Stuart A Newman

List of Publications by Year in Descending Order

136 papers	4,247 citations	37 h-index	63 g-index
153 ext. papers	4,935 ext. citations	4.5 avg, IF	5.85 L-index

#	Paper	IF	Citations
136	Borreliella burgdorferi Antimicrobial-Tolerant Persistence in Lyme Disease and Posttreatment Lyme Disease Syndromes.. *MBio*, **2022**, e0344021	7.8	1
135	Self-Organization in Embryonic Development: Myth and Reality. *Evolutionary Biology*, **2022**, 195-222	0.3	1
134	Remembering Richard Lewontin (1929–2021). *Biological Theory*, **2021**, 16, 257	1.7	0
133	John Tyler Bonner (1920–2019) **2021**, 315-328		
132	Spatial waves and temporal oscillations in vertebrate limb development. *BioSystems*, **2021**, 208, 104502	1.9	0
131	Inherency **2021**, 121-132		1
130	Multiscale modeling of vertebrate limb development. *Wiley Interdisciplinary Reviews: Systems Biology and Medicine*, **2020**, 12, e1485	6.6	4
129	John Tyler Bonner (1920–2019) **2020**, 1-14		
128	The many roads to and from multicellularity. *Journal of Experimental Botany*, **2020**, 71, 3247-3253	7	7
127	Interplay of mesoscale physics and agent-like behaviors in the parallel evolution of aggregative multicellularity. *EvoDevo*, **2020**, 11, 21	3.2	5
126	The evolution of cell differentiation in animals: biomolecular condensates as amplification hubs of inherent cell functions **2020**, 253-279		
125	Cell differentiation: What have we learned in 50 years?. *Journal of Theoretical Biology*, **2020**, 485, 110031	2.3	11
124	Does resource availability help determine the evolutionary route to multicellularity?. *Evolution & Development*, **2019**, 21, 115-119	2.6	7
123	Synchronization of Hes1 oscillations coordinates and refines condensation formation and patterning of the avian limb skeleton. *Mechanisms of Development*, **2019**, 156, 41-54	1.7	10
122	Inherent forms and the evolution of evolution. *Journal of Experimental Zoology Part B: Molecular and Developmental Evolution*, **2019**, 332, 331-338	1.8	6
121	Inherency and homomorphy in the evolution of development. *Current Opinion in Genetics and Development*, **2019**, 57, 1-8	4.9	7
120	Inherency of Form and Function in Animal Development and Evolution. *Frontiers in Physiology*, **2019** , 10, 702	4.6	12

119	John Tyler Bonner: Remembering a scientific pioneer. *Journal of Experimental Zoology Part B: Molecular and Developmental Evolution*, **2019**, 332, 365-370	1.8	2
118	Polarity, planes of cell division, and the evolution of plant multicellularity. *Protoplasma*, **2019**, 256, 585-599	3.4	6
117	The vertebrate limb: An evolving complex of self-organizing systems. *Progress in Biophysics and Molecular Biology*, **2018**, 137, 12-24	4.7	19
116	Inherency **2018**, 1-12		6
115	Dynamical Patterning Modules, Biogeneric Materials, and the Evolution of Multicellular Plants. *Frontiers in Plant Science*, **2018**, 9, 871	6.2	19
114	The evolutionary origin of digit patterning. *EvoDevo*, **2017**, 8, 21	3.2	17
113	Sleeper cells: the stringent response and persistence in the Borreliella (Borrelia) burgdorferi enzootic cycle. *Environmental Microbiology*, **2017**, 19, 3846-3862	5.2	19
112	Perspectives on Integrating Genetic and Physical Explanations of Evolution and Development: An Introduction to the Symposium. *Integrative and Comparative Biology*, **2017**, 57, 1258-1268	2.8	7
111	'Biogeneric' developmental processes: drivers of major transitions in animal evolution. *Philosophical Transactions of the Royal Society B: Biological Sciences*, **2016**, 371,	5.8	30
110	Deep phylogenomics of a tandem-repeat galectin regulating appendicular skeletal pattern formation. *BMC Evolutionary Biology*, **2016**, 16, 162	3	12
109	Development and Evolution: The Physics Connection. *Boston Studies in the Philosophy and History of Science*, **2015**, 421-440	0.2	
108	Rethinking gene regulatory networks in light of alternative splicing, intrinsically disordered protein domains, and post-translational modifications. *Frontiers in Cell and Developmental Biology*, **2015**, 3, 8	5.7	71
107	Form and function remixed: developmental physiology in the evolution of vertebrate body plans. *Journal of Physiology*, **2014**, 592, 2403-12	3.9	10
106	Limb, tooth, beak: three modes of development and evolutionary innovation of form. *Journal of Biosciences*, **2014**, 39, 211-23	2.3	4
105	Introduction: e pluribus unum. *Journal of Biosciences*, **2014**, 39, 171-6	2.3	
104	Why are there eggs?. *Biochemical and Biophysical Research Communications*, **2014**, 450, 1225-30	3.4	3
103	Ernest Everett Just: Egg and embryo as excitable systems. *Journal of Experimental Zoology Part B: Molecular and Developmental Evolution*, **2014**, 322, 191-201	1.8	7
102	Structural divergence in vertebrate phylogeny of a duplicated prototype galectin. *Genome Biology and Evolution*, **2014**, 6, 2721-30	3.9	6

101	Modeling the morphodynamic galectin patterning network of the developing avian limb skeleton. *Journal of Theoretical Biology*, **2014**, 346, 86-108	2.3	27
100	Physico-genetics of morphogenesis: the hybrid nature of developmental mechanisms **2014**, 95-113		10
99	Physical Determinants in the Emergence and Inheritance of Multicellular Form. *Biological Theory*, **2013**, 8, 274-285	1.7	13
98	Mathematical modeling of vertebrate limb development. *Mathematical Biosciences*, **2013**, 243, 1-17	3.9	18
97	The origins of multicellular organisms. *Evolution & Development*, **2013**, 15, 41-52	2.6	101
96	The Demise of the Gene. *Capitalism, Nature, Socialism*, **2013**, 24, 62-72	1.3	3
95	Gene loss, thermogenesis, and the origin of birds. *Annals of the New York Academy of Sciences*, **2013** , 1289, 36-47	6.5	28
94	Reaction-diffusion systems and external morphogen gradients: the two-dimensional case, with an application to skeletal pattern formation. *Bulletin of Mathematical Biology*, **2012**, 74, 666-87	2.1	16
93	Synthetic Biology: Life as App Store. *Capitalism, Nature, Socialism*, **2012**, 23, 6-18	1.3	3
92	Physico-genetic determinants in the evolution of development. *Science*, **2012**, 338, 217-9	33.3	59
91	Dynamical patterning modules in plant development and evolution. *International Journal of Developmental Biology*, **2012**, 56, 661-74	1.9	28
90	Complexity in Organismal Evolution **2011**, 335-354		2
89	A regulatory network of two galectins mediates the earliest steps of avian limb skeletal morphogenesis. *BMC Developmental Biology*, **2011**, 11, 6	3.1	50
88	Animal egg as evolutionary innovation: a solution to the "embryonic hourglass" puzzle. *Journal of Experimental Zoology Part B: Molecular and Developmental Evolution*, **2011**, 316, 467-83	1.8	30
87	Thermogenesis, muscle hyperplasia, and the origin of birds. *BioEssays*, **2011**, 33, 653-6	4.1	12
86	Lamarck Dangerous Idea **2011**, 157-170		9
85	Bare bones pattern formation: a core regulatory network in varying geometries reproduces major features of vertebrate limb development and evolution. *PLoS ONE*, **2010**, 5, e10892	3.7	74
84	Morphological Evolution: Epigenetic Mechanisms **2010**,		4

83	The Transhumanism Bubble. *Capitalism, Nature, Socialism*, **2010**, 21, 29-42	1.3	2
82	Dynamical Patterning Modules **2010**, 281-306		11
81	Genetically Modified Foods and the Attack on Nature. *Capitalism, Nature, Socialism*, **2009**, 20, 22-31	1.3	4
80	Application of Discontinuous Galerkin Methods for Reaction-Diffusion Systems in Developmental Biology. *Journal of Scientific Computing*, **2009**, 40, 391-418	2.3	49
79	Snakes and ladders: the ups and downs of animal segmentation. *Journal of Biosciences*, **2009**, 34, 163-6	2.3	4
78	Phenotypic and developmental plasticity. *Journal of Biosciences*, **2009**, 34, 493-4	2.3	2
77	Cell state switching factors and dynamical patterning modules: complementary mediators of plasticity in development and evolution. *Journal of Biosciences*, **2009**, 34, 553-72	2.3	25
76	E.E. Just's "independent irritability" revisited: the activated egg as excitable soft matter. *Molecular Reproduction and Development*, **2009**, 76, 966-74	2.6	8
75	Dynamical patterning modules: a "pattern language" for development and evolution of multicellular form. *International Journal of Developmental Biology*, **2009**, 53, 693-705	1.9	120
74	Cell state switching factors and dynamical patterning modules: complementary mediators of plasticity in development and evolution. *Journal of Biosciences*, **2009**, 34, 553	2.3	
73	Limb bud and flank mesoderm have distinct "physical phenotypes" that may contribute to limb budding. *Developmental Biology*, **2008**, 321, 319-30	3.1	37
72	Multiscale models for vertebrate limb development. *Current Topics in Developmental Biology*, **2008**, 81, 311-40	5.3	41
71	Dynamical patterning modules: physico-genetic determinants of morphological development and evolution. *Physical Biology*, **2008**, 5, 015008	3	67
70	Evolution: The Public's Problem, and the Scientists *Capitalism, Nature, Socialism*, **2008**, 19, 98-106	1.3	2
69	The morphostatic limit for a model of skeletal pattern formation in the vertebrate limb. *Bulletin of Mathematical Biology*, **2008**, 70, 460-83	2.1	23
68	The brown adipocyte differentiation pathway in birds: an evolutionary road not taken. *BMC Biology*, **2008**, 6, 17	7.3	57
67	From Genes to Organisms Via the Cell A Problem-Solving Environment for Multicellular Development. *Computing in Science and Engineering*, **2007**, 9, 50-60	1.5	40
66	Activator-inhibitor dynamics of vertebrate limb pattern formation. *Birth Defects Research Part C: Embryo Today Reviews*, **2007**, 81, 305-19		57

65	The Turing mechanism in vertebrate limb patterning. *Nature Reviews Molecular Cell Biology*, **2007**, 8, 1-1	48.7	8
64	Genes and proteins: dogmas in decline. *Journal of Biosciences*, **2007**, 32, 1041-3	2.3	6
63	Patterns of mesenchymal condensation in a multiscale, discrete stochastic model. *PLoS Computational Biology*, **2007**, 3, e76	5	48
62	MULTISCALE AGENT-BASED SIMULATION FOR CHONDROGENIC PATTERN FORMATION IN VITRO. *Cybernetics and Systems*, **2007**, 38, 707-727	1.9	6
61	Agent-Based Model for Developmental Pattern Formation with Multiscale Dynamics and Varying Cell Geometry **2007**, 149-161		
60	The Developmental Genetic Toolkit and the Molecular Homology/Analogy Paradox. *Biological Theory*, **2006**, 1, 12-16	1.7	25
59	Cell elongation is key to in silico replication of in vitro vasculogenesis and subsequent remodeling. *Developmental Biology*, **2006**, 289, 44-54	3.1	184
58	Before programs: the physical origination of multicellular forms. *International Journal of Developmental Biology*, **2006**, 50, 289-99	1.9	113
57	Dialectical EvoDevo. *Biological Theory*, **2006**, 1, 339-340	1.7	
56	Genes and Form **2006**, 38-73		10
55	A framework for three-dimensional simulation of morphogenesis. *IEEE/ACM Transactions on Computational Biology and Bioinformatics*, **2005**, 2, 273-88	3	86
54	Origination and innovation in the vertebrate limb skeleton: an epigenetic perspective. *Journal of Experimental Zoology Part B: Molecular and Developmental Evolution*, **2005**, 304, 593-609	1.8	66
53	The innovation triad: an EvoDevo agenda. *Journal of Experimental Zoology Part B: Molecular and Developmental Evolution*, **2005**, 304, 487-503	1.8	125
52	The pre-Mendelian, pre-Darwinian world: shifting relations between genetic and epigenetic mechanisms in early multicellular evolution. *Journal of Biosciences*, **2005**, 30, 75-85	2.3	21
51	The cell: fundamental unit of developmental systems **2005**, 6-23		
50	Fertilization: generating one living dynamical system from two **2005**, 223-247		
49	Cell states: stability, oscillation, differentiation **2005**, 51-76		
48	Pattern formation: segmentation, axes, and asymmetry **2005**, 155-187		

47	Evolution of developmental mechanisms **2005**, 248-272		
46	Introduction: Biology and physics **2005**, 1-5		
45	Cleavage and blastula formation **2005**, 24-50		1
44	Cell adhesion, compartmentalization, and lumen formation **2005**, 77-98		
43	Epithelial morphogenesis: gastrulation and neurulation **2005**, 99-130		
42	Mesenchymal morphogenesis **2005**, 131-154		
41	Organogenesis **2005**, 188-222		
40	Stability ofn-dimensional patterns in a generalized Turing system: implications for biological pattern formation. *Nonlinearity*, **2005**, 18, 125-138	1.7	23
39	Complexity and Self-Organization in Biological Development and Evolution **2005**, 49-95		8
38	Biological Physics of the Developing Embryo **2005**,		182
37	Phase transformations in a model mesenchymal tissue. *Physical Biology*, **2004**, 1, 100-9	3	22
36	Dynamical mechanisms for skeletal pattern formation in the vertebrate limb. *Proceedings of the Royal Society B: Biological Sciences*, **2004**, 271, 1713-22	4.4	109
35	Interplay between activator-inhibitor coupling and cell-matrix adhesion in a cellular automaton model for chondrogenic patterning. *Developmental Biology*, **2004**, 271, 372-372	3.1	
34	Interplay between activator-inhibitor coupling and cell-matrix adhesion in a cellular automaton model for chondrogenic patterning. *Developmental Biology*, **2004**, 271, 372-87	3.1	57
33	BIOLOGICAL LATTICE GAS MODELS. *World Scientific Series on Nonlinear Science, Series B*, **2004**, 274-291	0.3	5
32	Mechanisms of pattern formation in development and evolution. *Development (Cambridge)*, **2003**, 130, 2027-37	6.6	202
31	cDNA cloning and spatiotemporal expression during avian embryogenesis of hnRNP A1, a regulatory factor in alternative splicing. *Gene Expression Patterns*, **2003**, 3, 285-95	1.5	2
30	Assembly of collagen matrices as a phase transition revealed by structural and rheologic studies. *Biophysical Journal*, **2003**, 84, 1272-80	2.9	111

29	The evolution of pattern in the vertebrate limb. *BioEssays*, **2002**, 24, 1077-8	4.1	1
28	Developmental mechanisms: putting genes in their place. *Journal of Biosciences*, **2002**, 27, 97-104	2.3	29
27	Stephen Jay Gould. *Journal of Biosciences*, **2002**, 27, 448-449	2.3	
26	Ectodermal FGFs induce perinodular inhibition of limb chondrogenesis in vitro and in vivo via FGF receptor 2. *Developmental Biology*, **2002**, 249, 270-82	3.1	76
25	Morphological Evolution: Epigenetic Mechanisms **2001**,		2
24	Phenotypic and dynamical transitions in model genetic networks. II. Application to the evolution of segmentation mechanisms. *Evolution & Development*, **2001**, 3, 95-103	2.6	86
23	Epigenetic Mechanisms of Character Origination **2001**, 559-579		11
22	Epigenetic mechanisms of character origination. *The Journal of Experimental Zoology*, **2000**, 288, 304-17		185
21	Generation, integration, autonomy: three steps in the evolution of homology. *Novartis Foundation Symposium*, **1999**, 222, 65-73; discussion 73-9		18
20	Human cloning. *Science*, **1998**, 282, 1824-5	33.3	
19	Cloning our way to "the next level". *Nature Biotechnology*, **1997**, 15, 488	44.5	
18	Nuclear localization of type II cAMP-dependent protein kinase during limb cartilage differentiation is associated with a novel developmentally regulated A-kinase anchoring protein. *Developmental Biology*, **1996**, 176, 51-61	3.1	22
17	Sticky fingers: Hox genes and cell adhesion in vertebrate limb development. *BioEssays*, **1996**, 18, 171-4	4.1	50
16	Different roles for fibronectin in the generation of fore and hind limb precartilage condensations. *Developmental Biology*, **1995**, 172, 519-30	3.1	69
15	Generic physical mechanisms of tissue morphogenesis: A common basis for development and evolution. *Journal of Evolutionary Biology*, **1994**, 7, 467-488	2.3	81
14	Morphogenetic differences between fore and hind limb precartilage mesenchyme: relation to mechanisms of skeletal pattern formation. *Developmental Biology*, **1994**, 162, 195-208	3.1	79
13	Phase transitions, interfaces, and morphogenesis in a network of protein fibers. *International Review of Cytology*, **1994**, 150, 139-48		18
12	Is segmentation generic?. *BioEssays*, **1993**, 15, 277-83	4.1	60

11	Generic physical mechanisms of morphogenesis and pattern formation as determinants in the evolution of multicellular organization. *Journal of Biosciences*, **1992**, 17, 193-215	2.3	9
10	Role of transforming growth factor-beta in chondrogenic pattern formation in the embryonic limb: stimulation of mesenchymal condensation and fibronectin gene expression by exogenenous TGF-beta and evidence for endogenous TGF-beta-like activity. *Developmental Biology*, **1991**, 145, 99-109	3.1	208
9	Wetting, percolation and morphogenesis in a model tissue system. *Journal of Theoretical Biology*, **1989**, 140, 417-30	2.3	27
8	Latex beads as probes of cell surface-extracellular matrix interactions during chondrogenesis: evidence for a role for amino-terminal heparin-binding domain of fibronectin. *Developmental Biology*, **1989**, 136, 87-96	3.1	64
7	The mechanism of precartilage mesenchymal condensation: a major role for interaction of the cell surface with the amino-terminal heparin-binding domain of fibronectin. *Developmental Biology*, **1989**, 136, 97-103	3.1	134
6	On the stationary state analysis of reaction-diffusion mechanisms for biological pattern formation. *Journal of Theoretical Biology*, **1988**, 134, 183-97	2.3	37
5	Nuclear events during early chondrogenesis: phosphorylation of the precartilage 35.5-kDa domain-specific chromatin protein and its regulation by cyclic AMP. *Developmental Biology*, **1987**, 120, 92-100	3.1	16
4	The Scientific Selling of rDNA. *Environment*, **1982**, 24, 21-57	2.8	1
3	Nonuniform distribution of fibronectin during avian limb development. *Developmental Biology*, **1982**, 90, 118-26	3.1	117
2	The distal boundary of myogenic primordia in chimeric avian limb buds and its relation to an accessible population of cartilage progenitor cells. *Developmental Biology*, **1981**, 84, 440-8	3.1	76
1	Tumour virus DNA: hazards no longer speculative. *Nature*, **1979**, 281, 176	50.4	