William Bechtel

List of Publications by Year
in descending order

84 papers	4,649 citations	147801 31 h-index	118850 62 g-index
88 all docs	88 docs citations	88 times ranked	1572 citing authors

#	Article	IF	Citations
1	Control mechanisms: Explaining the integration and versatility of biological organisms. Adaptive Behavior, 2022, 30, 389-407.	1.9	10
2	Organization needs organization: Understanding integrated control in living organisms. Studies in History and Philosophy of Science Part A, 2022, 93, 96-106.	1.2	5
3	Figuring out what is happening: the discovery of two electrophysiological phenomena. History and Philosophy of the Life Sciences, 2022, 44, 20.	1.1	2
4	Grounding cognition: heterarchical control mechanisms in biology. Philosophical Transactions of the Royal Society B: Biological Sciences, 2021, 376, 20190751.	4.0	43
5	Model Organisms for Studying Decision-Making: A Phylogenetically Expanded Perspective. Philosophy of Science, 2021, 88, 1055-1066.	1.0	2
6	Active biological mechanisms: transforming energy into motion in molecular motors. SynthÃˆse, 2021, 199, 12705-12729.	1.1	9
7	Mechanism, autonomy and biological explanation. Biology and Philosophy, 2021, 36, 1.	1.4	24
8	Rethinking Psychiatric Disorders in Terms of Heterarchical Networks of Control Mechanisms. , 2020, , 24-46.		20
9	Hierarchy and levels: analysing networks to study mechanisms in molecular biology. Philosophical Transactions of the Royal Society B: Biological Sciences, 2020, 375, 20190320.	4.0	10
10	Data Journeys Beyond Databases in Systems Biology: Cytoscape and NDEx. , 2020, , 121-143.		3
11	Living machines. , 2020, , 79-96.		1
12	Resituating cognitive mechanisms within heterarchical networks controlling physiology and behavior. Theory and Psychology, 2019, 29, 620-639.	1.2	9
13	From parts to mechanisms: research heuristics for addressing heterogeneity in cancer genetics. History and Philosophy of the Life Sciences, 2019, 41, 27.	1.1	3
14	Analysing Network Models to Make Discoveries about Biological Mechanisms. British Journal for the Philosophy of Science, 2019, 70, 459-484.	2.3	22
15	Rethinking Causality in Biological and Neural Mechanisms: Constraints and Control. Minds and Machines, 2018, 28, 287-310.	4.8	46
16	Network analyses in systems biology: new strategies for dealing with biological complexity. SynthÃˆse, 2018, 195, 1751-1777.	1.1	56
17	Using Diagrams to Reason About Biological Mechanisms. Lecture Notes in Computer Science, 2018, , 264-279.	1.3	3
18	The Importance of Constraints and Control in Biological Mechanisms: Insights from Cancer Research. Philosophy of Science, 2018, 85, 573-593.	1.0	17

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19	Explicating Top-Down Causation Using Networks and Dynamics. Philosophy of Science, 2017, 84, 253-274.	1.0	45
20	Systems Biology: Negotiating Between Holism and Reductionism. History, Philosophy and Theory of the Life Sciences, 2017, , 25-36.	0.4	19
21	Sketching Biological Phenomena and Mechanisms. Topics in Cognitive Science, 2017, 9, 970-985.	1.9	7
22	Using the hierarchy of biological ontologies to identify mechanisms in flat networks. Biology and Philosophy, 2017, 32, 627-649.	1.4	9
23	Diagrammatic Reasoning. , 2017, , 605-618.		3
24	Investigating neural representations: the tale of place cells. SynthÃˆse, 2016, 193, 1287-1321.	1.1	47
25	Using computational models to discover and understand mechanisms. Studies in History and Philosophy of Science Part A, 2016, 56, 113-121.	1.2	10
26	Mechanists Must be Holists Too! Perspectives from Circadian Biology. Journal of the History of Biology, 2016, 49, 705-731.	0.5	10
27	Circadian Rhythms and Mood Disorders: Are the Phenomena and Mechanisms Causally Related?. Frontiers in Psychiatry, 2015, 6, 118.	2.6	61
28	Can mechanistic explanation be reconciled with scale-free constitution and dynamics?. Studies in History and Philosophy of Science Part C:Studies in History and Philosophy of Biological and Biomedical Sciences, 2015, 53, 84-93.	1.3	48
29	Generalizing Mechanistic Explanations Using Graph-Theoretic Representations. History, Philosophy and Theory of the Life Sciences, 2015, , 199-225.	0.4	12
30	Design sans adaptation. European Journal for Philosophy of Science, 2015, 5, 15-29.	1.1	21
31	The Nonâ€Redundant Contributions of Marr's Three Levels of Analysis for Explaining Informationâ€Processing Mechanisms. Topics in Cognitive Science, 2015, 7, 312-322.	1.9	43
32	Diagrams as Tools for Scientific Reasoning. Review of Philosophy and Psychology, 2015, 6, 117-131.	1.8	20
33	Scientistsâ€™ use of diagrams in developing mechanistic explanations. Pragmatics and Cognition, 2014, 22, 224-243.	0.4	14
34	From molecules to behavior and the clinic: Integration in chronobiology. Studies in History and Philosophy of Science Part C:Studies in History and Philosophy of Biological and Biomedical Sciences, 2013, 44, 493-502.	1.3	18
35	Thinking Dynamically About Biological Mechanisms: Networks of Coupled Oscillators. Foundations of Science, 2013, 18, 707-723.	0.7	61
36	Understanding Biological Mechanisms: Using Illustrations from Circadian Rhythm Research. History, Philosophy and Theory of the Life Sciences, 2013, , 487-510.	0.4	7

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37	Abstraction and the Organization of Mechanisms. Philosophy of Science, 2013, 80, 241-261.	1.0	171
38	Why Do Biologists Use So Many Diagrams?. Philosophy of Science, 2013, 80, 931-944.	1.0	37
39	Addressing the Vitalistâ€™s Challenge to Mechanistic Science: Dynamic Mechanistic Explanation. History, Philosophy and Theory of the Life Sciences, 2013, , 345-370.	0.4	5
40	From Molecules to Networks: Adoption of Systems Approaches in Circadian Rhythm Research. , 2013, , 211-223.		4
41	The Endogenously Active Brain: The Need for an Alternative Cognitive Architecture. Philosophia Scientiae, 2013, , 3-30.	0.1	7
42	Mechanism, Dynamic. , 2013, , 1204-1207.		0
43	Convergent Evolution. , 2013, , 500-500.		0
44	Mechanism, Conserved. , 2013, , 1201-1204.		1
45	Understanding endogenously active mechanisms: A scientific and philosophical challenge. European Journal for Philosophy of Science, 2012, 2, 233-248.	1.1	24
46	From Reactive to Endogenously Active Dynamical Conceptions of the Brain. Boston Studies in the Philosophy and History of Science, 2012, , 329-366.	0.9	7
47	Dynamical Models: An Alternative or Complement to Mechanistic Explanations?. Topics in Cognitive Science, 2011, 3, 438-444.	1.9	79
48	Complex Biological Mechanisms. , 2011, , 257-285.		41
49	Mechanism and Biological Explanation. Philosophy of Science, 2011, 78, 533-557.	1.0	157
50	HIT on the Psychometric Approach. Psychological Inquiry, 2011, 22, 108-114.	0.9	4
51	Relating Bayes to cognitive mechanisms. Behavioral and Brain Sciences, 2011, 34, 202-203.	0.7	2
52	The Downs and Ups of Mechanistic Research: Circadian Rhythm Research as an Exemplar. Erkenntnis, 2010, 73, 313-328.	0.9	30
53	Dynamic mechanistic explanation: computational modeling of circadian rhythms as an exemplar for cognitive science. Studies in History and Philosophy of Science Part A, 2010, 41, 321-333.	1.2	196
54	The cell: locus or object of inquiry?. Studies in History and Philosophy of Science Part C:Studies in History and Philosophy of Biological and Biomedical Sciences, 2010, 41, 172-182.	1.3	11

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55	How Can Philosophy Be a True Cognitive Science Discipline?. Topics in Cognitive Science, 2010, 2, 357-366.	1.9	13
56	Discovering Complexity. , 2010, , .		369
57	Looking down, around, and up: Mechanistic explanation in psychology. Philosophical Psychology, 2009, 22, 543-564.	0.9	101
58	Constructing a Philosophy of Science of Cognitive Science. Topics in Cognitive Science, 2009, 1, 548-569.	1.9	46
59	Generalization and Discovery by Assuming Conserved Mechanisms: Cross-Species Research on Circadian Oscillators. Philosophy of Science, 2009, 76, 762-773.	1.0	33
60	Mechanisms in Cognitive Psychology: What Are the Operations?. Philosophy of Science, 2008, 75, 983-994.	1.0	42
61	In Search of Mitochondrial Mechanisms: Interfield Excursions between Cell Biology and Biochemistry. Journal of the History of Biology, 2007, 40, 1-33.	0.5	14
62	Top-down Causation Without Top-down Causes. Biology and Philosophy, 2007, 22, 547-563.	1.4	298
63	THE CHALLENGE OF CHARACTERIZING OPERATIONS IN THE MECHANISMS UNDERLYING BEHAVIOR. Journal of the Experimental Analysis of Behavior, 2005, 84, 313-325.	1.1	30
64	Explanation: a mechanist alternative. Studies in History and Philosophy of Science Part C:Studies in History and Philosophy of Biological and Biomedical Sciences, 2005, 36, 421-441.	1.3	824
65	Aligning Multiple Research Techniques in Cognitive Neuroscience: Why Is It Important?. Philosophy of Science, 2002, 69, S48-S58.	1.0	37
66	Decomposing the Mind-Brain: A Long-Term Pursuit. Brain and Mind, 2002, 3, 229-242.	0.6	59
67	The Compatibility of Complex Systems and Reduction: A Case Analysis of Memory Research. Minds and Machines, 2001, 11, 483-502.	4.8	35
68	Multiple Realizability Revisited: Linking Cognitive and Neural States. Philosophy of Science, 1999, 66, 175-207.	1.0	315
69	Representations and Cognitive Explanations: Assessing the Dynamicist's Challenge in Cognitive Science. Cognitive Science, 1998, 22, 295-318.	1.7	152
70	Levels of description and explanation in cognitive science. Minds and Machines, 1994, 4, 1-25.	4.8	173
71	Natural deduction in connectionist systems. SynthÃˆse, 1994, 101, 433-463.	1.1	16
72	Integrating sciences by creating new disciplines: The case of cell biology. Biology and Philosophy, 1993, 8, 277-299.	1.4	52

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73	Multiple levels of inquiry in cognitive science. Psychological Research, 1990, 52, 271-281.	1.7	14
74	Beyond the exclusively propositional era. SynthÃˆse, 1990, 82, 223-253.	1.1	8
75	Connectionism and rules and representation systems: Are they compatible?. Philosophical Psychology, 1988, 1, 5-16.	0.9	31
76	Realism, Instrumentalism, and the Intentional Stance*. Cognitive Science, 1985, 9, 473-497.	1.7	62
77	ATTRIBUTING RESPONSIBILITY TO COMPUTER SYSTEMS,*. Metaphilosophy, 1985, 16, 296-306.	0.3	92
78	Reconceptualizations and Interfield Connections: The Discovery of the Link between Vitamins and Coenzymes. Philosophy of Science, 1984, 51, 265-292.	1.0	64
79	The evolution of our understanding of the cell: A study in the dynamics of scientific progress. Studies in History and Philosophy of Science Part A, 1984, 15, 309-356.	1.2	42
80	Two Common Errors in Explaining Biological and Psychological Phenomena. Philosophy of Science, 1982, 49, 549-574.	1.0	14
81	Identity, reduction, and conserved mechanisms: perspectives from circadian rhythm research. , 0, , 43-65.		7
82	Mental Mechanisms. , 0, , .		53
83	Discovering control mechanisms: The controllers of dynein. Philosophy of Science, 0, , 1-12.	1.0	0
84	Reductionistic Explanations of Cognitive Information Processing: Bottoming Out in Neurochemistry. Frontiers in Integrative Neuroscience, 0, 16, .	2.1	2