Oliver Brand

List of Publications by Year
in descending order

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78 papers	1,817 citations	393982 19 h-index	301761 39 g-index
140 all docs	140 docs citations	140 times ranked	2008 citing authors

#	Article	IF	Citations
1	Complementary Metal Oxide Semiconductor Cantilever Arrays on a Single Chip:Â Mass-Sensitive Detection of Volatile Organic Compounds. Analytical Chemistry, 2002, 74, 3084-3095.	3.2	272
2	High Q-Factor In-Plane-Mode Resonant Microsensor Platform for Gaseous/Liquid Environment. Journal of Microelectromechanical Systems, 2008, 17, 483-493.	1.7	129
3	Sizeâ€Scalable and Highâ€Density Liquidâ€Metalâ€Based Soft Electronic Passive Components and Circuits Using Soft Lithography. Advanced Functional Materials, 2017, 27, 1604466.	7.8	107
4	Nanofabrication for all-soft and high-density electronic devices based on liquid metal. Nature Communications, 2020, 11, 1002.	5.8	101
5	Thermal Excitation and Piezoresistive Detection of Cantilever In-Plane Resonance Modes for Sensing Applications. Journal of Microelectromechanical Systems, 2010, 19, 1015-1017.	1.7	86
6	Dimensional considerations in achieving large quality factors for resonant silicon cantilevers in air. Journal of Applied Physics, 2009, 105, .	1.1	77
7	Continuous Droplet Removal upon Dropwise Condensation of Humid Air on a Hydrophobic Micropatterned Surface. Langmuir, 2014, 30, 10133-10142.	1.6	68
8	CMOS-based microsensors and packaging. Sensors and Actuators A: Physical, 2001, 92, 1-9.	2.0	65
9	Threeâ€dimensional immobilization of Î²â€galactosidase on a silicon surface. Biotechnology and Bioengineering, 2008, 99, 261-267.	1.7	63
10	3Dâ€Integrated and Multifunctional Allâ€Soft Physical Microsystems Based on Liquid Metal for Electronic Skin Applications. Advanced Electronic Materials, 2018, 4, 1700434.	2.6	59
11	All-Soft Supercapacitors Based on Liquid Metal Electrodes with Integrated Functionalized Carbon Nanotubes. ACS Nano, 2020, 14, 5659-5667.	7.3	57
12	Characteristics of laterally vibrating resonant microcantilevers in viscous liquid media. Journal of Applied Physics, 2012, 111, .	1.1	46
13	A System for Seismocardiography-Based Identification of Quiescent Heart Phases: Implications for Cardiac Imaging. IEEE Transactions on Information Technology in Biomedicine, 2012, 16, 869-877.	3.6	40
14	All-soft, battery-free, and wireless chemical sensing platform based on liquid metal for liquid- and gas-phase VOC detection. Lab on A Chip, 2017, 17, 2323-2329.	3.1	40
15	Single-chip mechatronic microsystem for surface imaging and force response studies. Proceedings of the National Academy of Sciences of the United States of America, 2004, 101, 17011-17015.	3.3	38
16	Multiscale and Uniform Liquid Metal Thinâ€Film Patterning Based on Soft Lithography for 3D Heterogeneous Integrated Soft Microsystems: Additive Stamping and Subtractive Reverse Stamping. Advanced Materials Technologies, 2018, 3, 1800061.	3.0	35
17	Mass-Sensitive Detection of Gas-Phase Volatile Organics Using Disk Microresonators. Analytical Chemistry, 2011, 83, 3305-3311.	3.2	24
18	Packaging of CMOS MEMS. Microelectronics Reliability, 2000, 40, 1255-1262.	0.9	23

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19	A CMOS-based integrated-system architecture for a static cantilever array. Sensors and Actuators B: Chemical, 2008, 131, 254-264.	4.0	19
20	Lateral-Mode Vibration of Microcantilever-Based Sensors in Viscous Fluids Using Timoshenko Beam Theory. Journal of Microelectromechanical Systems, 2015, 24, 848-860.	1.7	18
21	<title>CMOS chemical microsensors based on resonant cantilever beams</title>. , 1998, 3328, 233.		17
22	Microfluidic Transduction Harnesses Mass Transport Principles to Enhance Gene Transfer Efficiency. Molecular Therapy, 2017, 25, 2372-2382.	3.7	17
23	Microfluidics for generation and characterization of liquid and gaseous micro- and nanojets. Sensors and Actuators A: Physical, 2007, 134, 119-127.	2.0	15
24	Characterization of liquid and gaseous micro- and nanojets using microcantilever sensors. Sensors and Actuators A: Physical, 2007, 134, 128-139.	2.0	15
25	<title>Flip-chip packaged CMOS chemical microsystem for detection of volatile organic compounds</title>. , 1998, , .		13
26	A complementary-metal-oxide-semiconductor-field-effect-transistor-compatible atomic force microscopy tip fabrication process and integrated atomic force microscopy cantilevers fabricated with this process. Ultramicroscopy, 2002, 91, 9-20.	0.8	13
27	Optimal Design of Passive Resonating Wireless Sensors for Wearable and Implantable Devices. IEEE Sensors Journal, 2019, 19, 7460-7470.	2.4	13
28	An analytical model of a thermally excited microcantilever vibrating laterally in a viscous fluid. , 2010, , .		12
29	The RADx Tech Clinical Studies Core: A Model for Academic Based Clinical Studies. IEEE Open Journal of Engineering in Medicine and Biology, 2021, 2, 152-157.	1.7	12
30	An iterative curve fitting method for accurate calculation of quality factors in resonators. Review of Scientific Instruments, 2009, 80, 045105.	0.6	11
31	Integrated silicon-based chemical microsystem for portable sensing applications. Sensors and Actuators B: Chemical, 2013, 180, 50-59.	4.0	11
32	The RADx Tech Test Verification Core and the ACME POCT in the Evaluation of COVID-19 Testing Devices: A Model for Progress and Change. IEEE Open Journal of Engineering in Medicine and Biology, 2021, 2, 142-151.	1.7	11
33	<title>Discrimination of volatile organic compounds using CMOS capacitive chemical microsensors with thickness-adjusted polymer coating</title>. , 1999, , .		10
34	Point-of-Care Technology Research Network: An evolving model for collaborative translational research in biomedical engineering. Current Opinion in Biomedical Engineering, 2019, 11, 145-148.	1.8	10
35	Diagnosis of acute serious illness: the role of point-of-care technologies. Current Opinion in Biomedical Engineering, 2019, 11, 22-34.	1.8	9
36	Temperature compensation method for resonant microsensors based on a controlled stiffness modulation. Journal of Applied Physics, 2008, 104, 014911.	1.1	8

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37	Cancellation of environmental effects in resonant mass sensors based on resonance mode and effective mass. Review of Scientific Instruments, 2009, 80, 063903.	0.6	8
38	In-Plane Vibration of Hammerhead Resonators for Chemical Sensing Applications. ACS Sensors, 2020, 5, 73-82.	4.0	8
39	A Low-Leakage Body-Guarded Analog Switch in 0.35- <inline-formula> <tex-math notation="LaTeX">$mumbox{m}$</tex-math></inline-formula> BiCMOS and Its Applications in Low-Speed Switched-Capacitor Circuits. IEEE Transactions on Circuits and Systems II: Express Briefs, 2015, 62, 947-951.	2.2	7
40	Donâ€™t forget about human factors: Lessons learned from COVID-19 point-of-care testing. Cell Reports Methods, 2022, 2, 100222.	1.4	7
41	<title>CMOS MEMS technology and CAD: the case of thermal microtransducers</title>. , 1998, 3328, 2.		6
42	All-soft physical and chemical microsystems based on liquid metal for wearable electronics applications. , 2017, , .		6
43	Using Reactands in CMOS-based Calorimetric Sensors: New Functional Materials for Electronic Noses.. Analytical Sciences, 2002, 18, 109-111.	0.8	5
44	Geometrical optimization of resonant cantilevers vibrating in in-plane flexural modes. , 2010, , .		5
45	A trimodal system for the acquisition of synchronous echocardiography, electrocardiography, and seismocardiography data. , 2011, 2011, 6911-4.		5
46	Bio-inspired fluidic thermal angular accelerometer with inherent linear acceleration rejection. Sensors and Actuators A: Physical, 2018, 279, 566-576.	2.0	5
47	Microfabrication, Coil Characterization, and Hermetic Packaging of Millimeter-Sized Free-Floating Neural Probes. IEEE Sensors Journal, 2021, 21, 13837-13848.	2.4	5
48	<title>Determination of mechanical material properties of piezoelectric ZnO films</title>. , 1998, , .		4
49	Resonant microcantilevers vibrating laterally in viscous liquid media. , 2010, , .		4
50	Damping and mass sensitivity of laterally vibrating resonant microcantilevers in viscous liquid media. , 2011, , .		4
51	Resonant characteristics of rectangular microcantilevers vibrating torsionally in viscous liquid media. , 2012, , .		4
52	All-soft sensing platform based on liquid metal for liquid- and gas-phase VOC detection. , 2016, , .		4
53	ALD TiOxas a top-gate dielectric and passivation layer for InGaZnO115ISFETs. Semiconductor Science and Technology, 2017, 32, 114004.	1.0	4
54	Automated High-Throughput Hermetic Failure Monitoring System for Millimeter-Sized Wireless Implantable Medical Devices. , 2019, , .		4

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55	Emerging Loop Heat Pipe Applications for Small-Sat, MARS Mission and ISS. , 0, , .		3
56	CMOS-Based Microsensors. ECS Transactions, 2006, 3, 447-461.	0.3	3
57	Timoshenko beam effects in lateralâ€mode microcantileverâ€based sensors in liquids. Micro and Nano Letters, 2013, 8, 762-765.	0.6	3
58	Bio-inspired fluidic thermal angular accelerometer. , 2016, , .		3
59	Temperature Compensation of Thermally Actuated, In-Plane Resonant Gas Sensor Using Embedded Oxide-Filled Trenches. Journal of Microelectromechanical Systems, 2020, 29, 936-941.	1.7	3
60	Geometrical Optimization of Resonant Cantilever Sensors. , 2007, , .		2
61	Liquid-Phase Biochemical Sensing with Disk-Type Resonant Microsensor. , 2007, , .		2
62	Membrane-based sensor measures pollutants present in aqueous or gaseous environments. Membrane Technology, 2008, 2008, 9-10.	0.5	2
63	Analytical Modeling of a Novel High- Q Disk Resonator for Liquid-Phase Applications. Journal of Microelectromechanical Systems, 2015, 24, 38-49.	1.7	2
64	The need for new test verification and regulatory support for innovative diagnostics. Nature Biotechnology, 2021, 39, 1060-1062.	9.4	2
65	Compensation, Tuning, and Trimming of MEMS Resonators. Advanced Micro & Nanosystems, 0, , 305-325.	0.2	2
66	Novel Temperature Compensation Scheme Formicroresonators Based on Controlled Stiffnessmodulation. , 2007, , .		1
67	Coupling High Force Sensitivity and High Stiffness in Piezoresistive Cantilevers with Embedded Si-Nanowires. , 2007, , .		1
68	Parylene-on-oil encapsulation process for bio-inspired angular accelerometer. , 2017, , .		1
69	Room-tempearutre CO<inf>2</inf> sensing based on interdigitated capacitors and resonant cantilevers. , 2017, , .		1
70	Submicrometer-Scale All-Soft Electronics Based on Liquid Metal. , 2019, , .		1
71	Amine-Functionalized Capacitive Carbon Dioxide Sensor Performance as a Function of Temperature and Sensing Film Thickness. IEEE Sensors Journal, 2021, 21, 14645-14654.	2.4	1
72	Micro-Cantilever Based Metrology Tool for Flow Characterization of Liquid and Gaseous Micro/Nanojets. , 2005, , .		1

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73	Fabrication and Characterization of Liquid and Gaseous Micro- and Nanojets. , 2005, , .		1
74	Timoshenko Beam Model for Lateral Vibration of Liquid-Phase Microcantilever-Based Sensors. Conference Proceedings of the Society for Experimental Mechanics, 2014, , 115-124.	0.3	1
75	Pulsed operation of InGaZnO TFTs for VOC sensing applications. , 2012, , .		0
76	Resonant characteristics of rectangular hammerhead microcantilevers vibrating laterally in viscous liquid media. , 2013, , .		0
77	Room temperature CO<inf>2</inf> detection using interdigitated capacitors with heteropolysiloxane sensing films. , 2016, , .		0
78	Micromachined Mass-Sensitive and Capacitive Chemical Multisensor Using Single Polymeric Sensing Film. , 2020, , .		0