

Baranidharan Raman

List of Publications by Year in descending order

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Version: 2024-02-01

51
papers

1,271
citations

430874

18
h-index

395702

33
g-index

61
all docs

61
docs citations

61
times ranked

1293
citing authors

#	ARTICLE	IF	CITATIONS
1	Invariant odor recognition with ON ⁺ OFF neural ensembles. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, .	7.1	9
2	In Situ Grown Gold Nanoparticle-Based Chemiresistive Electronic Nose for Sniffing Distinct Odor Fingerprints. ACS Applied Materials & Interfaces, 2022, 14, 3207-3217.	8.0	1
3	Reversible Photothermal Modulation of Electrical Activity of Excitable Cells using Polydopamine Nanoparticles. Advanced Materials, 2021, 33, e2008809.	21.0	52
4	Room temperature gas sensing mechanism of SnO ₂ towards chloroform: Comparing first principles calculations with sensing experiments. Applied Surface Science, 2021, 554, 149603.	6.1	9
5	Recent approaches to study the neural bases of complex insect behavior. Current Opinion in Insect Science, 2021, 48, 18-25.	4.4	2
6	Genetic and viral approaches to record or manipulate neurons in insects. Current Opinion in Insect Science, 2021, 48, 79-88.	4.4	4
7	Explosive sensing with insect-based biorobots. Biosensors and Bioelectronics: X, 2020, 6, 100050.	1.7	18
8	Structure-Preserving Numerical Integrators for Hodgkin–Huxley-Type Systems. SIAM Journal of Scientific Computing, 2020, 42, B273-B298.	2.8	6
9	Neural Circuit Dynamics for Sensory Detection. Journal of Neuroscience, 2020, 40, 3408-3423.	3.6	1
10	Gold-Nanorod-Based Plasmonic Nose for Analysis of Chemical Mixtures. ACS Applied Nano Materials, 2019, 2, 3897-3905.	5.0	15
11	Differential effects of adaptation on odor discrimination. Journal of Neurophysiology, 2018, 120, 171-185.	1.8	9
12	Dynamic contrast enhancement and flexible odor codes. Nature Communications, 2018, 9, 3062.	12.8	27
13	SnO ₂ Nanostructured Thin Films for Room-Temperature Gas Sensing of Volatile Organic Compounds. ACS Applied Materials & Interfaces, 2018, 10, 29972-29981.	8.0	44
14	Engaging and disengaging recurrent inhibition coincides with sensing and unsensing of a sensory stimulus. Nature Communications, 2017, 8, 15413.	12.8	36
15	Non-invasive aerosol delivery and transport of gold nanoparticles to the brain. Scientific Reports, 2017, 7, 44718.	3.3	48
16	Behaving cyborg locusts for standoff chemical sensing. , 2017, , .		4
17	Live demonstration: Behaving cyborg locusts for standoff chemical sensing. , 2017, , .		0
18	The I/O transform of a chemical sensor. Sensors and Actuators B: Chemical, 2016, 232, 357-368.	7.8	6

#	ARTICLE	IF	CITATIONS
19	Behavioural correlates of combinatorial versus temporal features of odour codes. Nature Communications, 2015, 6, 6953.	12.8	28
20	Relating early olfactory processing with behavior: a perspective. Current Opinion in Insect Science, 2015, 12, 54-63.	4.4	2
21	A 220 × 128 120 mW 60 frames/s current mode polarization imager for in vivo optical neural recording. , 2014, , .		2
22	Bioinspired Polarization Imaging Sensors: From Circuits and Optics to Signal Processing Algorithms and Biomedical Applications. Proceedings of the IEEE, 2014, 102, 1450-1469.	21.3	94
23	A spatiotemporal coding mechanism for background-invariant odor recognition. Nature Neuroscience, 2013, 16, 1830-1839.	14.8	98
24	Analysis of biological and artificial chemical sensor responses to odor mixtures. , 2013, , .		0
25	Multi-unit Recording Methods to Characterize Neural Activity in the Locust (Schistocerca) Tj ETQq1 1 0.784314 rgBT /Overlock 10 0,3 29		
26	Detecting and recognizing chemical targets in untrained backgrounds with temperature programmed sensors. IEEE Sensors Journal, 2012, 12, 3238-3247.	4.7	7
27	Mimicking Biological Design and Computing Principles in Artificial Olfaction. ACS Chemical Neuroscience, 2011, 2, 487-499.	3.5	39
28	Odor Recognition vs. Classification in Artificial Olfaction. , 2011, , .		0
29	Temporally Diverse Firing Patterns in Olfactory Receptor Neurons Underlie Spatiotemporal Neural Codes for Odors. Journal of Neuroscience, 2010, 30, 1994-2006.	3.6	108
30	Analysis of trial-by-trial variability in stimulus-evoked neural activity. , 2010, 2010, 4320-2.		1
31	Microsensors in Dynamic Backgrounds: Toward Real-Time Breath Monitoring. IEEE Sensors Journal, 2010, 10, 137-144.	4.7	31
32	A MEMS-based approach that uses temperature-dependent sensing responses to recognize chemical targets in untrained backgrounds. , 2010, , .		1
33	Generating and Using Data of Higher Dimension for Gas-Phase Chemical Sensing. ECS Transactions, 2009, 19, 255-260.	0.5	0
34	Designing and optimizing microsensor arrays for recognizing chemical hazards in complex environments. Sensors and Actuators B: Chemical, 2009, 137, 617-629.	7.8	65
35	Frequency Transitions in Odor-Evoked Neural Oscillations. Neuron, 2009, 64, 692-706.	8.1	68
36	Detecting Chemical Hazards with Temperature-Programmed Microsensors: Overcoming Complex Analytical Problems with Multidimensional Databases. Annual Review of Analytical Chemistry, 2009, 2, 463-484.	5.4	30

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37	Relating Sensor Responses of Odorants to Their Organoleptic Properties by Means of a Biologically-Inspired Model of Receptor Neuron Convergence onto Olfactory Bulb. Studies in Computational Intelligence, 2009, , 93-108.	0.9	4
38	A Statistical Approach to Materials Evaluation and Selection for Chemical Sensor Arrays. , 2009, , 221-244.		1
39	Sparse odor representation and olfactory learning. Nature Neuroscience, 2008, 11, 1177-1184.	14.8	137
40	Olfactory Coding: Non-Linear Amplification Separates Smells. Current Biology, 2008, 18, R29-R32.	3.9	2
41	Bioinspired Methodology for Artificial Olfaction. Analytical Chemistry, 2008, 80, 8364-8371.	6.5	52
42	Bilateral olfaction: two is better than one for navigation. Genome Biology, 2008, 9, 212.	9.6	12
43	Olfactory learning and spike timing dependent plasticity. Communicative and Integrative Biology, 2008, 1, 170-171.	1.4	13
44	Enabling MEMS Chemical Microsensor Arrays for Trace Analyte Detection. , 2007, , .		0
45	Neuromorphic Processing for Optical Microbead Arrays: Dimensionality Reduction and Contrast Enhancement. IEEE Sensors Journal, 2007, 7, 506-514.	4.7	5
46	The potential for and challenges of detecting chemical hazards with temperature-programmed microsensors. Sensors and Actuators B: Chemical, 2007, 121, 282-294.	7.8	62
47	A dimensionality-reduction technique inspired by receptor convergence in the olfactory system. Sensors and Actuators B: Chemical, 2006, 116, 17-22.	7.8	23
48	Contrast enhancement of gas sensor array patterns with a neurodynamics model of the olfactory bulb. Sensors and Actuators B: Chemical, 2006, 119, 547-555.	7.8	26
49	Computer based pedestrian landscape design using decision tree templates. Advanced Engineering Informatics, 2006, 20, 23-30.	8.0	5
50	Processing of Chemical Sensor Arrays With a Biologically Inspired Model of Olfactory Coding. IEEE Transactions on Neural Networks, 2006, 17, 1015-1024.	4.2	27
51	Early Warning Signals Regarding Environmental Suitability in the <i>Drosophila</i> Antenna. SSRN Electronic Journal, 0, , .	0.4	0