

# Chris Melhuish

## List of Publications by Year in descending order

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114  
papers

4,272  
citations

109321

35  
h-index

123424

61  
g-index

118  
all docs

118  
docs citations

118  
times ranked

3400  
citing authors

#	ARTICLE	IF	CITATIONS
1	Emotive Response to a Hybrid-Face Robot and Translation to Consumer Social Robots. IEEE Internet of Things Journal, 2022, 9, 3174-3188.	8.7	8
2	The Effectiveness of Dynamically Processed Incremental Descriptions in Human Robot Interaction. ACM Transactions on Human-Robot Interaction, 2022, 11, 1-24.	4.1	2
3	Multi-functional microbial fuel cells for power, treatment and electro-osmotic purification of urine. Journal of Chemical Technology and Biotechnology, 2019, 94, 2098-2106.	3.2	21
4	Estimation of Tool-Tissue Forces in Robot-Assisted Minimally Invasive Surgery Using Neural Networks. Frontiers in Robotics and AI, 2019, 6, 56.	3.2	19
5	Improved power and long term performance of microbial fuel cell with Fe-N-C catalyst in air-breathing cathode. Energy, 2018, 144, 1073-1079.	8.8	71
6	A Cilia-inspired Closed-loop Sensor-actuator Array. Journal of Bionic Engineering, 2018, 15, 526-532.	5.0	5
7	Design of a Wearable Fingertip Haptic Device for Remote Palpation: Characterisation and Interface with a Virtual Environment. Frontiers in Robotics and AI, 2018, 5, 62.	3.2	22
8	Autonomous Energy Harvesting and Prevention of Cell Reversal in MFC Stacks. Journal of the Electrochemical Society, 2017, 164, H3047-H3051.	2.9	30
9	Particle sorting by Paramecium cilia arrays. BioSystems, 2017, 156-157, 46-52.	2.0	13
10	Toward Bio-Inspired Tactile Sensing Capsule Endoscopy for Detection of Submucosal Tumors. IEEE Sensors Journal, 2017, 17, 848-857.	4.7	21
11	Gelatin as a promising printable feedstock for microbial fuel cells (MFC). International Journal of Hydrogen Energy, 2017, 42, 1783-1790.	7.1	10
12	EvoBot: Towards a Robot-Chemostat for Culturing and Maintaining Microbial Fuel Cells (MFCs). Lecture Notes in Computer Science, 2017, , 453-464.	1.3	3
13	Emergent Behaviors in a Bio-Inspired Platform Controlled by a Physical Cellular Automata Cluster. Biomimetics, 2016, 1, 5.	3.3	4
14	Robotic hand posture and compliant grasping control using operational space and integral sliding mode control. Robotica, 2016, 34, 2163-2185.	1.9	14
15	Microbial Fuel Cell-driven caustic potash production from wastewater for carbon sequestration. Bioresource Technology, 2016, 215, 285-289.	9.6	16
16	Design of a multi-DOF cable-driven mechanism of a miniature serial manipulator for robot-assisted minimally invasive surgery. , 2016, , .		8
17	Single motor actuated peristaltic wave generator for a soft bodied worm robot. , 2016, , .		12
18	Electricity and disinfectant production from wastewater: Microbial Fuel Cell as a self-powered electrolyser. Scientific Reports, 2016, 6, 25571.	3.3	69

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19	Electricity generation and struvite recovery from human urine using microbial fuel cells. <i>Journal of Chemical Technology and Biotechnology</i> , 2016, 91, 647-654.	3.2	80
20	Simultaneous electricity generation and microbially-assisted electrosynthesis in ceramic MFCs. <i>Bioelectrochemistry</i> , 2015, 104, 58-64.	4.6	105
21	Stability and reliability of anodic biofilms under different feedstock conditions: Towards microbial fuel cell sensors. <i>Sensing and Bio-Sensing Research</i> , 2015, 6, 43-50.	4.2	30
22	A novel small scale Microbial Fuel Cell design for increased electricity generation and waste water treatment. <i>International Journal of Hydrogen Energy</i> , 2015, 40, 4263-4268.	7.1	61
23	Self-sustainable electricity production from algae grown in a microbial fuel cell system. <i>Biomass and Bioenergy</i> , 2015, 82, 87-93.	5.7	176
24	Electro-osmotic-based catholyte production by Microbial Fuel Cells for carbon capture. <i>Water Research</i> , 2015, 86, 108-115.	11.3	42
25	Ceramic MFCs with internal cathode producing sufficient power for practical applications. <i>International Journal of Hydrogen Energy</i> , 2015, 40, 14627-14631.	7.1	49
26	Compliance Control and Human-Robot Interaction: Part II Experimental Examples. <i>International Journal of Humanoid Robotics</i> , 2014, 11, 1430002.	1.1	8
27	Seeing by Touch: Evaluation of a Soft Biologically-Inspired Artificial Fingertip in Real-Time Active Touch. <i>Sensors</i> , 2014, 14, 2561-2577.	3.8	36
28	Algal "lagoon" effect for oxygenating MFC cathodes. <i>International Journal of Hydrogen Energy</i> , 2014, 39, 21857-21863.	7.1	20
29	High-Performance, Totally Flexible, Tubular Microbial Fuel Cell. <i>ChemElectroChem</i> , 2014, 1, 1994-1999.	3.4	21
30	Angelo: A novel minimally invasive surgical system based on an anthropomorphic design. , 2014, , .		4
31	Micro-porous layer (MPL)-based anode for microbial fuel cells. <i>International Journal of Hydrogen Energy</i> , 2014, 39, 21811-21818.	7.1	40
32	Water formation at the cathode and sodium recovery using Microbial Fuel Cells (MFCs). <i>Sustainable Energy Technologies and Assessments</i> , 2014, 7, 187-194.	2.7	60
33	Dynamic electrical reconfiguration for improved capacitor charging in microbial fuel cell stacks. <i>Journal of Power Sources</i> , 2014, 272, 34-38.	7.8	36
34	Bootstrapping a robot's kinematic model. <i>Robotics and Autonomous Systems</i> , 2014, 62, 330-339.	5.1	8
35	Wearable Self Sufficient MFC Communication System Powered by Urine. <i>Lecture Notes in Computer Science</i> , 2014, , 131-138.	1.3	4
36	UAV Horizon Tracking Using Memristors and Cellular Automata Visual Processing. <i>Lecture Notes in Computer Science</i> , 2014, , 64-75.	1.3	4

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37	Visual Homing of an Upper Torso Humanoid Robot Using a Depth Camera. Lecture Notes in Computer Science, 2014, , 114-126.	1.3	0
38	Waste to real energy: the first MFC powered mobile phone. Physical Chemistry Chemical Physics, 2013, 15, 15312.	2.8	158
39	Active robot hand compliance using operational space and Integral Sliding Mode Control. , 2013, , .		6
40	Photosynthetic cathodes for Microbial Fuel Cells. International Journal of Hydrogen Energy, 2013, 38, 11559-11564.	7.1	72
41	Miniature microbial fuel cells and stacks for urine utilisation. International Journal of Hydrogen Energy, 2013, 38, 492-496.	7.1	86
42	The effects of laterotactile information on lump localization through a teletaction system. , 2013, , .		15
43	Joint action understanding improves robot-to-human object handover. , 2013, , .		62
44	Manipulating objects with gliders in cellular automata. , 2012, , .		4
45	Urine utilisation by microbial fuel cells; energy fuel for the future. Physical Chemistry Chemical Physics, 2012, 14, 94-98.	2.8	205
46	Towards a Platform-Independent Cooperative Human Robot Interaction System: III An Architecture for Learning and Executing Actions and Shared Plans. IEEE Transactions on Autonomous Mental Development, 2012, 4, 239-253.	1.6	71
47	Tactile Discrimination Using Active Whisker Sensors. IEEE Sensors Journal, 2012, 12, 350-362.	4.7	62
48	Lump localisation through a deformation-based tactile feedback system using a biologically inspired finger sensor. Robotics and Autonomous Systems, 2012, 60, 1442-1448.	5.1	25
49	TAROS2011. Robotics and Autonomous Systems, 2012, 60, 1355.	5.1	0
50	Microbial Fuel Cells for Robotics: Energy Autonomy through Artificial Symbiosis. ChemSusChem, 2012, 5, 1020-1026.	6.8	50
51	Reinforcement learning and optimal adaptive control: An overview and implementation examples. Annual Reviews in Control, 2012, 36, 42-59.	7.9	156
52	Building a Kinematic Model of a Robot's Arm with a Depth Camera. Lecture Notes in Computer Science, 2012, , 105-116.	1.3	4
53	Bioinspired Control of Electro-Active Polymers for Next Generation Soft Robots. Lecture Notes in Computer Science, 2012, , 424-425.	1.3	1
54	A Q-learning based Cartesian model reference compliance controller implementation for a humanoid robot arm. , 2011, , .		2

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55	Robust active compliance control for practical grasping of a cylindrical object via a multifingered robot hand. , 2011, , .		4
56	A Novel Q-Learning Based Adaptive Optimal Controller Implementation for a Humanoid Robotic Arm*. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2011, 44, 13528-13533.	0.4	9
57	Power for Robotic Artificial Muscles. IEEE/ASME Transactions on Mechatronics, 2011, 16, 107-111.	5.8	53
58	A Novel Approach of Robust Active Compliance for Robot Fingers. Communications in Computer and Information Science, 2011, , 50-57.	0.5	3
59	Task Space Integral Sliding Mode Controller Implementation for 4DOF of a Humanoid BERT II Arm with Posture Control. Lecture Notes in Computer Science, 2011, , 299-310.	1.3	2
60	Microbial Fuel Cells – Scalability and their Use in Robotics. Modern Aspects of Electrochemistry, 2011, , 239-290.	0.2	9
61	Toward Safe Human Robot Interaction: Integration of Compliance Control, an Anthropomorphic Hand and Verbal Communication. Communications in Computer and Information Science, 2011, , 17-24.	0.5	4
62	Deformation-Based Tactile Feedback Using a Biologically-Inspired Sensor and a Modified Display. Lecture Notes in Computer Science, 2011, , 114-124.	1.3	8
63	Safe Adaptive Compliance Control of a Humanoid Robotic Arm with Anti-Windup Compensation and Posture Control. International Journal of Social Robotics, 2010, 2, 305-319.	4.6	44
64	Towards Safety in Human Robot Interaction. International Journal of Social Robotics, 2010, 2, 217-219.	4.6	23
65	Design and testing of a hybrid expressive face for a humanoid robot. , 2010, , .		21
66	Adaptive multi-dimensional compliance control of a humanoid robotic arm with anti-windup compensation. , 2010, , .		16
67	Tactile edge detection. , 2010, , .		14
68	Small Scale Microbial Fuel Cells and Different Ways of Reporting Output. ECS Transactions, 2010, 28, 1-9.	0.5	20
69	A hybrid microbial dielectric elastomer generator for autonomous robots. Proceedings of SPIE, 2010, , .	0.8	4
70	The BERT2 infrastructure: An integrated system for the study of human-robot interaction. , 2010, , .		16
71	An optimal sliding mode controller applied to human motion synthesis with robotic implementation. , 2010, , .		8
72	Assessment of human response to robot facial expressions through visual evoked potentials. , 2010, , .		7

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73	A neural network method of learning human motion by observation in operational space. , 2010, , .		0
74	High survivability of a large colony through a small-world relationship. Artificial Life and Robotics, 2009, 14, 168-173.	1.2	3
75	Prokaryotic Bio-Inspired Model for Embryonics. , 2009, , .		24
76	Cerebellar-Inspired Adaptive Control of a Robot Eye Actuated by Pneumatic Artificial Muscles. IEEE Transactions on Systems, Man, and Cybernetics, 2009, 39, 1420-1433.	5.0	52
77	Robotic Implementation of Realistic Reaching Motion Using a Sliding Mode/Operational Space Controller. Lecture Notes in Computer Science, 2009, , 230-238.	1.3	10
78	Artificial Symbiosis in EcoBots. , 2009, , 185-211.		0
79	Microbial fuel cells based on carbon veil electrodes: Stack configuration and scalability. International Journal of Energy Research, 2008, 32, 1228-1240.	4.5	293
80	Facial behaviour mappingâ€”From video footage to a robot head. Robotics and Autonomous Systems, 2008, 56, 1042-1049.	5.1	84
81	A FEASIBILITY STUDY FOR ENERGY AUTONOMY IN MULTI ROBOT SEARCH AND RESCUE OPERATIONS. , 2008, , .		0
82	Artificial gills for robots: MFC behaviour in water. Bioinspiration and Biomimetics, 2007, 2, S83-S93.	2.9	26
83	Towards Realistic Facial Behaviour in Humanoids - Mapping from Video Footage to a Robot Head. , 2007, , .		2
84	Indirect Fuzzy Adaptive Control of Robotic Manipulator Based on Sliding Mode Scheme. , 2007, , .		0
85	Whiskerbot: A Robotic Active Touch System Modeled on the Rat Whisker Sensory System. Adaptive Behavior, 2007, 15, 223-240.	1.9	77
86	An Analysis of Emergent Taxis in a Wireless Connected Swarm of Mobile Robots. , 2007, , .		16
87	Collective Energy Distribution: Maintaining the Energy Balance in Distributed Autonomous Robots using Trophallaxis. , 2007, , 275-284.		12
88	Ant-inspired sorting by robots: the importance of initial clustering. Journal of the Royal Society Interface, 2006, 3, 235-242.	3.4	20
89	Manipulating objects with chemical waves: Open loop case of experimental Belousovâ€™Zhabotinsky medium coupled with simulated actuator array. Physics Letters, Section A: General, Atomic and Solid State Physics, 2006, 350, 201-209.	2.1	10
90	Hierarchical fuzzy rule based systems using an information theoretic approach. Soft Computing, 2006, 10, 867-879.	3.6	2

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91	Energetically autonomous robots: Food for thought. <i>Autonomous Robots</i> , 2006, 21, 187-198.	4.8	122
92	Ants can sort their brood without a gaseous template. <i>Behavioral Ecology and Sociobiology</i> , 2006, 59, 531-540.	1.4	6
93	MANIPULATING PLANAR SHAPES WITH A LIGHT-SENSITIVE EXCITABLE MEDIUM: COMPUTATIONAL STUDIES OF CLOSED-LOOP SYSTEMS. <i>International Journal of Bifurcation and Chaos in Applied Sciences and Engineering</i> , 2006, 16, 2333-2349.	1.7	4
94	A Model of Sensorimotor Coordination in the Rat Whisker System. <i>Lecture Notes in Computer Science</i> , 2006, , 77-88.	1.3	9
95	Energy accumulation and improved performance in microbial fuel cells. <i>Journal of Power Sources</i> , 2005, 145, 253-256.	7.8	75
96	Comparative study of three types of microbial fuel cell. <i>Enzyme and Microbial Technology</i> , 2005, 37, 238-245.	3.2	247
97	Manipulating objects by discrete excitable media coupled with contact-less actuator array: Open-loop case. <i>Chaos, Solitons and Fractals</i> , 2005, 26, 1377-1389.	5.1	6
98	EcoBot-II: An Artificial Agent with a Natural Metabolism. <i>International Journal of Advanced Robotic Systems</i> , 2005, 2, 31.	2.1	45
99	A Biomimetic Haptic Sensor. <i>International Journal of Advanced Robotic Systems</i> , 2005, 2, 36.	2.1	12
100	Empirically inspired simulated electro-mechanical model of the rat mystacial follicle-sinus complex. <i>Proceedings of the Royal Society B: Biological Sciences</i> , 2004, 271, 2509-2516.	2.6	62
101	Comparisons in Evolution and Engineering: The Collective Intelligence of Sorting. <i>Adaptive Behavior</i> , 2004, 12, 147-159.	1.9	8
102	EXCITABLE CHEMICAL MEDIUM CONTROLLER FOR A ROBOTIC HAND: CLOSED-LOOP EXPERIMENTS. <i>International Journal of Bifurcation and Chaos in Applied Sciences and Engineering</i> , 2004, 14, 3347-3354.	1.7	25
103	Brood sorting by ants: two phases and differential diffusion. <i>Animal Behaviour</i> , 2004, 68, 1095-1106.	1.9	36
104	Algorithms for Building Annular Structures with Minimalist Robots Inspired by Brood Sorting in Ant Colonies. <i>Autonomous Robots</i> , 2004, 17, 115-136.	4.8	44
105	Adaptive sliding mode control for MIMO nonlinear systems based on fuzzy logic scheme. <i>International Journal of Automation and Computing</i> , 2004, 1, 51-62.	4.5	26
106	Experimental implementation of mobile robot taxis with onboard Belousovâ€Zhabotinsky chemical medium. <i>Materials Science and Engineering C</i> , 2004, 24, 541-548.	7.3	42
107	Experimental Reactionâ€Diffusion Chemical Processors for Robot Path Planning. <i>Journal of Intelligent and Robotic Systems: Theory and Applications</i> , 2003, 37, 233-249.	3.4	41
108	Towards robot autonomy in the natural world: a robot in predator's clothing. <i>Mechatronics</i> , 2003, 13, 195-228.	3.3	17

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109	Artificial Metabolism: Towards True Energetic Autonomy in Artificial Life. Lecture Notes in Computer Science, 2003, , 792-799.	1.3	29
110	Phototaxis of mobile excitable lattices. Chaos, Solitons and Fractals, 2002, 13, 171-184.	5.1	11
111	Parallel controllers for decentralized robots: towards nano design. Kybernetes, 2000, 29, 733-745.	2.2	2
112	Stigmergy, Self-Organization, and Sorting in Collective Robotics. Artificial Life, 1999, 5, 173-202.	1.3	349
113	Convoying: using choring to form travelling groups of minimal agents. Robotics and Autonomous Systems, 1999, 28, 207-216.	5.1	34
114	Applying a restricted mating policy to determine state space niches using immediate and delayed reinforcement. Lecture Notes in Computer Science, 1994, , 224-237.	1.3	8