Chris Fields

List of Publications by Year
in descending order

113 papers	9,465 citations	304602 22 h-index	38368 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.	6.0	5,619
2	Sequence identification of 2,375 human brain genes. Nature, 1992, 355, 632-634.	13.7	808
3	Splicing signals inDrosophila: intron size, information content, and consensus sequences. Nucleic Acids Research, 1992, 20, 4255-4262.	6.5	419
4	Rapid cDNA sequencing (expressed sequence tags) from a directionally cloned human infant brain cDNA library. Nature Genetics, 1993, 4, 373-380.	9.4	370
5	How many genes in the human genome?. Nature Genetics, 1994, 7, 345-346.	9.4	304
6	3,400 new expressed sequence tags identify diversity of transcripts in human brain. Nature Genetics, 1993, 4, 256-267.	9.4	303
7	Caenorhabditis elegans expressed sequence tags identify gene families and potential disease gene homologues. Nature Genetics, 1992, 1, 124-131.	9.4	199
8	Information content ofCaenorhabditis eleganssplice site sequences varies with intron length. Nucleic Acids Research, 1990, 18, 1509-1512.	6.5	92
9	Sequence comparisons of developmentally regulated collagen genes of Caenorhabditis elegans. Gene, 1989, 76, 331-344.	1.0	70
10	The Role of Early Bioelectric Signals in the Regeneration of Planarian Anterior/Posterior Polarity. Biophysical Journal, 2019, 116, 948-961.	0.2	70
11	Long-range gap junctional signaling controls oncogene-mediated tumorigenesis in Xenopus laevis embryos. Frontiers in Physiology, 2014, 5, 519.	1.3	63
12	Morphological Coordination: A Common Ancestral Function Unifying Neural and Non-Neural Signaling. Physiology, 2020, 35, 16-30.	1.6	58
13	Information contents and dinucleotide compositions of plant intron sequences vary with evolutionary origin. Plant Molecular Biology, 1992, 19, 1057-1064.	2.0	45
14	A model for high-throughput automated DNA sequencing and analysis core facilities. Nature, 1994, 368, 474-475.	13.7	42
15	Are Planaria Individuals? What Regenerative Biology is Telling Us About the Nature of Multicellularity. Evolutionary Biology, 2018, 45, 237-247.	0.5	38
16	Competency in Navigating Arbitrary Spaces as an Invariant for Analyzing Cognition in Diverse Embodiments. Entropy, 2022, 24, 819.	1.1	37
17	Multiscale memory and bioelectric error correction in the cytoplasmâ€“cytoskeletonâ€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.	6.5	31

#	Article	IF	Citations
19	Scaleâ€Free Biology: Integrating Evolutionary and Developmental Thinking. BioEssays, 2020, 42, e1900228.	1.2	31
20	A free energy principle for generic quantum systems. Progress in Biophysics and Molecular Biology, 2022, 173, 36-59.	1.4	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.	2.3	28
22	Minimal physicalism as a scale-free substrate for cognition and consciousness. Neuroscience of Consciousness, 2021, 2021, niab013.	1.4	24
23	If Physics Is an Information Science, What Is an Observer?. Information (Switzerland), 2012, 3, 92-123.	1.7	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.	0.2	23
25	Fact, Fiction, and Fitness. Entropy, 2020, 22, 514.	1.1	22
26	Quantum Darwinism Requires an Extra-Theoretical Assumption of Encoding Redundancy. International Journal of Theoretical Physics, 2010, 49, 2523-2527.	0.5	21
27	The Genome Sequence DataBase (GSDB): meeting the challenge of genomic sequencing. Nucleic Acids Research, 1996, 24, 13-16.	6.5	20
28	Why do we talk to ourselves?. Journal of Experimental and Theoretical Artificial Intelligence, 2002, 14, 255-272.	1.8	20
29	How Do Living Systems Create Meaning?. Philosophies, 2020, 5, 36.	0.4	20
30	Information flow in context-dependent hierarchical Bayesian inference. Journal of Experimental and Theoretical Artificial Intelligence, 2022, 34, 111-142.	1.8	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.	1.8	17
32	Conscious agent networks: Formal analysis and application to cognition. Cognitive Systems Research, 2018, 47, 186-213.	1.9	17
33	Analysis of gene expression by tissue and developmental stage. Current Opinion in Biotechnology, 1994, 5, 595-598.	3.3	16
34	Classical system boundaries cannot be determined within quantum Darwinism. Physics Essays, 2011, 24, 518-522.	0.1	16
35	The Genome Sequence DataBase version 1.0 (GSDB): from low pass sequences to complete genomes. Nucleic Acids Research, 1997, 25, 18-23.	6.5	15
36	Some Consequences of the Thermodynamic Cost of System Identification. Entropy, 2018, 20, 797.	1.1	15

#	Article	IF	Citations
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.	1.8	15
38	Reference Frame Induced Symmetry Breaking on Holographic Screens. Symmetry, 2021, 13, 408.	1.1	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.	1.1	14
40	Fitness Beats Truth in the Evolution of Perception. Acta Biotheoretica, 2021, 69, 319-341.	0.7	14
41	Representing Measurement as a Thermodynamic Symmetry Breaking. Symmetry, 2020, 12, 810.	1.1	14
42	Genome sequence analysis: scientific objectives and practical strategies. Trends in Biotechnology, 1992, 10, 8-11.	4.9	13
43	How humans solve the frame problem. Journal of Experimental and Theoretical Artificial Intelligence, 2013, 25, 441-456.	1.8	13
44	Metabolic limits on classical information processing by biological cells. BioSystems, 2021, 209, 104513.	0.9	13
45	A model-theoretic interpretation of environment-induced superselection. International Journal of General Systems, 2012, 41, 847-859.	1.2	12
46	Visual re-identification of individual objects: a core problem for organisms and AI. Cognitive Processing, 2016, 17, 1-13.	0.7	12
47	Somatic multicellularity as a satisficing solution to the prediction-error minimization problem. Communicative and Integrative Biology, 2019, 12, 119-132.	0.6	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.	1.8	12
49	Sharing Nonfungible Information Requires Shared Nonfungible Information. Quantum Reports, 2019, 1, 252-259.	0.6	12
50	Holographic Screens Are Classical Information Channels. Quantum Reports, 2020, 2, 326-336.	0.6	12
51	Generalized Holographic Principle, Gauge Invariance and the Emergence of Gravity Ã la Wilczek. Frontiers in Astronomy and Space Sciences, 2021, 8, .	1.1	12
52	Neurons as hierarchies of quantum reference frames. BioSystems, 2022, 219, 104714.	0.9	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.	0.7	11
54	Do Process-1 simulations generate the epistemic feelings that drive Process-2 decision making?. Cognitive Processing, 2020, 21, 533-553.	0.7	11

#	Article	IF	Citations
55	Metacognition as a Consequence of Competing Evolutionary Time Scales. Entropy, 2022, 24, 601.	1.1	11
56	Building the Observer into the System: Toward a Realistic Description of Human Interaction with the World. Systems, 2016, 4, 32.	1.2	10
57	Humanâ€computer interaction: A critical synthesis. Social Epistemology, 1987, 1, 5-25.	0.7	9
58	Introns in sequence tags. Nature, 1992, 357, 367-368.	13.7	9
59	From â€œOh, OKâ€•to â€œAh, yesâ€•to â€œAha!â€• Hyper-systemizing and the rewards of insight. Personality and Individual Differences, 2011, 50, 1159-1167.	1.6	9
60	Quantum Neural Networks and Topological Quantum Field Theories. Neural Networks, 2022, 153, 164-178.	3.3	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.	0.8	8
62	Experimental and theoretical artificial intelligence. Journal of Experimental and Theoretical Artificial Intelligence, 1989, 1, 1-4.	1.8	8
63	Reply to â€” Predicting the total number of human genes. Nature Genetics, 1994, 8, 114-114.	9.4	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.	1.0	8
65	A REEVALUATION OF EVIDENCE FOR LIGHT NEUTRAL BOSONS IN NUCLEAR EMULSIONS. International Journal of Modern Physics E, 2011, 20, 1787-1803.	0.4	8
66	Motion, identity and the bias toward agency. Frontiers in Human Neuroscience, 2014, 8, 597.	1.0	8
67	Close to the edge: co-authorship proximity of Nobel laureates in Physiology or Medicine, 1991â€“2010, to cross-disciplinary brokers. Scientometrics, 2015, 103, 267-299.	1.6	8
68	How small is the center of science? Short cross-disciplinary cycles in co-authorship graphs. Scientometrics, 2015, 102, 1287-1306.	1.6	8
69	Markov blankets are general physical interaction surfaces. Physics of Life Reviews, 2020, 33, 109-111.	1.5	8
70	Why isnâ€™t sex optional? Stem-cell competition, loss of regenerative capacity, and cancer in metazoan evolution. Communicative and Integrative Biology, 2020, 13, 170-183.	0.6	8
71	Equivalence of the Frame and Halting Problems. Algorithms, 2020, 13, 175.	1.2	8
72	The Principle of Persistence, Leibniz's Law, and the Computational Task of Object Re-Identification. Human Development, 2013, 56, 147-166.	1.2	7

#	Article	IF	Citations
73	Equivalence of the Symbol Grounding and Quantum System Identification Problems. Information (Switzerland), 2014, 5, 172-189.	1.7	7
74	On the Ollivierâ€“Poulinâ€“Zurek Definition of Objectivity. Axiomathes, 2014, 24, 137-156.	0.3	7
75	Decoherence as a sequence of entanglement swaps. Results in Physics, 2019, 12, 1888-1892.	2.0	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.	0.6	7
77	Data exchange and inter-database communication in genome projects. Trends in Biotechnology, 1992, 10, 58-61.	4.9	6
78	Do autism spectrum disorders involve a generalized object categorization and identification dysfunction?. Medical Hypotheses, 2012, 79, 344-351.	0.8	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.	0.2	6
80	The use of deficiencies to determine essential gene content in the let-56â€“unc-22 region of Caenorhabditis elegans. Genome, 1993, 36, 1148-1156.	0.9	5
81	Motion as manipulation: implementation of forceâ€“motion analogies by event-file binding and action planning. Cognitive Processing, 2012, 13, 231-241.	0.7	5
82	Bell's theorem from Moore's theorem. International Journal of General Systems, 2013, 42, 376-385.	1.2	5
83	Implementation of Classical Communication in a Quantum World. Information (Switzerland), 2012, 3, 809-831.	1.7	4
84	Consistent Quantum Mechanics Admits No Mereotopology. Axiomathes, 2014, 24, 9-18.	0.3	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.	1.6	4
86	Sciences of Observation. Philosophies, 2018, 3, 29.	0.4	4
87	Editorial: Epistemic Feelings: Phenomenology, Implementation, and Role in Cognition. Frontiers in Psychology, 2020, 11, 606046.	1.1	4
88	Some Effects of the Human Genome Project on the ErdÅ‘s 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.	4.9	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.	1.8	3

#	Article	IF	Citations
91	Temporal signal processing with high-speed hybrid analog-digital neural networks. Analog Integrated Circuits and Signal Processing, 1992, 2, 367.	0.9	2
92	Interoperability of Biological Data Bases: A Meeting Report. Systematic Biology, 1994, 43, 585-589.	2.7	2
93	A Physics-Based Metaphysics is a Metaphysics-Based Metaphysics. Acta Analytica, 2014, 29, 131-148.	0.4	2
94	Using AI Methods to Evaluate a Minimal Model for Perception. Open Philosophy, 2019, 2, 503-524.	0.2	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.	1.8	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.	1.4	1
97	Science Generates Limit Paradoxes. Axiomathes, 2015, 25, 409-432.	0.3	1
98	Editorial: How Humans Recognize Objects: Segmentation, Categorization and Individual Identification. Frontiers in Psychology, 2016, 7, 400.	1.1	1
99	Decompositional Equivalence: A Fundamental Symmetry Underlying Quantum Theory. Axiomathes, 2016, 26, 279-311.	0.3	1
100	The AI Wars, 1950â€“2000, and Their Consequences. Journal of Artificial Intelligence and Consciousness, 0, , 2130001.	0.6	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.	1.8	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.	1.8	0
106	Nobel numbers: Timeâ€dependent centrality measures on coauthorship graphs. Journal of the Association for Information Science and Technology, 2016, 67, 2212-2222.	1.5	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

#	Article	IF	Citations
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.	0.4	0
113	Symmetry in Quantum Theory of Gravity. Symmetry, 2022, 14, 775.	1.1	0