Chris Fields

List of Publications by Year
in descending order

113 papers	9,465 citations	304743 22 h-index	38395 95 g-index
116 all docs	116 docs citations	116 times ranked	6496 citing authors

#	Article	IF	Citations
1	Whole-Genome Random Sequencing and Assembly of *Haemophilus influenzae* Rd. Science, 1995, 269, 496-512.	12.6	5,619
2	Sequence identification of 2,375 human brain genes. Nature, 1992, 355, 632-634.	27.8	808
3	Splicing signals inDrosophila: intron size, information content, and consensus sequences. Nucleic Acids Research, 1992, 20, 4255-4262.	14.5	419
4	Rapid cDNA sequencing (expressed sequence tags) from a directionally cloned human infant brain cDNA library. Nature Genetics, 1993, 4, 373-380.	21.4	370
5	How many genes in the human genome?. Nature Genetics, 1994, 7, 345-346.	21.4	304
6	3,400 new expressed sequence tags identify diversity of transcripts in human brain. Nature Genetics, 1993, 4, 256-267.	21.4	303
7	Caenorhabditis elegans expressed sequence tags identify gene families and potential disease gene homologues. Nature Genetics, 1992, 1, 124-131.	21.4	199
8	Information content ofCaenorhabditis eleganssplice site sequences varies with intron length. Nucleic Acids Research, 1990, 18, 1509-1512.	14.5	92
9	Sequence comparisons of developmentally regulated collagen genes of Caenorhabditis elegans. Gene, 1989, 76, 331-344.	2.2	70
10	The Role of Early Bioelectric Signals in the Regeneration of Planarian Anterior/Posterior Polarity. Biophysical Journal, 2019, 116, 948-961.	0.5	70
11	Long-range gap junctional signaling controls oncogene-mediated tumorigenesis in Xenopus laevis embryos. Frontiers in Physiology, 2014, 5, 519.	2.8	63
12	Morphological Coordination: A Common Ancestral Function Unifying Neural and Non-Neural Signaling. Physiology, 2020, 35, 16-30.	3.1	58
13	Information contents and dinucleotide compositions of plant intron sequences vary with evolutionary origin. Plant Molecular Biology, 1992, 19, 1057-1064.	3.9	45
14	A model for high-throughput automated DNA sequencing and analysis core facilities. Nature, 1994, 368, 474-475.	27.8	42
15	Are Planaria Individuals? What Regenerative Biology is Telling Us About the Nature of Multicellularity. Evolutionary Biology, 2018, 45, 237-247.	1.1	38
16	Competency in Navigating Arbitrary Spaces as an Invariant for Analyzing Cognition in Diverse Embodiments. Entropy, 2022, 24, 819.	2.2	37
17	Multiscale memory and bioelectric error correction in the cytoplasm–cytoskeleton–membrane system. Wiley Interdisciplinary Reviews: Systems Biology and Medicine, 2018, 10, e1410.	6.6	32
18	A quality control algorithm for DNA sequencing projects. Nucleic Acids Research, 1993, 21, 3829-3838.	14.5	31

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19	Scale‐Free Biology: Integrating Evolutionary and Developmental Thinking. BioEssays, 2020, 42, e1900228.	2.5	31
20	A free energy principle for generic quantum systems. Progress in Biophysics and Molecular Biology, 2022, 173, 36-59.	2.9	29
21	Disrupted development and imbalanced function in the global neuronal workspace: a positive-feedback mechanism for the emergence of ASD in early infancy. Cognitive Neurodynamics, 2017, 11, 1-21.	4.0	28
22	Minimal physicalism as a scale-free substrate for cognition and consciousness. Neuroscience of Consciousness, 2021, 2021, niab013.	2.6	24
23	If Physics Is an Information Science, What Is an Observer?. Information (Switzerland), 2012, 3, 92-123.	2.9	23
24	The very same thing: Extending the object token concept to incorporate causal constraints on individual identity. Advances in Cognitive Psychology, 2012, 8, 234-247.	0.5	23
25	Fact, Fiction, and Fitness. Entropy, 2020, 22, 514.	2.2	22
26	Quantum Darwinism Requires an Extra-Theoretical Assumption of Encoding Redundancy. International Journal of Theoretical Physics, 2010, 49, 2523-2527.	1.2	21
27	The Genome Sequence DataBase (GSDB): meeting the challenge of genomic sequencing. Nucleic Acids Research, 1996, 24, 13-16.	14.5	20
28	Why do we talk to ourselves?. Journal of Experimental and Theoretical Artificial Intelligence, 2002, 14, 255-272.	2.8	20
29	How Do Living Systems Create Meaning?. Philosophies, 2020, 5, 36.	0.7	20
30	Information flow in context-dependent hierarchical Bayesian inference. Journal of Experimental and Theoretical Artificial Intelligence, 2022, 34, 111-142.	2.8	19
31	Consequences of nonclassical measurement for the algorithmic description of continuous dynamical systems. Journal of Experimental and Theoretical Artificial Intelligence, 1989, 1, 171-178.	2.8	17
32	Conscious agent networks: Formal analysis and application to cognition. Cognitive Systems Research, 2018, 47, 186-213.	2.7	17
33	Analysis of gene expression by tissue and developmental stage. Current Opinion in Biotechnology, 1994, 5, 595-598.	6.6	16
34	Classical system boundaries cannot be determined within quantum Darwinism. Physics Essays, 2011, 24, 518-522.	0.4	16
35	The Genome Sequence DataBase version 1.0 (GSDB): from low pass sequences to complete genomes. Nucleic Acids Research, 1997, 25, 18-23.	14.5	15
36	Some Consequences of the Thermodynamic Cost of System Identification. Entropy, 2018, 20, 797.	2.2	15

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37	A mosaic of Chu spaces and Channel Theory I: Category-theoretic concepts and tools. Journal of Experimental and Theoretical Artificial Intelligence, 2019, 31, 177-213.	2.8	15
38	Reference Frame Induced Symmetry Breaking on Holographic Screens. Symmetry, 2021, 13, 408.	2.2	15
39	Trajectory Recognition as the Basis for Object Individuation: A Functional Model of Object File Instantiation and Object-Token Encoding. Frontiers in Psychology, 2011, 2, 49.	2.1	14
40	Fitness Beats Truth in the Evolution of Perception. Acta Biotheoretica, 2021, 69, 319-341.	1.5	14
41	Representing Measurement as a Thermodynamic Symmetry Breaking. Symmetry, 2020, 12, 810.	2.2	14
42	Genome sequence analysis: scientific objectives and practical strategies. Trends in Biotechnology, 1992, 10, 8-11.	9.3	13
43	How humans solve the frame problem. Journal of Experimental and Theoretical Artificial Intelligence, 2013, 25, 441-456.	2.8	13
44	Metabolic limits on classical information processing by biological cells. BioSystems, 2021, 209, 104513.	2.0	13
45	A model-theoretic interpretation of environment-induced superselection. International Journal of General Systems, 2012, 41, 847-859.	2.5	12
46	Visual re-identification of individual objects: a core problem for organisms and AI. Cognitive Processing, 2016, 17, 1-13.	1.4	12
47	Somatic multicellularity as a satisficing solution to the prediction-error minimization problem. Communicative and Integrative Biology, 2019, 12, 119-132.	1.4	12
48	A mosaic of Chu spaces and Channel Theory II: applications to object identification and mereological complexity. Journal of Experimental and Theoretical Artificial Intelligence, 2019, 31, 237-265.	2.8	12
49	Sharing Nonfungible Information Requires Shared Nonfungible Information. Quantum Reports, 2019, 1, 252-259.	1.3	12
50	Holographic Screens Are Classical Information Channels. Quantum Reports, 2020, 2, 326-336.	1.3	12
51	Generalized Holographic Principle, Gauge Invariance and the Emergence of Gravity Ã la Wilczek. Frontiers in Astronomy and Space Sciences, 2021, 8, .	2.8	12
52	Neurons as hierarchies of quantum reference frames. BioSystems, 2022, 219, 104714.	2.0	12
53	Metaphorical motion in mathematical reasoning: further evidence for pre-motor implementation of structure mapping in abstract domains. Cognitive Processing, 2013, 14, 217-229.	1.4	11
54	Do Process-1 simulations generate the epistemic feelings that drive Process-2 decision making?. Cognitive Processing, 2020, 21, 533-553.	1.4	11

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55	Metacognition as a Consequence of Competing Evolutionary Time Scales. Entropy, 2022, 24, 601.	2.2	11
56	Building the Observer into the System: Toward a Realistic Description of Human Interaction with the World. Systems, 2016, 4, 32.	2.3	10
57	Human–computer interaction: A critical synthesis. Social Epistemology, 1987, 1, 5-25.	1.2	9
58	Introns in sequence tags. Nature, 1992, 357, 367-368.	27.8	9
59	From "Oh, OK" to "Ah, yes" to "Aha!" Hyper-systemizing and the rewards of insight. Personality and Individual Differences, 2011, 50, 1159-1167.	2.9	9
60	Quantum Neural Networks and Topological Quantum Field Theories. Neural Networks, 2022, 153, 164-178.	5.9	9
61	Domain organization and intron positions inCaenorhabditis elegans collagen genes: The 54-bp module hypothesis revisited. Journal of Molecular Evolution, 1988, 28, 55-63.	1.8	8
62	Experimental and theoretical artificial intelligence. Journal of Experimental and Theoretical Artificial Intelligence, 1989, 1, 1-4.	2.8	8
63	Reply to – Predicting the total number of human genes. Nature Genetics, 1994, 8, 114-114.	21.4	8
64	Implementation of structure-mapping inference by event-file binding and action planning: a model of tool-improvisation analogies. Psychological Research, 2011, 75, 129-142.	1.7	8
65	A REEVALUATION OF EVIDENCE FOR LIGHT NEUTRAL BOSONS IN NUCLEAR EMULSIONS. International Journal of Modern Physics E, 2011, 20, 1787-1803.	1.0	8
66	Motion, identity and the bias toward agency. Frontiers in Human Neuroscience, 2014, 8, 597.	2.0	8
67	Close to the edge: co-authorship proximity of Nobel laureates in Physiology or Medicine, 1991–2010, to cross-disciplinary brokers. Scientometrics, 2015, 103, 267-299.	3.0	8
68	How small is the center of science? Short cross-disciplinary cycles in co-authorship graphs. Scientometrics, 2015, 102, 1287-1306.	3.0	8
69	Markov blankets are general physical interaction surfaces. Physics of Life Reviews, 2020, 33, 109-111.	2.8	8
70	Why isn't sex optional? Stem-cell competition, loss of regenerative capacity, and cancer in metazoan evolution. Communicative and Integrative Biology, 2020, 13, 170-183.	1.4	8
71	Equivalence of the Frame and Halting Problems. Algorithms, 2020, 13, 175.	2.1	8
72	The Principle of Persistence, Leibniz's Law, and the Computational Task of Object Re-Identification. Human Development, 2013, 56, 147-166.	2.0	7

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73	Equivalence of the Symbol Grounding and Quantum System Identification Problems. Information (Switzerland), 2014, 5, 172-189.	2.9	7
74	On the Ollivier–Poulin–Zurek Definition of Objectivity. Axiomathes, 2014, 24, 137-156.	0.6	7
75	Decoherence as a sequence of entanglement swaps. Results in Physics, 2019, 12, 1888-1892.	4.1	7
76	Does regeneration recapitulate phylogeny? Planaria as a model of body-axis specification in ancestral eumetazoa. Communicative and Integrative Biology, 2020, 13, 27-38.	1.4	7
77	Data exchange and inter-database communication in genome projects. Trends in Biotechnology, 1992, 10, 58-61.	9.3	6
78	Do autism spectrum disorders involve a generalized object categorization and identification dysfunction?. Medical Hypotheses, 2012, 79, 344-351.	1.5	6
79	The very same thing: Extending the object token concept to incorporate causal constraints on individual identity. Advances in Cognitive Psychology, 2012, 8, 234-47.	0.5	6
80	The use of deficiencies to determine essential gene content in the let-56–unc-22 region of Caenorhabditis elegans. Genome, 1993, 36, 1148-1156.	2.0	5
81	Motion as manipulation: implementation of force–motion analogies by event-file binding and action planning. Cognitive Processing, 2012, 13, 231-241.	1.4	5
82	Bell's theorem from Moore's theorem. International Journal of General Systems, 2013, 42, 376-385.	2.5	5
83	Implementation of Classical Communication in a Quantum World. Information (Switzerland), 2012, 3, 809-831.	2.9	4
84	Consistent Quantum Mechanics Admits No Mereotopology. Axiomathes, 2014, 24, 9-18.	0.6	4
85	Co-authorship proximity of A. M. Turing Award and John von Neumann Medal winners to the disciplinary boundaries of computer science. Scientometrics, 2015, 104, 809-825.	3.0	4
86	Sciences of Observation. Philosophies, 2018, 3, 29.	0.7	4
87	Editorial: Epistemic Feelings: Phenomenology, Implementation, and Role in Cognition. Frontiers in Psychology, 2020, 11, 606046.	2.1	4
88	Some Effects of the Human Genome Project on the Erdős Collaboration Graph. Journal of Humanistic Mathematics, 2014, 4, [3]-24.	0.1	4
89	Informatics for ubiquitous sequencing. Trends in Biotechnology, 1996, 14, 286-289.	9.3	3
90	A whole box of Pandoras: systems, boundaries and free will in quantum theory1. Journal of Experimental and Theoretical Artificial Intelligence, 2013, 25, 291-302.	2.8	3

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91	Temporal signal processing with high-speed hybrid analog-digital neural networks. Analog Integrated Circuits and Signal Processing, 1992, 2, 367.	1.4	2
92	Interoperability of Biological Data Bases: A Meeting Report. Systematic Biology, 1994, 43, 585-589.	5.6	2
93	A Physics-Based Metaphysics is a Metaphysics-Based Metaphysics. Acta Analytica, 2014, 29, 131-148.	0.3	2
94	Using AI Methods to Evaluate a Minimal Model for Perception. Open Philosophy, 2019, 2, 503-524.	0.4	2
95	The role of aesthetics in problem solving: some observations and a manifesto. Journal of Experimental and Theoretical Artificial Intelligence, 2004, 16, 41-55.	2.8	1
96	Reverse engineering the world: a commentary on Hoffman, Singh, and Prakash, â€œThe interface theory of perceptionâ€. Psychonomic Bulletin and Review, 2015, 22, 1526-1529.	2.8	1
97	Science Generates Limit Paradoxes. Axiomathes, 2015, 25, 409-432.	0.6	1
98	Editorial: How Humans Recognize Objects: Segmentation, Categorization and Individual Identification. Frontiers in Psychology, 2016, 7, 400.	2.1	1
99	Decompositional Equivalence: A Fundamental Symmetry Underlying Quantum Theory. Axiomathes, 2016, 26, 279-311.	0.6	1
100	The AI Wars, 1950â€"2000, and Their Consequences. Journal of Artificial Intelligence and Consciousness, 0, , 2130001.	1.2	1
101	Object Permanence. , 2017, , 1-6.		1
102	ANALYSIS OF EXPRESSED SEQUENCE TAGS FROM HUMAN BRAIN CDNAS. , 1993, , .		0
103	IDENTIFICATION OF GENES IN GENOMIC AND EST SEQUENCES. , 1993, , .		0
104	Observables, measurements, and virtual machines. Journal of Experimental and Theoretical Artificial Intelligence, 1995, 7, 271-274.	2.8	0
105	The role of the frame problem in Fodor's modularity thesis: a case study of rationalist cognitive science. Journal of Experimental and Theoretical Artificial Intelligence, 1995, 7, 279-289.	2.8	0
106	Nobel numbers: Timeâ€dependent centrality measures on coauthorship graphs. Journal of the Association for Information Science and Technology, 2016, 67, 2212-2222.	2.9	0
107	Cover Image, Volume 10, Issue 2. Wiley Interdisciplinary Reviews: Systems Biology and Medicine, 2018, 10, e1420.	6.6	0
108	Object Permanence. , 2021, , 5505-5510.		0

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109	Real Machines and Virtual Intentionality. , 1994, , 71-90.		0
110	Informatics and Genomic Research. , 1996, , 221-238.		0
111	Effective Dark Energy from Decoherence. Theoretical Physics, 2016, 1, .	0.1	0
112	Scale-free architectures support representational diversity. Behavioral and Brain Sciences, 2020, 43, e133.	0.7	0
113	Symmetry in Quantum Theory of Gravity. Symmetry, 2022, 14, 775.	2.2	0