Richard Gordon

List of Publications by Year
in descending order

108 papers	6,030 citations	172386 29 h-index	74108 75 g-index
150 all docs	150 docs citations	150 times ranked	4028 citing authors

#	Article	IF	Citations
1	Data-Theoretical Synthesis of the Early Developmental Process. Neuroinformatics, 2022, 20, 7-23.	1.5	4
2	Employing newly developed plastic bubble wrap technique for biofuel production from diatoms cultivated in discarded plastic waste. Science of the Total Environment, 2022, 823, 153667.	3.9	15
3	Are we on the cusp of a new paradigm for biology? The illogic of molecular developmental biology versus Janus-faced control of embryogenesis via differentiation waves. BioSystems, 2021, 203, 104367.	0.9	5
4	A short tutorial on the Janus-faced logic of differentiation waves and differentiation trees and their evolution. BioSystems, 2021, 205, 104414.	0.9	7
5	LUCA to LECA, the Lucacene: A model for the gigayear delay from the first prokaryote to eukaryogenesis. BioSystems, 2021, 205, 104415.	0.9	9
6	Editorial: Symbiogenesis and progressive evolution. BioSystems, 2021, 206, 104429.	0.9	1
7	Editorial: Waves in fertilization, cell division and embryogenesis. BioSystems, 2021, 210, 104560.	0.9	0
8	French flag gradients and Turing reaction-diffusion versus differentiation waves as models of morphogenesis. BioSystems, 2020, 196, 104169.	0.9	10
9	Shuffling type of biological evolution based on horizontal gene transfer and the biosphere gene pool hypothesis. BioSystems, 2020, 193-194, 104131.	0.9	5
10	The differentiation code. BioSystems, 2019, 184, 104013.	0.9	14
11	Morphological and isotopic changes of heterocystous cyanobacteria in response to N_2 partial pressure. Geobiology, 2019, 17, 60-75.	1.1	11
12	Emergence of Polygonal Shapes in Oil Droplets and Living Cells: The Potential Role of Tensegrity in the Origin of Life. , 2018, , 427-490.		11
13	Computational, theoretical, and experimental approaches to morphogenesis. BioSystems, 2018, 173, 1-3.	0.9	3
14	Cell differentiation processes as spatial networks: Identifying four-dimensional structure in embryogenesis. BioSystems, 2018, 173, 235-246.	0.9	8
15	The publications of embryologist Lev V. Beloussov. BioSystems, 2018, 173, 4-6.	0.9	2
16	Morphogenetic processes as data: Quantitative structure in the Drosophila eye imaginal disc. BioSystems, 2018, 173, 256-265.	0.9	2
17	Acquisition and reconstruction of 4D surfaces of axolotl embryos with the flipping stage robotic microscope. BioSystems, 2018, 173, 214-220.	0.9	5
18	Two ways for interpreting Driesch's law: "Positional information" and morphogenetic fields. BioSystems, 2018, 173, 7-9.	0.9	6

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19	Cybernetic Embryo. , 2017, , 111-164.		3
20	Morphozoic, Cellular Automata with Nested Neighborhoods as a Metamorphic Representation of Morphogenesis. Advances in Computational Intelligence and Robotics Book Series, 2017, , 44-80.	0.4	3
21	Quantifying Mosaic Development: Towards an Evo-Devo Postmodern Synthesis of the Evolution of Development via Differentiation Trees of Embryos. Biology, 2016, 5, 33.	1.3	8
22	Metabolic engineering of TiO$_2$ nanoparticles in Nitzschia palea to form diatom nanotubes: an ingredient for solar cells to produce electricity and biofuel. RSC Advances, 2016, 6, 97276-97284.	1.7	41
23	Fabrication of resonating microfluidic chamber for biofuel production in diatoms (Resonating device) Tj ETQq1 1 0.784314 rgBT /Overl		5
24	The organelle of differentiation in embryos: the cell state splitter. Theoretical Biology and Medical Modelling, 2016, 13, 11.	2.1	26
25	Diatom Milking: A Review and New Approaches. Marine Drugs, 2015, 13, 2629-2665.	2.2	106
26	CT brush and CancerZap!: two video games for computed tomography dose minimization. Theoretical Biology and Medical Modelling, 2015, 12, 7.	2.1	7
27	Reverse engineering the mechanical and molecular pathways in stem cell morphogenesis. Journal of Tissue Engineering and Regenerative Medicine, 2015, 9, 169-173.	1.3	2
28	Toy models for macroevolutionary patterns and trends. BioSystems, 2014, 123, 54-66.	0.9	6
29	Discovery of a Diatom That Oozes Oil. Advanced Science Letters, 2014, 20, 1256-1267.	0.2	35
30	Conception and development of the Second Life® Embryo Physics Course. Systems Biology in Reproductive Medicine, 2013, 59, 131-139.	1.0	6
31	The Vanishing Physician Scientist: A Critical Review and Analysis. Accountability in Research, 2012, 19, 89-113.	1.6	32
32	A mean field Ising model for cortical rotation in amphibian one-cell stage embryos. BioSystems, 2012, 109, 381-389.	0.9	18
33	Simulation of the effects of microtubules in the cortical rotation of amphibian embryos in normal and zero gravity. BioSystems, 2012, 109, 444-449.	0.9	6
34	A cell state splitter and differentiation wave working-model for embryonic stem cell development and somatic cell epigenetic reprogramming. BioSystems, 2012, 109, 390-396.	0.9	14
35	Editorial. BioSystems, 2012, 109, 241-242.	0.9	6
36	Coupling of Growth, Differentiation and Morphogenesis: An Integrated Approach to Design in Embryogenesis. Cellular Origin and Life in Extreme Habitats, 2012, , 385-428.	0.3	8

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37	A 1st generation scatter CT algorithm for electron density breast imaging which accounts for bound incoherent, coherent and multiple scatter: A Monte Carlo study. Journal of X-Ray Science and Technology, 2011, 19, 477-499.	0.7	6
38	Possible Buckling Phenomena in Diatom Morphogenesis. Cellular Origin and Life in Extreme Habitats, 2011, , 245-271.	0.3	14
39	Bioinspiration for Tribological Systems on the Micro- and Nanoscale:Dynamic, Mechanic, Surface and Structure Related Functions. Micro and Nanosystems, 2011, 3, 271-276.	0.3	5
40	Triggered, Nanostructured Biodegradables (TNBs) for Surgical Implants. Micro and Nanosystems, 2011, 3, 284-289.	0.3	4
41	Google Embryo for Building Quantitative Understanding of an Embryo As It Builds Itself. II. Progress Toward an Embryo Surface Microscope. Biological Theory, 2009, 4, 396-412.	0.8	9
42	Google Embryo for Building Quantitative Understanding of an Embryo As It Builds Itself. I. Lessons from Ganymede and Google Earth. Biological Theory, 2009, 4, 390-395.	0.8	9
43	The Glass Menagerie: diatoms for novel applications in nanotechnology. Trends in Biotechnology, 2009, 27, 116-127.	4.9	363
44	The OptAIDS project: towards global halting of HIV/AIDS. BMC Public Health, 2009, 9, S1.	1.2	44
45	Halting HIV/AIDS with avatars and havatars: a virtual world approach to modelling epidemics. BMC Public Health, 2009, 9, S13.	1.2	12
46	Milking Diatoms for Sustainable Energy: Biochemical Engineering versus Gasoline-Secreting Diatom Solar Panels. Industrial & Engineering Chemistry Research, 2009, 48, 8769-8788.	1.8	186
47	Indeed: Cost of the NSERC Science Grant Peer Review System Exceeds the Cost of Giving Every Qualified Researcher a Baseline Grant. Accountability in Research, 2009, 16, 232-233.	1.6	6
48	Cost of the NSERC Science Grant Peer Review System Exceeds the Cost of Giving Every Qualified Researcher a Baseline Grant. Accountability in Research, 2009, 16, 13-40.	1.6	33
49	Rayleigh instability of the inverted one-cell amphibian embryo. Physical Biology, 2008, 5, 015006.	0.8	14
50	Hoyle's Tornado Origin of Artificial Life: A Computer Programming Challenge. , 2008, , 354-367.		4
51	Over-Confident Anti-Creationists versus Over-Confident Creationists. , 2008, , 216-247.		1
52	Design and Simulation of a Microtweezers using a Controlled Displacement Comb Drive. , 2006, , .		6
53	Preface. Developmental Morphodynamics - bridging the gap between the genome and embryo physics. International Journal of Developmental Biology, 2006, 50, 79-80.	0.3	17
54	A hypothesis linking low folate intake to neural tube defects due to failure of post-translation methylations of the cytoskeleton. International Journal of Developmental Biology, 2006, 50, 135-141.	0.3	31

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55	Mechanics in embryogenesis and embryonics: prime mover or epiphenomenon?. International Journal of Developmental Biology, 2006, 50, 245-253.	0.3	32
56	A review of Stuart Pivars book Lifecode: The Theory of Biological Self Organization. International Journal of Developmental Biology, 2006, 50, 367-368.	0.3	2
57	A Special Issue on Diatom Nanotechnology. Journal of Nanoscience and Nanotechnology, 2005, 5, 1-4.	0.9	48
58	Potential Roles for Diatomists in Nanotechnology. Journal of Nanoscience and Nanotechnology, 2005, 5, 35-40.	0.9	29
59	Density Estimation for Positron Emission Tomography. Technology in Cancer Research and Treatment, 2005, 4, 131-141.	0.8	6
60	A Guide to the Diatom Literature for Diatom Nanotechnologists. Journal of Nanoscience and Nanotechnology, 2005, 5, 175-178.	0.9	4
61	Quantitative Target Sizes for Breast Tumor Detection Prior to Metastasis: A Prerequisite to Rational Design of 4D Scanners for Breast Screening. Technology in Cancer Research and Treatment, 2005, 4, 11-21.	0.8	9
62	Experiments with the nonlinear and chaotic behaviour of the multiplicative algebraic reconstruction technique (MART) algorithm for computed tomography. Physics in Medicine and Biology, 2004, 49, 1455-1474.	1.6	32
63	Star Trek replicators and diatom nanotechnology. Trends in Biotechnology, 2003, 21, 325-328.	4.9	111
64	Could Condoms Stop the AIDS Epidemic?. Journal of Theoretical Medicine, 2003, 5, 171-181.	0.5	29
65	Reverse engineering the embryo: a graduate course in developmental biology for engineering students at the University of Manitoba, Canada. International Journal of Developmental Biology, 2003, 47, 183-7.	0.3	7
66	How to Organize Science Funding: The New Canadian Institutes for Health Research, an Opportunity to Increase Innovation. Canadian Public Policy/ Analyse De Politiques, 2001, 27, 95.	0.8	5
67	Probe with chest shielding for improved breast MRI. Magnetic Resonance in Medicine, 2000, 43, 917-920.	1.9	17
68	Infiltrating breast carcinoma smaller than 0.5 centimeters. , 1999, 86, 2186-2187.		2
69	Smaller grants for more Canadians?. Nature, 1997, 386, 212-212.	13.7	0
70	Differentiation trees, a junk DNA molecular clock, and the evolution of neoteny in salamanders. Journal of Evolutionary Biology, 1995, 8, 339-354.	0.8	33
71	Furrowing surface contraction wave coincident with primary neural induction in amphibian embryos. Journal of Morphology, 1994, 219, 131-142.	0.6	39
72	Evolution escapes rugged fitness landscapes by gene or genome doubling: The blessing of higher dimensionality. Computers & Chemistry, 1994, 18, 325-331.	1.2	11

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73	Surface contraction and expansion waves correlated with differentiation in axolotl embryos—I. Prolegomenon and differentiation during invagination through the blastopore, as shown by the fate map. Computers & Chemistry, 1994, 18, 333-345.	1.2	23
74	Appendix: Dialogue on Embryonic Induction and Differentiation Waves. International Review of Cytology, 1994, 150, 373-420.	6.2	25
75	FATAL SEXUALLY TRANSMITTED DISEASES (FSTDs), SUCH AS AIDS, SELECT FOR THE EVOLUTION OF MONOGAMY AND PROVIDE A MODEL FOR BACKGROUND EXTINCTION. Journal of Biological Systems, 1993, 01, 425-450.	0.5	3
76	Grant agencies versus the search for truth. Accountability in Research, 1993, 2, 297-301.	1.6	7
77	CELL MOTILITY RHYTHMS IN <i>BACILLARIA PAXILLIFER</i>. Diatom Research, 1992, 7, 221-225.	0.5	21
78	CELL ATTACHMENT IN THE MOTILE COLONIAL DIATOM BACILLARIA PAXILLIFER. Diatom Research, 1992, 7, 215-220.	0.5	14
79	ON SQUARE HOLES IN PENNATE DIATOMS. Diatom Research, 1990, 5, 409-413.	0.5	14
80	A Critical Review of the Physics and Statistics of Condoms and their Role in Individual versus Societal Survival of the AIDS Epidemic. Journal of Sex and Marital Therapy, 1989, 15, 5-30.	1.0	16
81	The cytoskeletal mechanics of brain morphogenesis. Cell Biophysics, 1987, 11, 177-238.	0.4	60
82	A retaliatory role for algal projectiles, with implications for the mechanochemistry of diatom gliding motility. Journal of Theoretical Biology, 1987, 126, 419-436.	0.8	47
83	Enhancement of Mammographic Features by Optimal Adaptive Neighborhood Image Processing. IEEE Transactions on Medical Imaging, 1986, 5, 8-15.	5.4	162
84	Reply to "Comments on Geometric Deconvolution: A Meta-Algorithm for Limited View Computed Tomography"2. IEEE Transactions on Biomedical Engineering, 1985, BME-32, 242-244.	2.5	8
85	Quantitative and Qualitative Evaluation of Geometric Deconvolution of Distortion in Limited-View Computed Tomography. IEEE Transactions on Biomedical Engineering, 1985, BME-32, 330-335.	2.5	8
86	Algorithms for limited-view computed tomography: an annotated bibliography and a challenge. Applied Optics, 1985, 24, 4000.	2.1	118
87	Image restoration by Wiener deconvolution in limited-view computed tomography. Applied Optics, 1985, 24, 4013.	2.1	37
88	Combining multiple-imaging techniques for in vivo pathology: A quantitative method for coupling new imaging modalities. Medical Physics, 1984, 11, 79-80.	1.6	5
89	Nevoscopy: Three-Dimensional Computed Tomography of Nevi and Melanomas in Situ by Transillumination. IEEE Transactions on Medical Imaging, 1984, 3, 54-61.	5.4	34
90	Geometric Deconvolution: A Meta-Algorithm for Limited View Computed Tomography. IEEE Transactions on Biomedical Engineering, 1983, BME-30, 806-810.	2.5	21

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91	Computed tomography from ordinary radiographs for teleradiology. Medical Physics, 1983, 10, 687-690.	1.6	11
92	<title>Rotating Microscope For LANDSAT Photography Of Vertebrate Embryos</title>. Proceedings of SPIE, 1983, , .	0.8	4
93	Streak Preventive Image Reconstruction with ART and Adaptive Filtering. IEEE Transactions on Medical Imaging, 1982, 1, 173-178.	5.4	29
94	A new method for the immobilisation of teleost embryos for time-lapse studies of development. The Journal of Experimental Zoology, 1982, 220, 147-151.	1.4	10
95	Epithelia as bubble rafts: A new method for analysis of cell shape and intercellular adhesion in embryonic and other epithelia. Journal of Theoretical Biology, 1982, 97, 625-639.	0.8	27
96	Reconstruction from Projections in Medicine and Astronomy. International Astronomical Union Colloquium, 1979, 49, 317-325.	0.1	0
97	The Shaping of Tissues in Embryos. Scientific American, 1978, 238, 106-113.	1.0	48
98	Dose Reduction in Computerized Tomography. Investigative Radiology, 1976, 11, 508-517.	3.5	11
99	Nature and origin of patterns of changes in cell shape in embryos. Journal of Supramolecular Structure, 1976, 5, 371-380.	2.3	14
100	Changes in the shape of the developing vertebrate nervous system analyzed experimentally, mathematically and by computer simulation. The Journal of Experimental Zoology, 1976, 197, 191-246.	1.4	279
101	Three-Dimensional Reconstruction from Projections: A Review of Algorithms. International Review of Cytology, 1974, 38, 111-151.	6.2	267
102	A tutorial on art (algebraic reconstruction techniques). IEEE Transactions on Nuclear Science, 1974, 21, 78-93.	1.2	436
103	A rheological mechanism sufficient to explain the kinetics of cell sorting. Journal of Theoretical Biology, 1972, 37, 43-73.	0.8	115
104	ART is science being a defense of algebraic reconstruction techniques for three-dimensional electron microscopy. Journal of Theoretical Biology, 1971, 32, 205-216.	0.8	49
105	Algebraic Reconstruction Techniques (ART) for three-dimensional electron microscopy and X-ray photography. Journal of Theoretical Biology, 1970, 29, 471-481.	0.8	2,243
106	ART and the ribosome: A preliminary report on the three-dimensional structure of individual ribosomes determined by an algebraic reconstruction technique. Journal of Theoretical Biology, 1970, 29, 483-487.	0.8	56
107	On Monte Carlo algebra. Journal of Applied Probability, 1970, 7, 373-387.	0.4	2
108	On Monte Carlo algebra. Journal of Applied Probability, 1970, 7, 373-387.	0.4	10