006, 2006, 3174-7.		27
88	A Hydrogel-Based Implantable Micromachined Transponder for Wireless Glucose Measurement. <i>Diabetes Technology and Therapeutics</i> , 2006, 8, 112-122.	2.4	77
89	A microstructured silicon membrane with entrapped hydrogels for environmentally sensitive fluid gating. <i>Sensors and Actuators B: Chemical</i> , 2006, 114, 9-18.	4.0	35
90	An Integrated CMOS Bio-potential Amplifier with a Feed-Forward DC Cancellation Topology. <i>Annual International Conference of the IEEE Engineering in Medicine and Biology Society</i> , 2006, , .	0.5	1

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91	Battery-operated High-bandwidth Multi-channel Wireless Neural Recording System using 802.11b. Annual International Conference of the IEEE Engineering in Medicine and Biology Society, 2006, , .	0.5	0
92	An Artificial Nano-Drainage Implant (ANDI) for Glaucoma Treatment. Annual International Conference of the IEEE Engineering in Medicine and Biology Society, 2006, , .	0.5	0
93	Fabrication Techniques for Improving the Performance of PVDF-on-Silicon Ultrasonic Transducer Arrays. Annual International Conference of the IEEE Engineering in Medicine and Biology Society, 2006, , .	0.5	0
94	Modeling and Characterization of a Valved Glaucoma Drainage Device With Implications for Enhanced Therapeutic Efficacy. IEEE Transactions on Biomedical Engineering, 2005, 52, 948-951.	2.5	26
95	Thin-Film Coupled Fluid-Solid Analysis of Flow Through the Ahmedâ„¢ Glaucoma Drainage Device. Journal of Biomechanical Engineering, 2005, 127, 776-781.	0.6	20
96	Fabrication and modeling of silicon-embedded high-Q inductors. Journal of Micromechanics and Microengineering, 2005, 15, 849-854.	1.5	18
97	A magnetically driven PDMS micropump with ball check-valves. Journal of Micromechanics and Microengineering, 2005, 15, 1021-1026.	1.5	158
98	Hard and soft micromachining for BioMEMS: review of techniques and examples of applications in microfluidics and drug delivery. Advanced Drug Delivery Reviews, 2004, 56, 145-172.	6.6	394
99	High-Resolution Technique for Fabricating Environmentally Sensitive Hydrogel Microstructures. Langmuir, 2004, 20, 8947-8951.	1.6	43
100	Novel swelling/shrinking behaviors of glucose-binding hydrogels and their potential use in a microfluidic insulin delivery system. Macromolecular Symposia, 2004, 207, 249-256.	0.4	38
101	An Implantable Microsystem for Tonometric Blood Pressure Measurement. Biomedical Microdevices, 2001, 3, 285-292.	1.4	45