Krishna C Persaud

List of Publications by Year
in descending order

131 papers	5,269 citations	109321 35 h-index	91884 69 g-index
136 all docs	136 docs citations	136 times ranked	4814 citing authors

#	Article	IF	Citations
1	Analysis of discrimination mechanisms in the mammalian olfactory system using a model nose. Nature, 1982, 299, 352-355.	27.8	1,305
2	Capacitance-modulated transistor detects odorant binding protein chiral interactions. Nature Communications, 2015, 6, 6010.	12.8	204
3	Drift compensation of gas sensor array data by Orthogonal Signal Correction. Chemometrics and Intelligent Laboratory Systems, 2010, 100, 28-35.	3.5	189
4	Drift compensation of gas sensor array data by common principal component analysis. Sensors and Actuators B: Chemical, 2010, 146, 460-465.	7.8	167
5	On the study of feature extraction methods for an electronic nose. Sensors and Actuators B: Chemical, 2002, 87, 274-288.	7.8	160
6	Purification and characterisation of an odorant-binding protein from cow nasal tissue. FEBS Journal, 1985, 149, 227-231.	0.2	156
7	Towards an integrated electronic nose using conducting polymer sensors. Sensors and Actuators B: Chemical, 1994, 18, 221-228.	7.8	147
8	Polymers for chemical sensing. Materials Today, 2005, 8, 38-44.	14.2	138
9	Structure and biotechnological applications of odorant-binding proteins. Applied Microbiology and Biotechnology, 2014, 98, 61-70.	3.6	133
10	Remote detection of gaseous ammonia using the near infrared transmission properties of polyaniline. Sensors and Actuators B: Chemical, 2003, 90, 163-169.	7.8	115
11	Analysis of volatile organic compounds in exhaled breath for lung cancer diagnosis using a sensor system. Sensors and Actuators B: Chemical, 2018, 255, 800-807.	7.8	111
12	Drift counteraction with multiple self-organising maps for an electronic nose. Sensors and Actuators B: Chemical, 2004, 98, 305-317.	7.8	101
13	Evaluation of a radial basis function neural network for the determination of wheat quality from electronic nose data. Sensors and Actuators B: Chemical, 2000, 69, 348-358.	7.8	85
14	Development of an enzyme-based biosensor for atrazine detection. Analyst, The, 1993, 118, 419.	3.5	74
15	Design of a very large chemical sensor system for mimicking biological olfaction. Sensors and Actuators B: Chemical, 2010, 146, 446-452.	7.8	73
16	Sensor array techniques for mimicking the mammalian olfactory system. Sensors and Actuators B: Chemical, 1996, 36, 267-273.	7.8	58
17	Assessment of Conducting Polymer Odour Sensors for Agricultural Malodour Measurements. Chemical Senses, 1996, 21, 495-505.	2.0	58
18	The perception of visual images encoded in musical form: a study in cross-modality information transfer. Proceedings of the Royal Society B: Biological Sciences, 1999, 266, 2427-2433.	2.6	58

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19	Use of an Electronic Nose to Measure Odour Concentration Following Application of Cattle Slurry to Grassland. Biosystems Engineering, 1997, 66, 213-220.	0.4	56
20	A study on volatile organic compounds emitted by in-vitro lung cancer cultured cells using gas sensor array and SPME-GCMS. BMC Cancer, 2018, 18, 362.	2.6	55
21	Wound-State Monitoring for Burn Patients Using E-Nose/SPME System. ETRI Journal, 2010, 32, 440-446.	2.0	54
22	Sample handling for electronic nose technology: State of the art and future trends. TrAC - Trends in Analytical Chemistry, 2016, 82, 222-236.	11.4	54
23	Electronic gas and odour detectors that mimic chemoreception in animals. TrAC - Trends in Analytical Chemistry, 1992, 11, 61-67.	11.4	53
24	Development of an electronic nose for fire detection. Sensors and Actuators B: Chemical, 2006, 116, 55-61.	7.8	51
25	An investigation into the use of electrochromic polymers in optical fibre gas sensors. Sensors and Actuators B: Chemical, 2001, 74, 138-144.	7.8	50
26	High-frequency measurements of conducting polymers: development of a new technique for sensing volatile chemicals. Measurement Science and Technology, 1995, 6, 1500-1507.	2.6	47
27	Grafting odorant binding proteins on diamond bio-MEMS. Biosensors and Bioelectronics, 2014, 60, 311-317.	10.1	47
28	Artificial Olfaction in the 21st Century. IEEE Sensors Journal, 2021, 21, 12969-12990.	4.7	46
29	Direct measurement of translingual epithelial NaCl and KCl currents during the chorda tympani taste response. Biophysical Journal, 1989, 55, 843-857.	0.5	44
30	The influence of non-specific molecular partitioning of analytes on the electrical responses of conducting organic polymer gas sensors. Physical Chemistry Chemical Physics, 2002, 4, 3482-3490.	2.8	44
31	Development of a New Generation of Ammonia Sensors on Printed Polymeric Hotplates. Analytical Chemistry, 2014, 86, 8951-8958.	6.5	41
32	Butanol production in S. cerevisiae via a synthetic ABE pathway is enhanced by specific metabolic engineering and butanol resistance. Biotechnology for Biofuels, 2015, 8, 97.	6.2	41
33	Multi-frequency measurements of organic conducting polymers for sensing of gases and vapours. Sensors and Actuators B: Chemical, 1996, 33, 137-141.	7.8	38
34	Application of inverse gas chromatography to characterisation of a polypyrrole surface. Analytica Chimica Acta, 1998, 363, 147-156.	5.4	36
35	Large-Scale Chemical Sensor Array Testing Biological Olfaction Concepts. IEEE Sensors Journal, 2012, 12, 3174-3183.	4.7	36
36	A biomimetic approach to machine olfaction, featuring a very large-scale chemical sensor array and embedded neuro-bio-inspired computation. Microsystem Technologies, 2014, 20, 729-742.	2.0	36

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37	A smart gas sensor for monitoring environmental changes in closed systems: results from the MIR space station. Sensors and Actuators B: Chemical, 1999, 55, 118-126.	7.8	35
38	Nanofibrous PANI-based conductive polymers for trace gas analysis. Thin Solid Films, 2011, 520, 978-985.	1.8	35
39	Dynamic Cluster Recognition with Multiple Self-Organising Maps. Pattern Analysis and Applications, 2002, 5, 306-315.	4.6	34
40	Fibre-optic evanescent sensing of gaseous ammonia with two forms of a new near-infrared dye in comparison to phenol red. Sensors and Actuators B: Chemical, 2003, 90, 37-45.	7.8	31
41	High-frequency a.c. investigation of conducting polymer gas sensors. Sensors and Actuators B: Chemical, 1995, 23, 223-226.	7.8	30
42	An intelligent gas sensing system. Sensors and Actuators B: Chemical, 1997, 44, 512-516.	7.8	30
43	Pseudo-random binary sequence interrogation technique for gas sensors. Sensors and Actuators B: Chemical, 1998, 47, 118-124.	7.8	30
44	Recovery of drifting sensor responses by means of DWT analysis. Sensors and Actuators B: Chemical, 2007, 120, 411-416.	7.8	30
45	Pheromone receptor of the globally invasive quarantine pest of the palm tree, the red palm weevil (Rhynchophorus ferrugineus). Molecular Ecology, 2021, 30, 2025-2039.	3.9	30
46	Robust Highâ€Capacitance Polymer Gate Dielectrics for Stable Lowâ€Voltage Organic Fieldâ€Effect Transistor Sensors. Advanced Electronic Materials, 2020, 6, 1901127.	5.1	29
47	Application of unsupervised clustering methods to the assessment of malodour in agriculture using an array of conducting polymer odour sensors. Computers and Electronics in Agriculture, 1997, 17, 233-247.	7.7	28
48	Biomimetic Olfactory Sensors. IEEE Sensors Journal, 2012, 12, 3108-3112.	4.7	28
49	Ion transport across the frog olfactory mucosa: the action of cyclic nucleotides on the basal and odorant-stimulated states. Biochimica Et Biophysica Acta - Biomembranes, 1988, 944, 49-62.	2.6	27
50	Development of conducting polymer sensor arrays for wound monitoring. Sensors and Actuators B: Chemical, 2008, 131, 5-9.	7.8	27
51	Hermetia illucens (L.) (Diptera: Stratiomyidae) Odorant Binding Proteins and Their Interactions with Selected Volatile Organic Compounds: An In Silico Approach. Insects, 2021, 12, 814.	2.2	25
52	Gas Sensors: Towards an Artificial Nose. , 1988, , 361-381.		25
53	Ion transport across the frog olfactory mucosa: the basal and odorant-stimulated states. Biochimica Et Biophysica Acta - Biomembranes, 1987, 902, 65-79.	2.6	24
54	Development of a relationship between olfactory response and major odorants from organic wastes. Journal of the Science of Food and Agriculture, 2001, 81, 188-193.	3.5	24

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55	Synthesis, chemical characterisation and multifrequency measurements of poly N-(2-pyridyl) pyrrole for sensing volatile chemicals. Materials Science and Engineering C, 1993, 1, 17-22.	7.3	23
56	Medical Applications of Odor-Sensing Devices. International Journal of Lower Extremity Wounds, 2005, 4, 50-56.	1.1	22
57	A powerful method for feature extraction and compression of electronic nose responses. Sensors and Actuators B: Chemical, 2005, 105, 378-392.	7.8	21
58	Modification of an Anopheles gambiae odorant binding protein to create an array of chemical sensors for detection of drugs. Scientific Reports, 2020, 10, 3890.	3.3	21
59	'Electronic Nose'--New Condition Monitoring Devices for Environmental Applications. Chemical Senses, 2005, 30, i252-i253.	2.0	20
60	Systematic review with metaâ€analysis: volatile organic compound analysis to improve faecal immunochemical testing in the detection of colorectal cancer. Alimentary Pharmacology and Therapeutics, 2021, 54, 14-23.	3.7	20
61	Binding and metabolism of the urinous odorant 5Î±-androstan-3-one in sheep olfactory mucosa. Chemical Senses, 1988, 13, 231-245.	2.0	18
62	Effects of point mutations in the binding pocket of the mouse major urinary protein MUP20 on ligand affinity and specificity. Scientific Reports, 2019, 9, 300.	3.3	18
63	Acute and chronic exposure to ammonia and olfactory acuity for n-butanol in the pig. Applied Animal Behaviour Science, 2001, 71, 13-28.	1.9	17
64	An optical biosensor employing tiron-immobilised polypyrrole films for estimating monophenolase activity in apple juice. Biosensors and Bioelectronics, 2001, 16, 287-294.	10.1	16
65	Evanescent sensing of alkaline and acidic vapours using a plastic clad silica fibre doped with poly(o-methoxyaniline). Sensors and Actuators B: Chemical, 2004, 97, 174-181.	7.8	16
66	Synthesis of poly-[2,5-di(thiophen-2-yl)-1H-pyrrole] derivatives and the effects of the substituents on their properties. Synthetic Metals, 2014, 196, 158-165.	3.9	16
67	Biosensor array based on ligand binding proteins for narcotics and explosives detection. Sensors and Actuators B: Chemical, 2021, 334, 129587.	7.8	16
68	Differentiating cancer types using a urine test for volatile organic compounds. Journal of Breath Research, 2021, 15, 017102.	3.0	16
69	Major Urinary Proteins on Nanodiamond-Based Resonators Toward Artificial Olfaction. IEEE Sensors Journal, 2016, 16, 6543-6550.	4.7	15
70	Suspended graphene arrays for gas sensing applications. 2D Materials, 2021, 8, 025006.	4.4	15
71	Monitoring urinary tract infections and bacterial vaginosis. Sensors and Actuators B: Chemical, 2006, 116, 116-120.	7.8	14
72	Amine Detection Using Organic Field Effect Transistor Gas Sensors. Sensors, 2021, 21, 13.	3.8	14

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73	Generic system for the detection of statutory potato pathogens. Sensors and Actuators B: Chemical, 2006, 116, 100-106.	7.8	13
74	Gravimetric biosensors. Methods in Enzymology, 2020, 642, 435-468.	1.0	12
75	Odour detection using sensor arrays. Analytical Proceedings, 1991, 28, 339.	0.4	11
76	The Optimization of a Lateral Flow Immunoassay for Detection of Aflatoxin B₁ in Potable Water Samples. IEEE Sensors Journal, 2019, 19, 404-412.	4.7	11
77	Sensing Volatile Chemicals Using Conducting Polymer Arrays. , 2000, , 149-181.		11
78	Fault detection, identification, and reconstruction of faulty chemical gas sensors under drift conditions, using Principal Component Analysis and Multiscale-PCA. , 2010, , .		10
79	Biochemical Mechanisms in Vertebrate Primary Olfactory Neurons. , 1981, , 333-357.		10
80	Electronic Noses and Tongues in the Food Industry. , 2016, , 1-12.		10
81	Applications for an Electronic Aroma Detector in the Analysis of Beer and Raw Materials. Journal of the American Society of Brewing Chemists, 1995, 53, 39-42.	1.1	10
82	Binding proteins for sweet compounds from gustatory papillae of the cow, pig and rat. Biochimica Et Biophysica Acta - General Subjects, 1988, 967, 65-75.	2.4	9
83	On-line analysis of sample atmospheres using membrane inlet mass spectrometry as a method of monitoring vegetable respiration rate. Analytica Chimica Acta, 1999, 394, 43-54.	5.4	8
84	A software tool for large-scale synthetic experiments based on polymeric sensor arrays. Sensors and Actuators B: Chemical, 2013, 177, 596-604.	7.8	8
85	Fully Operational FTIR Based Multi-Component Gas Analysis System for Spacecraft Cabin Air Monitoring. , 1998, , .		7
86	Normalization approach to the stochastic gradient radial basis function network algorithm for odor sensing systems. Sensors and Actuators B: Chemical, 2007, 124, 407-412.	7.8	7
87	Biologically Inspired Computation for Chemical Sensing. Procedia Computer Science, 2011, 7, 226-227.	2.0	7
88	Towards bionic noses. Sensor Review, 2017, 37, 165-171.	1.8	7
89	Biomimetic diamond MEMS sensors based on odorant-binding proteins: Sensors validation through an autonomous electronic system. , 2017, , .		7
90	Design Strategies For Gas And Odour Sensors Which Mimic The Olfactory System. , 1993, , 579-602.		7

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91	Odorant binding proteins from Hermetia illucens: potential sensing elements for detecting volatile aldehydes involved in early stages of organic decomposition. Nanotechnology, 2022, 33, 205501.	2.6	7
92	Odor Evaluation of Foods Using Conducting Polymer Arrays and Neural Net Pattern Recognition. , 1994, , 708-710.		6
93	Biochemical studies in olfaction. Biochemical Society Transactions, 1981, 9, 107-108.	3.4	5
94	Automated indirect method of ammonia flux measurement for agriculture: effect of incident wind angle on airflow measurements. Sensors and Actuators B: Chemical, 2000, 69, 389-396.	7.8	5
95	Identification of wound infection by limited set of volatile products. , 2008, , .		5
96	Electrical characterization of a pig odorant binding protein by Impedance Spectroscopy. , 2009, , .		5
97	Pheromone Detection Using Odorant Binding Protein Sensors. , 2019, , .		5
98	Guest Editorial - Special issue on machine olfaction. IEEE Sensors Journal, 2012, 12, 3105-3107.	4.7	4
99	An Efficient Approach for Preprocessing Data from a Large-Scale Chemical Sensor Array. Sensors, 2014, 14, 17786-17806.	3.8	4
100	Fully solution processed low voltage OFET platform for vapour sensing applications. , 2017, , .		4
101	Engineering Aspects of Olfaction. Frontiers in Neuroengineering Series, 2013, , 1-58.	0.4	4
102	Novel Signal Processing Techniques Based on PDF Information for Sensor-Drift Compensation. Sensor Letters, 2011, 9, 439-443.	0.4	4
103	Measurement of Sensory Quality Using Electronic Sensing Systems. Measurement and Control, 1996, 29, 17-20.	1.8	3
104	Development of a perimeter odor monitoring system for landfill sites. , 2008, , .		3
105	Biosensors Based on Odorant Binding Proteins. , 2014, , 171-190.		3
106	Medical Diagnostics and Health Monitoring. , 0, , 445-460.		2
107	On Training Neural Network Algorithms for Odor Identification for Future Multimedia Communication Systems. , 2006, , .		2
108	Poisoning fault diagnosis in chemical gas sensor arrays using multivariate statistical signal processing and structured residuals generation. , 2007, , .		2

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109	Editorial: volatile organic compound analysis to improve faecal immunochemical testing in the detection of colorectal cancerâ€"Authors' reply. Alimentary Pharmacology and Therapeutics, 2021, 54, 506-507.	3.7	2
110	Application of Radial Basis Function Neural Networks to odour sensing using a broad specificity array of conducting polymers. Lecture Notes in Computer Science, 1996, , 299-304.	1.3	2
111	Qualitative and Quantitative Assessment of Petroleum Contaminants in Soils under Tropical Weather Conditions. American Journal of Analytical Chemistry, 2019, 10, 112-125.	0.9	2
112	A New Compensation Method for Sensor-Drift Effect Based on the Cross-Correntropy Concept. Sensor Letters, 2011, 9, 710-713.	0.4	2
113	REducing Colonoscopies in patients without significant bowEl DiseasE: the RECEDE Study - protocol for a prospective diagnostic accuracy study. BMJ Open, 2022, 12, e058559.	1.9	2
114	Solid State Chemical Sensors: Technologies and Applications. , 2007, , .		1
115	Sensor Drift Compensation Algorithm based on PDF Distance Minimization. , 2009, , .		1
116	A Large Scale Virtual Gas Sensor Array. , 2011, , .		1
117	Printed micro-hotplates on flexible substrates for gas sensing. , 2013, , .		1
118	Description and Characterisation of a Large Array of Sensors Mimicking an Artificial Olfactory Epithelium. Procedia Engineering, 2014, 87, 863-866.	1.2	1
119	Rapid evaluation of microbial count in river water based on headspace concentration of volatile organic compounds. , 2017, , .		1
120	Odorant binding proteins based sniffing device for detection of tobacco. , 2017, , .		1
121	Correlating Electronic Nose and Sensory Panel Data. , 0, , 377-397.		0
122	Hand-held electronic nose (HHEN) for dry rot detection in buildings. , 0, , .		0
123	River water quality analysis via headspace detection of volatile organic compounds. AIP Conference Proceedings, 2017, , .	0.4	0
124	P173â€...Exploration of the use of urinary volatile organic compounds in comparison to alpha fetoprotein. , 2021, , .		0
125	P175â€...Urinary analysis of hepatocellular carcinoma patients using solid phase microextraction. , 2021, , .		0
126	Blind subjects explore and navigate the visual world using video images encoded in musical form. Journal of Vision, 2010, 2, 511-511.	0.3	0

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127	Voltage-Clamp Studies of the Isolated Olfactory Mucosa. , 1988, , 159-181.		0
128	An Artificial Neural Network Based Encoding of an Invariant Sammon Map for Real-Time Projection of Patterns from Odour Sensor Arrays. , 1999, , 187-194.		0
129	Engineering Olfaction. , 2020, , 743-757.		0
130	A commentary on the 18th International Symposium on Olfaction and Electronic Nose (ISOEN 2019). Journal of Japan Association on Odor Environment, 2019, 50, 393-398.	0.0	0
131	Odorant Binding Proteins and Porphyrins Mixed Gas Sensor Array. , 2022, , .		0