

# Richard Gordon

## List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/9561038/publications.pdf>

Version: 2024-02-01

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	Algebraic Reconstruction Techniques (ART) for three-dimensional electron microscopy and X-ray photography. <i>Journal of Theoretical Biology</i> , 1970, 29, 471-481.	0.8	2,243
2	A tutorial on art (algebraic reconstruction techniques). <i>IEEE Transactions on Nuclear Science</i> , 1974, 21, 78-93.	1.2	436
3	The Glass Menagerie: diatoms for novel applications in nanotechnology. <i>Trends in Biotechnology</i> , 2009, 27, 116-127.	4.9	363
4	Changes in the shape of the developing vertebrate nervous system analyzed experimentally, mathematically and by computer simulation. <i>The Journal of Experimental Zoology</i> , 1976, 197, 191-246.	1.4	279
5	Three-Dimensional Reconstruction from Projections: A Review of Algorithms. <i>International Review of Cytology</i> , 1974, 38, 111-151.	6.2	267
6	Milking Diatoms for Sustainable Energy: Biochemical Engineering versus Gasoline-Secreting Diatom Solar Panels. <i>Industrial &amp; Engineering Chemistry Research</i> , 2009, 48, 8769-8788.	1.8	186
7	Enhancement of Mammographic Features by Optimal Adaptive Neighborhood Image Processing. <i>IEEE Transactions on Medical Imaging</i> , 1986, 5, 8-15.	5.4	162
8	Algorithms for limited-view computed tomography: an annotated bibliography and a challenge. <i>Applied Optics</i> , 1985, 24, 4000.	2.1	118
9	A rheological mechanism sufficient to explain the kinetics of cell sorting. <i>Journal of Theoretical Biology</i> , 1972, 37, 43-73.	0.8	115
10	Star Trek replicators and diatom nanotechnology. <i>Trends in Biotechnology</i> , 2003, 21, 325-328.	4.9	111
11	Diatom Milking: A Review and New Approaches. <i>Marine Drugs</i> , 2015, 13, 2629-2665.	2.2	106
12	The cytoskeletal mechanics of brain morphogenesis. <i>Cell Biophysics</i> , 1987, 11, 177-238.	0.4	60
13	ART and the ribosome: A preliminary report on the three-dimensional structure of individual ribosomes determined by an algebraic reconstruction technique. <i>Journal of Theoretical Biology</i> , 1970, 29, 483-487.	0.8	56
14	ART is science being a defense of algebraic reconstruction techniques for three-dimensional electron microscopy. <i>Journal of Theoretical Biology</i> , 1971, 32, 205-216.	0.8	49
15	The Shaping of Tissues in Embryos. <i>Scientific American</i> , 1978, 238, 106-113.	1.0	48
16	A Special Issue on Diatom Nanotechnology. <i>Journal of Nanoscience and Nanotechnology</i> , 2005, 5, 1-4.	0.9	48
17	A retaliatory role for algal projectiles, with implications for the mechanochemistry of diatom gliding motility. <i>Journal of Theoretical Biology</i> , 1987, 126, 419-436.	0.8	47
18	The OptAIDS project: towards global halting of HIV/AIDS. <i>BMC Public Health</i> , 2009, 9, S1.	1.2	44

#	ARTICLE	IF	CITATIONS
19	Metabolic engineering of TiO <sub>2</sub> nanoparticles in <i>Nitzschia palea</i> to form diatom nanotubes: an ingredient for solar cells to produce electricity and biofuel. <i>RSC Advances</i> , 2016, 6, 97276-97284.	1.7	41
20	Furrowing surface contraction wave coincident with primary neural induction in amphibian embryos. <i>Journal of Morphology</i> , 1994, 219, 131-142.	0.6	39
21	Image restoration by Wiener deconvolution in limited-view computed tomography. <i>Applied Optics</i> , 1985, 24, 4013.	2.1	37
22	Discovery of a Diatom That Oozes Oil. <i>Advanced Science Letters</i> , 2014, 20, 1256-1267.	0.2	35
23	Nevoscopy: Three-Dimensional Computed Tomography of Nevi and Melanomas in Situ by Transillumination. <i>IEEE Transactions on Medical Imaging</i> , 1984, 3, 54-61.	5.4	34
24	Differentiation trees, a junk DNA molecular clock, and the evolution of neoteny in salamanders. <i>Journal of Evolutionary Biology</i> , 1995, 8, 339-354.	0.8	33
25	Cost of the NSERC Science Grant Peer Review System Exceeds the Cost of Giving Every Qualified Researcher a Baseline Grant. <i>Accountability in Research</i> , 2009, 16, 13-40.	1.6	33
26	Experiments with the nonlinear and chaotic behaviour of the multiplicative algebraic reconstruction technique (MART) algorithm for computed tomography. <i>Physics in Medicine and Biology</i> , 2004, 49, 1455-1474.	1.6	32
27	Mechanics in embryogenesis and embryonics: prime mover or epiphenomenon?. <i>International Journal of Developmental Biology</i> , 2006, 50, 245-253.	0.3	32
28	The Vanishing Physician Scientist: A Critical Review and Analysis. <i>Accountability in Research</i> , 2012, 19, 89-113.	1.6	32
29	A hypothesis linking low folate intake to neural tube defects due to failure of post-translation methylations of the cytoskeleton. <i>International Journal of Developmental Biology</i> , 2006, 50, 135-141.	0.3	31
30	Streak Preventive Image Reconstruction with ART and Adaptive Filtering. <i>IEEE Transactions on Medical Imaging</i> , 1982, 1, 173-178.	5.4	29
31	Could Condoms Stop the AIDS Epidemic?. <i>Journal of Theoretical Medicine</i> , 2003, 5, 171-181.	0.5	29
32	Potential Roles for Diatomists in Nanotechnology. <i>Journal of Nanoscience and Nanotechnology</i> , 2005, 5, 35-40.	0.9	29
33	Epithelia as bubble rafts: A new method for analysis of cell shape and intercellular adhesion in embryonic and other epithelia. <i>Journal of Theoretical Biology</i> , 1982, 97, 625-639.	0.8	27
34	The organelle of differentiation in embryos: the cell state splitter. <i>Theoretical Biology and Medical Modelling</i> , 2016, 13, 11.	2.1	26
35	Appendix: Dialogue on Embryonic Induction and Differentiation Waves. <i>International Review of Cytology</i> , 1994, 150, 373-420.	6.2	25
36	Surface contraction and expansion waves correlated with differentiation in axolotl embryos. Prolegomenon and differentiation during invagination through the blastopore, as shown by the fate map. <i>Computers &amp; Chemistry</i> , 1994, 18, 333-345.	1.2	23

#	ARTICLE	IF	CITATIONS
37	Geometric Deconvolution: A Meta-Algorithm for Limited View Computed Tomography. IEEE Transactions on Biomedical Engineering, 1983, BME-30, 806-810.	2.5	21
38	CELL MOTILITY RHYTHMS IN <i>BACILLARIA PAXILLIFER</i> . Diatom Research, 1992, 7, 221-225.	0.5	21
39	A mean field Ising model for cortical rotation in amphibian one-cell stage embryos. BioSystems, 2012, 109, 381-389.	0.9	18
40	Probe with chest shielding for improved breast MRI. Magnetic Resonance in Medicine, 2000, 43, 917-920.	1.9	17
41	Preface. Developmental Morphodynamics - bridging the gap between the genome and embryo physics. International Journal of Developmental Biology, 2006, 50, 79-80.	0.3	17
42	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
43	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
44	Nature and origin of patterns of changes in cell shape in embryos. Journal of Supramolecular Structure, 1976, 5, 371-380.	2.3	14
45	ON SQUARE HOLES IN PENNATE DIATOMS. Diatom Research, 1990, 5, 409-413.	0.5	14
46	CELL ATTACHMENT IN THE MOTILE COLONIAL DIATOM <i>BACILLARIA PAXILLIFER</i> . Diatom Research, 1992, 7, 215-220.	0.5	14
47	Rayleigh instability of the inverted one-cell amphibian embryo. Physical Biology, 2008, 5, 015006.	0.8	14
48	Possible Buckling Phenomena in Diatom Morphogenesis. Cellular Origin and Life in Extreme Habitats, 2011, , 245-271.	0.3	14
49	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
50	The differentiation code. BioSystems, 2019, 184, 104013.	0.9	14
51	Halting HIV/AIDS with avatars and havatars: a virtual world approach to modelling epidemics. BMC Public Health, 2009, 9, S13.	1.2	12
52	Dose Reduction in Computerized Tomography. Investigative Radiology, 1976, 11, 508-517.	3.5	11
53	Computed tomography from ordinary radiographs for teleradiology. Medical Physics, 1983, 10, 687-690.	1.6	11
54	Evolution escapes rugged fitness landscapes by gene or genome doubling: The blessing of higher dimensionality. Computers & Chemistry, 1994, 18, 325-331.	1.2	11

#	ARTICLE	IF	CITATIONS
55	Emergence of Polygonal Shapes in Oil Droplets and Living Cells: The Potential Role of Tensegrity in the Origin of Life. , 2018, , 427-490.		11
56	Morphological and isotopic changes of heterocystous cyanobacteria in response to N <sub>2</sub> partial pressure. Geobiology, 2019, 17, 60-75.	1.1	11
57	On Monte Carlo algebra. Journal of Applied Probability, 1970, 7, 373-387.	0.4	10
58	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
59	French flag gradients and Turing reaction-diffusion versus differentiation waves as models of morphogenesis. BioSystems, 2020, 196, 104169.	0.9	10
60	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
61	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
62	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
63	LUCA to LECA, the Lucacene: A model for the gigayear delay from the first prokaryote to eukaryogenesis. BioSystems, 2021, 205, 104415.	0.9	9
64	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
65	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
66	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
67	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
68	Cell differentiation processes as spatial networks: Identifying four-dimensional structure in embryogenesis. BioSystems, 2018, 173, 235-246.	0.9	8
69	Grant agencies versus the search for truth. Accountability in Research, 1993, 2, 297-301.	1.6	7
70	CT brush and CancerZap!: two video games for computed tomography dose minimization. Theoretical Biology and Medical Modelling, 2015, 12, 7.	2.1	7
71	A short tutorial on the Janus-faced logic of differentiation waves and differentiation trees and their evolution. BioSystems, 2021, 205, 104414.	0.9	7
72	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

#	ARTICLE	IF	CITATIONS
73	Density Estimation for Positron Emission Tomography. Technology in Cancer Research and Treatment, 2005, 4, 131-141.	0.8	6
74	Design and Simulation of a Microtweezers using a Controlled Displacement Comb Drive. , 2006, , .		6
75	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
76	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
77	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
78	Editorial. BioSystems, 2012, 109, 241-242.	0.9	6
79	Conception and development of the Second Life® Embryo Physics Course. Systems Biology in Reproductive Medicine, 2013, 59, 131-139.	1.0	6
80	Toy models for macroevolutionary patterns and trends. BioSystems, 2014, 123, 54-66.	0.9	6
81	Two ways for interpreting Driesch's law: "Positional information" and morphogenetic fields. BioSystems, 2018, 173, 7-9.	0.9	6
82	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
83	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
84	Fabrication of resonating microfluidic chamber for biofuel production in diatoms (Resonating device) Tj ETQq0 0 0 rgBT /Overlock 10 Tf		
85	Acquisition and reconstruction of 4D surfaces of axolotl embryos with the flipping stage robotic microscope. BioSystems, 2018, 173, 214-220.	0.9	5
86	Shuffling type of biological evolution based on horizontal gene transfer and the biosphere gene pool hypothesis. BioSystems, 2020, 193-194, 104131.	0.9	5
87	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
88	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
89	<title>Rotating Microscope For LANDSAT Photography Of Vertebrate Embryos</title>. Proceedings of SPIE, 1983, , .	0.8	4
90	A Guide to the Diatom Literature for Diatom Nanotechnologists. Journal of Nanoscience and Nanotechnology, 2005, 5, 175-178.	0.9	4

#	ARTICLE	IF	CITATIONS
91	Hoyle's Tornado Origin of Artificial Life: A Computer Programming Challenge. , 2008, , 354-367.		4
92	Data-Theoretical Synthesis of the Early Developmental Process. Neuroinformatics, 2022, 20, 7-23.	1.5	4
93	Triggered, Nanostructured Biodegradables (TNBs) for Surgical Implants. Micro and Nanosystems, 2011, 3, 284-289.	0.3	4
94	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
95	Cybernetic Embryo. , 2017, , 111-164.		3
96	Computational, theoretical, and experimental approaches to morphogenesis. BioSystems, 2018, 173, 1-3.	0.9	3
97	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
98	On Monte Carlo algebra. Journal of Applied Probability, 1970, 7, 373-387.	0.4	2
99	Infiltrating breast carcinoma smaller than 0.5 centimeters. , 1999, 86, 2186-2187.		2
100	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
101	The publications of embryologist Lev V. Belousov. BioSystems, 2018, 173, 4-6.	0.9	2
102	Morphogenetic processes as data: Quantitative structure in the Drosophila eye imaginal disc. BioSystems, 2018, 173, 256-265.	0.9	2
103	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
104	Over-Confident Anti-Creationists versus Over-Confident Creationists. , 2008, , 216-247.		1
105	Editorial: Symbiogenesis and progressive evolution. BioSystems, 2021, 206, 104429.	0.9	1
106	Reconstruction from Projections in Medicine and Astronomy. International Astronomical Union Colloquium, 1979, 49, 317-325.	0.1	0
107	Smaller grants for more Canadians?. Nature, 1997, 386, 212-212.	13.7	0
108	Editorial: Waves in fertilization, cell division and embryogenesis. BioSystems, 2021, 210, 104560.	0.9	0