Hiroshi Ishida

List of Publications by Year
in descending order

121 papers	2,244 citations	331670 21 h-index	254184 43 g-index
122 all docs	122 docs citations	122 times ranked	1393 citing authors

#	Article	IF	Citations
1	Gas sensor network for air-pollution monitoring. Sensors and Actuators B: Chemical, 2005, 110, 304-311.	7.8	222
2	Study of autonomous mobile sensing system for localization of odor source using gas sensors and anemometric sensors. Sensors and Actuators A: Physical, 1994, 45, 153-157.	4.1	220
3	Chemical Sensing in Robotic Applications: A Review. IEEE Sensors Journal, 2012, 12, 3163-3173.	4.7	179
4	Plume-Tracking Robots: A New Application of Chemical Sensors. Biological Bulletin, 2001, 200, 222-226.	1.8	168
5	Remote sensing of gas/odor source location and concentration distribution using mobile system. Sensors and Actuators B: Chemical, 1998, 49, 52-57.	7.8	135
6	Odor-source localization in the clean room by an autonomous mobile sensing system. Sensors and Actuators B: Chemical, 1996, 33, 115-121.	7.8	117
7	Controlling a gas/odor plume-tracking robot based on transient responses of gas sensors. IEEE Sensors Journal, 2005, 5, 537-545.	4.7	94
8	Mobile robot navigation using vision and olfaction to search for a gas/odor source. Autonomous Robots, 2006, 20, 231-238.	4.8	87
9	Smelling Screen: Development and Evaluation of an Olfactory Display System for Presenting a Virtual Odor Source. IEEE Transactions on Visualization and Computer Graphics, 2013, 19, 606-615.	4.4	83
10	Three-dimensional odor compass. IEEE Transactions on Automation Science and Engineering, 1999, 15, 251-257.	2.3	61
11	Title is missing!. Environmental Fluid Mechanics, 2002, 2, 65-94.	1.6	53
12	Human-Inspired Robots. IEEE Intelligent Systems, 2006, 21, 74-85.	4.0	53
13	Design and implementation of spherical ultrasonic motor. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2009, 56, 2514-2521.	3.0	52
14	Odour-source localization system mimicking behaviour of silkworm moth. Sensors and Actuators A: Physical, 1995, 51, 225-230.	4.1	51
15	Chemical Sensing in Spatial/Temporal Domains. Chemical Reviews, 2008, 108, 680-704.	47.7	49
16	Towards environmental monitoring with mobile robots. , 2008, , .		48
17	Recent Progress and Trend of Robot Odor Source Localization. IEEJ Transactions on Electrical and Electronic Engineering, 2021, 16, 938-953.	1.4	44
18	Application of Convolutional Long Short-Term Memory Neural Networks to Signals Collected from a Sensor Network for Autonomous Gas Source Localization in Outdoor Environments. Sensors, 2018, 18, 4484.	3.8	43

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19	An odor compass for localizing an odor source. Sensors and Actuators B: Chemical, 1996, 35, 32-36.	7.8	38
20	Multi-sensorial field display: Presenting spatial distribution of airflow and odor. , 2011, , .		29
21	Analysis of gas sensor transient response by visualizing instantaneous gas concentration using smoke. Sensors and Actuators A: Physical, 1998, 69, 77-81.	4.1	27
22	Study of real-time visualization of gas/odor flow image using gas sensor array. Sensors and Actuators B: Chemical, 2000, 65, 14-16.	7.8	27
23	Chemical Plume Tracking. 1. Chemical Information Encoding. Analytical Chemistry, 2001, 73, 3662-3668.	6.5	23
24	Improvement of olfactory video camera: gas/odor flow visualization system. Sensors and Actuators B: Chemical, 2002, 83, 256-261.	7.8	19
25	Smelling screen: Technique to present a virtual odor source at an arbitrary position on a screen. , 2012, , .		19
26	Peer Reviewed: A Sensing System for Odor Plumes.. Analytical Chemistry, 1999, 71, 531A-537A.	6.5	18
27	Blimp Robot for Three-Dimensional Gas Distribution Mapping in Indoor Environment. , 2009, , .		17
28	Chemical Plume Tracking. 3. Ascorbic Acid:Â A Biologically Relevant Marker. Analytical Chemistry, 2002, 74, 3605-3610.	6.5	16
29	Indicators of Gas Source Proximity using Metal Oxide Sensors in a Turbulent Environment. , 0, , .		14
30	Estimating gas-source location in outdoor environment using mobile robot equipped with gas sensors and anemometer. , 2009, , .		12
31	Gas/Odor Plume Tracing Robot. Sensors Update, 1999, 6, 397-418.	0.5	10
32	Development of an MRI Compatible Surgical Assist Manipulator using Spherical Ultrasonic Motor (1st) Tj ETQq0 0 0 rgBT /Overlock 10 T	0.F	10
33	Odor Presentation with a Vivid Sense of Reality: Incorporating Fluid Dynamics Simulation into Olfactory Display. Virtual Reality Conference (VR), Proceedings, IEEE, 2009, , .	0.0	10
34	Virtual Plume. Electroanalysis, 2000, 12, 974-979.	2.9	9
35	Active Stereo Olfactory Sensing System for Localization of Gas/Odor Source. , 2008, , .		9
36	Collecting a Database for Studying Gas Distribution Mapping and Gas Source Localization with Mobile Robots. The Abstracts of the International Conference on Advanced Mechatronics Toward Evolutionary Fusion of IT and Mechatronics ICAM, 2010, 2010.5, 183-188.	0.0	9

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37	Fluid Dynamic Considerations for Realistic Odor Presentation Using Olfactory Display. Presence: Teleoperators and Virtual Environments, 2010, 19, 513-526.	0.6	9
38	Detection of Gas Drifting Near the Ground by Drone Hovering Over: Using Airflow Generated by Two Connected Quadcopters. Sensors, 2020, 20, 1397.	3.8	9
39	Estimation of Gas-Source Location Using Gas Sensors and Ultrasonic Anemometer. , 2006, , .		8
40	Active stereo nose: Using air curtain to enhance the directivity. , 2010, , .		8
41	Olfactory Display Using Solenoid Valves and Fluid Dynamics Simulation. , 2012, , 140-163.		8
42	Interactive Odor Playback Based on Fluid Dynamics Simulation. Virtual Reality Conference (VR), Proceedings, IEEE, 2009, , .	0.0	7
43	Tracking of a Gas Plume With the Aid of Olfactory Assist Mask. IEEE Sensors Journal, 2017, 17, 5332-5340.	4.7	7
44	Crayfish Robot That Generates Flow Field to Enhance Chemical Reception. Journal of Sensor Technology, 2012, 02, 185-195.	1.0	7
45	Chemical Plume Tracking. 2. Multiple-Frequency Modulation. Analytical Chemistry, 2001, 73, 3669-3673.	6.5	6
46	Synchronized presentation of odor with airflow using olfactory display. Journal of Mechanical Science and Technology, 2010, 24, 253-256.	1.5	5
47	Active Chemical Sampling System for Underwater Chemical Source Localization. Journal of Sensors, 2016, 2016, 1-11.	1.1	5
48	Sensing Array for Coherence Analysis of Modulated Aquatic Chemical Plumes. Analytical Chemistry, 2008, 80, 1012-1018.	6.5	4
49	Actively Generated Flow Field Helps a Crayfish Robot Collect Chemical Signals. ECS Transactions, 2009, 19, 337-341.	0.5	4
50	Adaptive Chemical Sampling Device Inspired by Crayfish. ECS Transactions, 2013, 50, 259-266.	0.5	4
51	Estimation of Gas Source Location from Fluctuating Readings of Gas Sensors and Anemometer on Mobile Robot in Outdoor Environment. ECS Transactions, 2016, 75, 99-106.	0.5	4
52	Robotic systems to track chemical plumes. , 0, , .		3
53	Machine Olfaction for Mobile Robots. , 0, , 399-417.		3
54	Robotic System for Localizing a Chemical Source Underwater by Mimicking Crayfish Behavior. , 2006, , .		3

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55	Crayfish Robot Equipped with Active Flow Generator to Enhance Chemical Reception. , 2008, , .		3
56	Introducing computational fluid dynamics simulation into olfactory display. Electrical Engineering in Japan (English Translation of Denki Gakkai Ronbunshi), 2011, 177, 65-72.	0.4	3
57	Smelling screen: Presenting a virtual odor source on a LCD screen. , 2013, , .		3
58	Robotic gas source localization assisted by active airflow generation. , 2015, , .		3
59	Devices for Assisting Human Olfaction: Some Fundamental Experiments. Procedia Chemistry, 2016, 20, 60-62.	0.7	3
60	Active Airflow Generation to Assist Robotic Gas Source Localization: Initial Experiments in Outdoor Environment. ECS Transactions, 2016, 75, 65-72.	0.5	3
61	Smelling Screen: Application to a Museum Exhibition and a Challenge for Scaling Up. , 2019, , .		3
62	Auto-calibration of dynamic gas sensor network: influence of static sensors. , 0, , .		2
63	Analysis of QCM gas sensor transient response by visualizing gas concentration. Electronics and Communications in Japan, 2006, 89, 14-21.	0.2	2
64	Introducing Computational Fluid Dynamics Simulation into Olfactory Display. IEEJ Transactions on Sensors and Micromachines, 2008, 128, 472-477.	0.1	2
65	On the effect of airflow on odor presentation. , 2010, , .		2
66	Effects of Self-generated Heat on Gas Sensing in Mobile Robots and Olfactory Sensing in Humans. , 2011, , .		2
67	Fragrant multimedia display system: Presenting odor distribution on display screen. , 2012, , .		2
68	Olfactory search behavior of human wearing olfactory assist mask. , 2014, , .		2
69	Determination of gas source existence in a specified area by active airflow generator robots. , 2015, , .		2
70	Compact Surface Plasmon Resonance Sensor for Underwater Chemical Sensing Robot. Journal of Sensors, 2017, 2017, 1-9.	1.1	2
71	Development of Olfactory Sensitivity Amplifier: Fundamental Study on the Use of Thin Film Adsorbent. The Proceedings of the Machine Design and Tribology Division Meeting in JSME, 2016, 2016.16, B3-2.	0.0	2
72	Improvement of Measurement Accuracy in Environmental Monitoring System Based on Semiconductor Gas Sensor. IEEJ Transactions on Sensors and Micromachines, 2005, 125, 245-252.	0.1	2

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73	Development of Olfactory Assist Mask. IEEJ Transactions on Sensors and Micromachines, 2013, 133, 212-218.	0.1	2
74	Study of gas/odor flow visualization system using array of pulse drive semiconductor gas sensors. IEEJ Transactions on Sensors and Micromachines, 1999, 119, 194-200.	0.1	2
75	Gas Dispersion Simulator with Strong Fluctuations for Developing Gas Source Localization Systems. , 2022, , .		2
76	Compact SPR Gas Sensor for Mobile Robot Olfaction Using Metal Nanostructure and LED Light Source. , 2007, , .		1
77	Crayfish Robot Employing Flow Induced by Waving to Locate a Chemical Source. , 2008, , .		1
78	Device for determining gas source direction that uses peltier elements to collect gas samples. , 2012, , .		1
79	Chemical sampling device for underwater robot: Jet discharge mimicking crayfish. , 2017, , .		1
80	Review on development of devices for amplifying human olfaction: Approaches using real and virtual concentration method. Electronics and Communications in Japan, 2019, 102, 55-60.	0.5	1
81	Experimental Observation of Olfactory Search Behavior of Crayfish in Seven Arm Maze. , 2019, , .		1
82	Active Chemical Sampling Using Jet Discharge Inspired by Crayfish: CFD Simulations of the Flow Fields Generated by the Jet Discharge Device. Sensors, 2020, 20, 522.	3.8	1
83	2111 Fundamental Study on Device that can Amplify Odor Intensity. The Proceedings of the Machine Design and Tribology Division Meeting in JSME, 2014, 2014.14, 121-122.	0.0	1
84	Fundamental Study on Device that can Amplify Odor Intensity:. The Proceedings of Mechanical Engineering Congress Japan, 2017, 2017, S1150201.	0.0	1
85	Review on Development of Devices for Amplifying Human Olfaction: Approaches using Real and Virtual Concentration Method. IEEJ Transactions on Sensors and Micromachines, 2018, 138, 337-342.	0.1	1
86	Incorporating Fluid Dynamics Considerations into Olfactory Displays. , 0, , 415-428.		1
87	On the Tutorials, Sniffest Competition, and Special Session on Olfactory Displays in ISOEN 2019. Journal of Japan Association on Odor Environment, 2020, 51, 26-35.	0.0	1
88	Super-Resolution for Gas Distribution Mapping: Convolutional Encoder-Decoder Network. , 2022, , .		1
89	Compact atmospheric environmental monitoring system using gas sensors and network technology. , 2002, 4935, 132.		0
90	Electrochemical sensor to determine direction of chemical flow: Fluid dynamics analysis on sensing probe structure. , 2011, , .		0

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91	Application of Sequence Input and Output Long Short-Term Memory Neural Networks for Autonomous Gas Source Localization in an Outdoor Environment. , 2019, , .		0
92	Human Olfactory Interface for Odor Modulation Utilizing Gas Adsorption andÂDesorption: Evaluation of Separation Performance of Odorous Substances inÂAdsorption Process. Lecture Notes in Computer Science, 2021, , 431-435.	1.3	0
93	Applying Odor Preconcentrator for Enhancing Human Olfaction: Feasibility Study. ECS Meeting Abstracts, 2021, MA2021-01, 1652-1652.	0.0	0
94	Improvement of Olfactory Video Camera â€" Gas/Odor Flow Visualization System â€". , 2001, , 1648-1651.		0
95	Sensor Systems for Detecting Gas Plumes-Robots and Sensor Network. IEEJ Transactions on Sensors and Micromachines, 2005, 125, 403-406.	0.1	0
96	2812 Potential Field Method for Navigating Robot with Vision and Olfactory Sensors to Search for a Gas Source. The Proceedings of the JSME Annual Meeting, 2005, 2005.4, 219-220.	0.0	0
97	4201 Study on Gas-Source Localization Algorithm for Robot Equipped with Gas Sensors and Anemometer. The Proceedings of the JSME Annual Meeting, 2006, 2006.4, 125-126.	0.0	0
98	1314 Autonomous Wheeled Underwater Robot Mimicking Olfactory Search Behavior of Crayfish. The Proceedings of the Machine Design and Tribology Division Meeting in JSME, 2008, 2008.8, 147-148.	0.0	0
99	3246 Active Stereo Olfactory Sensing System Mimicking Dog Nose. The Proceedings of the JSME Annual Meeting, 2008, 2008.4, 189-190.	0.0	0
100	S1107-1-2 Chemical Detection and Source Localization by Underwater Crayfish Robot with Maxilliped Arms. The Proceedings of the JSME Annual Meeting, 2009, 2009.4, 181-182.	0.0	0
101	S1108-4-3 Chemical Source Localization by Underwater Robot Mimicking Crayfish : Improvement of Maxilliped Arms. The Proceedings of the JSME Annual Meeting, 2010, 2010.4, 55-56.	0.0	0
102	1211 Interactive Odor Playback Based on Computational Fluid Dynamics Simulation. The Proceedings of the Machine Design and Tribology Division Meeting in JSME, 2010, 2010.10, 83-84.	0.0	0
103	2204 Technique for Presenting Airflow and/or Odor Source in Virtual Reality System by Airflow Manipulation. The Proceedings of the Machine Design and Tribology Division Meeting in JSME, 2012, 2012.12, 141-142.	0.0	0
104	Preface to the Special Issue on â€œAdvances in Odor Sensing and Odor Presentation Technologiesâ€• IEEJ Transactions on Sensors and Micromachines, 2013, 133, 177-177.	0.1	0
105	J113013 Development of Olfactory Display for Virtual Reality Applications : Simultaneous Presentation of Virtual Odor Source and Heat Source. The Proceedings of Mechanical Engineering Congress Japan, 2013, 2013, _J113013-1-_J113013-4.	0.0	0
106	20711 Collecting Database for Development of Gas Source Localization Robots : Collecting Thermal Distribution Data. The Proceedings of Conference of Kanto Branch, 2014, 2014.20, _20711-1_-_20711-2_.	0.0	0
107	F111002 Olfaction and its Applications to Human-Machine Interface. The Proceedings of Mechanical Engineering Congress Japan, 2014, 2014, _F111002-1-_F111002-4.	0.0	0
108	S1180101 Display System for Presenting Spatial Odor and/or Airflow Distribution : Application to Tablet Computer. The Proceedings of Mechanical Engineering Congress Japan, 2015, 2015, _S1180101-_S1180101-.	0.0	0

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109	S1110205 Fundamental Study on CFD Simulation of Indoor Airflow Field for Mobile Robot Gas Source Localization. The Proceedings of Mechanical Engineering Congress Japan, 2015, 2015, _S1110205-_S1110205-.	0.0	0
110	Estimation of Gas Source Location from Fluctuating Readings of Gas Sensors and Anemometer on Mobile Robot in Outdoor Environment. ECS Meeting Abstracts, 2016, , .	0.0	0
111	Portable Display System for Presenting Spatial Odor and/or Airflow Distribution. The Proceedings of Mechanical Engineering Congress Japan, 2016, 2016, S1110204.	0.0	0
112	Portable Display System for Presenting Spatial Odor and/or Airflow Distribution. IEEJ Transactions on Sensors and Micromachines, 2016, 136, 296-302.	0.1	0
113	Active Airflow Generation to Assist Robotic Gas Source Localization: Initial Experiments in Outdoor Environment. ECS Meeting Abstracts, 2016, , .	0.0	0
114	Fundamental Study on Designing Multicopter for Gas Sensing Applications. The Proceedings of the Machine Design and Tribology Division Meeting in JSME, 2018, 2018.18, 2A3-1.	0.0	0
115	Preface to the Special Issue on â€œSensors, Actuators, and Displays to Realize Virtual Realityâ€• IEEJ Transactions on Sensors and Micromachines, 2018, 138, 329-329.	0.1	0
116	Fundamental Study on Simple Chicken Robot for Promoting Chicksâ€™ Feeding Behavior. The Proceedings of Mechanical Engineering Congress Japan, 2019, 2019, S11508P.	0.0	0
117	Applying Odor Preconcentrator for Enhancing Human Olfaction: Feasibility Study. ECS Meeting Abstracts, 2020, MA2020-01, 2413-2413.	0.0	0
118	Preface to the Special Issue on â€œThe Technical Meetings on Sensors and Micromachines 2019â€• IEEJ Transactions on Sensors and Micromachines, 2020, 140, 97-97.	0.1	0
119	Fundamental Study on Odor Reproduction System Using E-Nose. The Proceedings of Mechanical Engineering Congress Japan, 2020, 2020, S12102.	0.0	0
120	Detection of Chemical Trail on the Floor by Mobile Robot: : Using Fans to Enhance Chemical Reception at Gas Sensors. , 2020, , .		0
121	Development of Gas Sensing Drones:. The Proceedings of Mechanical Engineering Congress Japan, 2021, 2021, S115-05.	0.0	0