Lance A Davidson

List of Publications by Year
in descending order

Source: https://exaly.com/author-pdf/3811038/publications.pdf

Version: 2024-02-01

97 papers	4,352 citations	136950 32 h-index	123424 61 g-index
130 all docs	130 docs citations	130 times ranked	3877 citing authors

#	Article	IF	Citations
1	Mechanisms of convergence and extension by cell intercalation. Philosophical Transactions of the Royal Society B: Biological Sciences, 2000, 355, 897-922.	4.0	446
2	How we are shaped: The biomechanics of gastrulation. Differentiation, 2003, 71, 171-205.	1.9	407
3	Actomyosin stiffens the vertebrate embryo during crucial stages of elongation and neural tube closure. Development (Cambridge), 2009, 136, 677-688.	2.5	193
4	Integrin Î±5Î²1 and Fibronectin Regulate Polarized Cell Protrusions Required for Xenopus Convergence and Extension. Current Biology, 2006, 16, 833-844.	3.9	190
5	The interplay between cell signalling and mechanics in developmental processes. Nature Reviews Genetics, 2013, 14, 733-744.	16.3	178
6	Mesendoderm Extension and Mantle Closure in Xenopus laevis Gastrulation: Combined Roles for Integrin Î±5Î²1, Fibronectin, and Tissue Geometry. Developmental Biology, 2002, 242, 109-129.	2.0	150
7	Punctuated actin contractions during convergent extension and their permissive regulation by the non-canonical Wnt-signaling pathway. Journal of Cell Science, 2011, 124, 635-646.	2.0	130
8	Actomyosin meshwork mechanosensing enables tissue shape to orient cell force. Nature Communications, 2017, 8, 15014.	12.8	125
9	Planar Cell Polarity Genes Regulate Polarized Extracellular Matrix Deposition during Frog Gastrulation. Current Biology, 2005, 15, 787-793.	3.9	124
10	Assembly and remodeling of the fibrillar fibronectin extracellular matrix during gastrulation and neurulation inXenopus laevis. Developmental Dynamics, 2004, 231, 888-895.	1.8	122
11	IQGAP1 regulates cell motility by linking growth factor signaling to actin assembly. Journal of Cell Science, 2007, 120, 658-669.	2.0	118
12	Radial intercalation of ciliated cells during Xenopus skin development. Development (Cambridge), 2006, 133, 2507-2515.	2.5	116
13	The physical state of fibronectin matrix differentially regulates morphogenetic movements in vivo. Developmental Biology, 2009, 327, 386-398.	2.0	88
14	Live imaging of cell protrusive activity, and extracellular matrix assembly and remodeling during morphogenesis in the frog, <i>Xenopus laevis</i>. Developmental Dynamics, 2008, 237, 2684-2692.	1.8	83
15	Epithelial machines that shape the embryo. Trends in Cell Biology, 2012, 22, 82-87.	7.9	77
16	Shroom3 functions downstream of planar cell polarity to regulate myosin II distribution and cellular organization during neural tube closure. Biology Open, 2015, 4, 186-196.	1.2	76
17	Force production and mechanical accommodation during convergent extension. Development (Cambridge), 2015, 142, 692-701.	2.5	69
18	Embryonic wound healing by apical contraction and ingression inXenopus laevis. Cytoskeleton, 2002, 53, 163-176.	4.4	67

#	ARTICLE	IF	CITATIONS
19	Multi-scale mechanics from molecules to morphogenesis. International Journal of Biochemistry and Cell Biology, 2009, 41, 2147-2162.	2.8	66
20	Macroscopic stiffening of embryonic tissues via microtubules, RhoGEF and the assembly of contractile bundles of actomyosin. Development (Cambridge), 2010, 137, 2785-2794.	2.5	63
21	Multicellular computer simulation of morphogenesis: blastocoel roof thinning and matrix assembly in Xenopus laevis. Developmental Biology, 2004, 271, 210-222.	2.0	59
22	Surprisingly Simple Mechanical Behavior of a Complex Embryonic Tissue. PLoS ONE, 2010, 5, e15359.	2.5	58
23	Tissue mechanics and adhesion during embryo development. Developmental Biology, 2015, 401, 152-164.	2.0	56
24	Emergent morphogenesis: Elastic mechanics of a self-deforming tissue. Journal of Biomechanics, 2010, 43, 63-70.	2.1	55
25	Mechanics of neurulation: From classical to current perspectives on the physical mechanics that shape, fold, and form the neural tube. Birth Defects Research, 2017, 109, 153-168.	1.5	55
26	On the role of mechanics in driving mesenchymal-to-epithelial transitions. Seminars in Cell and Developmental Biology, 2017, 67, 113-122.	5.0	54
27	Natural variation in embryo mechanics: gastrulation in <i>Xenopus laevis</i> is highly robust to variation in tissue stiffness. Developmental Dynamics, 2009, 238, 2-18.	1.8	50
28	Embryo Mechanics. Current Topics in Developmental Biology, 2011, 95, 215-241.	2.2	50
29	Large, long range tensile forces drive convergence during Xenopus blastopore closure and body axis elongation. ELife, 2018, 7, .	6.0	50
30	Structural Requirements for PACSIN/Syndapin Operation during Zebrafish Embryonic Notochord Development. PLoS ONE, 2009, 4, e8150.	2.5	39
31	Experimental control of excitable embryonic tissues: three stimuli induce rapid epithelial contraction. Experimental Cell Research, 2010, 316, 103-114.	2.6	36
32	From pattern to process: studies at the interface of gene regulatory networks, morphogenesis, and evolution. Current Opinion in Genetics and Development, 2018, 51, 103-110.	3.3	36
33	Detection of Dynamic Spatiotemporal Response to Periodic Chemical Stimulation in a Xenopus Embryonic Tissue. PLoS ONE, 2011, 6, e14624.	2.5	35
34	Anillin regulates epithelial cell mechanics by structuring the medial-apical actomyosin network. ELife, 2019, 8, .	6.0	35
35	Physics and the canalization of morphogenesis: a grand challenge in organismal biology. Physical Biology, 2011, 8, 045002.	1.8	34
36	Mechanochemical actuators of embryonic epithelial contractility. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 14366-14371.	7.1	34

#	ARTICLE	IF	CITATIONS
37	Mechanical design in embryos: mechanical signalling, robustness and developmental defects. Philosophical Transactions of the Royal Society B: Biological Sciences, 2017, 372, 20150516.	4.0	34
38	Self-organization of vertebrate mesoderm based on simple boundary conditions. Developmental Dynamics, 2004, 231, 576-581.	1.8	33
39	Measuring Mechanical Properties of Embryos and Embryonic Tissues. Methods in Cell Biology, 2007, 83, 425-439.	1.1	31
40	Stepwise Maturation of Apicobasal Polarity of the Neuroepithelium Is Essential for Vertebrate Neurulation. Journal of Neuroscience, 2009, 29, 11426-11440.	3.6	30
41	Mechanics of blastopore closure during amphibian gastrulation. Developmental Biology, 2015, 398, 57-67.	2.0	30
42	Variation and robustness of the mechanics of gastrulation: The role of tissue mechanical properties during morphogenesis. Birth Defects Research Part C: Embryo Today Reviews, 2007, 81, 253-269.	3.6	28
43	Endothelial cell polarization and orientation to flow in a novel microfluidic multimodal shear stress generator. Lab on A Chip, 2020, 20, 4373-4390.	6.0	28
44	Patterning and tissue movements in a novel explant preparation of the marginal zone of Xenopus laevis. Gene Expression Patterns, 2004, 4, 457-466.	0.8	27
45	Convergent extension and the hexahedral cell. Nature Cell Biology, 2007, 9, 1010-1015.	10.3	27
46	Scalable and Concise Synthesis of Dichlorofluorescein Derivatives Displaying Tissue Permeation in Live Zebrafish Embryos. ChemBioChem, 2008, 9, 214-218.	2.6	25
47	Spatiotemporally Controlled Mechanical Cues Drive Progenitor Mesenchymal-to-Epithelial Transition Enabling Proper Heart Formation and Function. Current Biology, 2017, 27, 1326-1335.	3.9	24
48	BMP antagonism by Spemann's organizer regulates rostralâ€“caudal fate of mesoderm. Developmental Biology, 2004, 275, 356-374.	2.0	23
49	Evolutionary expansion of apical extracellular matrix is required for the elongation of cells in a novel structure. ELife, 2020, 9, .	6.0	23
50	Integrating Morphogenesis with Underlying Mechanics and Cell Biology. Current Topics in Developmental Biology, 2008, 81, 113-133.	2.2	22
51	The non-canonical Wnt-PCP pathway shapes the caudal neural plate. Development (Cambridge), 2018, 145, .	2.5	22
52	Multiscale analysis of architecture, cell size and the cell cortex reveals cortical F-actin density and composition are major contributors to mechanical properties during convergent extension. Development (Cambridge), 2018, 145, .	2.5	22
53	Controlled surface topography regulates collective 3D migration by epithelialâ€“mesenchymal composite embryonic tissues. Biomaterials, 2015, 58, 1-9.	11.4	21
54	Tissue mechanics drives regeneration of a mucociliated epidermis on the surface of Xenopus embryonic aggregates. Nature Communications, 2020, 11, 665.	12.8	18

#	ARTICLE	IF	CITATIONS
55	Quantitative microscopy and imaging tools for the mechanical analysis of morphogenesis. Current Opinion in Genetics and Development, 2011, 21, 664-670.	3.3	15
56	Placental Mechanics in the Zika-Microcephaly Relationship. Cell Host and Microbe, 2016, 20, 9-11.	11.0	15
57	Epithelial machines of morphogenesis and their potential application in organ assembly and tissue engineering. Biomechanics and Modeling in Mechanobiology, 2012, 11, 1109-1121.	2.8	14
58	<i>Xenopus</i> as a model for studies in mechanical stress and cell division. Genesis, 2017, 55, e23004.	1.6	14
59	Dynamic control of 3D chemical profiles with a single 2D microfluidic platform. Lab on A Chip, 2011, 11, 2182.	6.0	12
60	Live-cell Imaging and Quantitative Analysis of Embryonic Epithelial Cells in Xenopus laevis. Journal of Visualized Experiments, 2010, , .	0.3	11
61	Whole-Cell Electrical Activity Under Direct Mechanical Stimulus by AFM Cantilever Using Planar Patch Clamp Chip Approach. Cellular and Molecular Bioengineering, 2011, 4, 270-280.	2.1	11
62	Biomechanics and the Thermotolerance of Development. PLoS ONE, 2014, 9, e95670.	2.5	11
63	From biomechanics to mechanobiology: Xenopus provides direct access to the physical principles that shape the embryo. Current Opinion in Genetics and Development, 2020, 63, 71-77.	3.3	11
64	Using Xenopus Embryos to Investigate Integrin Function. Methods in Enzymology, 2007, 426, 403-414.	1.0	10
65	Investigating Morphogenesis in <i>Xenopus</i> Embryos: Imaging Strategies, Processing, and Analysis. Cold Spring Harbor Protocols, 2013, 2013, pdb.top073890.	0.3	10
66	Emergent mechanics of actomyosin drive punctuated contractions and shape network morphology in the cell cortex. PLoS Computational Biology, 2018, 14, e1006344.	3.2	10
67	No strings attached: new insights into epithelial morphogenesis. BMC Biology, 2012, 10, 105.	3.8	9
68	Non-junctional role of Cadherin3 in cell migration and contact inhibition of locomotion via domain-dependent, opposing regulation of Rac1. Scientific Reports, 2020, 10, 17326.	3.3	9
69	Microscopy Tools for Quantifying Developmental Dynamics in Xenopus Embryos. Methods in Molecular Biology, 2012, 917, 477-493.	0.9	7
70	Cell segregation, mixing, and tissue pattern in the spinal cord of the <i>Xenopus laevis</i> neurula. Developmental Dynamics, 2013, 242, 1134-1146.	1.8	7
71	Microsurgical Approaches to Isolate Tissues from Xenopus Embryos for Imaging Morphogenesis. Cold Spring Harbor Protocols, 2013, 2013, pdb.prot073874-pdb.prot073874.	0.3	7
72	Adapting a Plant Tissue Model to Animal Development: Introducing Cell Sliding into VirtualLeaf. Bulletin of Mathematical Biology, 2019, 81, 3322-3341.	1.9	7

#	ARTICLE	IF	CITATIONS
73	Rotational model for actin filament alignment by myosin. Journal of Theoretical Biology, 2012, 300, 344-359.	1.7	6
74	Assembly of Chambers for Stable Long-Term Imaging of Live Xenopus Tissue. Cold Spring Harbor Protocols, 2013, 2013, pdb.prot073882-pdb.prot073882.	0.3	6
75	Distribution of single wall carbon nanotubes in the Xenopus laevis embryo after microinjection. Journal of Applied Toxicology, 2016, 36, 568-578.	2.8	6
76	Chemotactic Responses of Jurkat Cells in Microfluidic Flow-Free Gradient Chambers. Micromachines, 2020, 11, 384.	2.9	6
77	Making waves: the rise and fall and rise of quantitative developmental biology. Development (Cambridge), 2012, 139, 3065-3069.	2.5	5
78	Developing <i>Xenopus</i> embryos recover by compacting and expelling single wall carbon nanotubes. Journal of Applied Toxicology, 2016, 36, 579-585.	2.8	5
79	Using a continuum model to decipher the mechanics of embryonic tissue spreading from time-lapse image sequences: An approximate Bayesian computation approach. PLoS ONE, 2019, 14, e0218021.	2.5	5
80	Preparation and Use of Reporter Constructs for Imaging Morphogenesis in Xenopus Embryos. Cold Spring Harbor Protocols, 2013, 2013, pdb.prot073866-pdb.prot073866.	0.3	4
81	3D bio-etching of a complex composite-like embryonic tissue. Lab on A Chip, 2015, 15, 3293-3299.	6.0	4
82	Cell Crawling, Cell Behaviour and Biomechanics during Convergence and Extension. , 0, , 277-297.		3
83	Taming the Tiger of Tissue Aggregation: How Epithelia Control Structural Assembly of Underlying Cells. Developmental Cell, 2008, 14, 152-154.	7.0	3
84	Apoptosis Turbocharges Epithelial Morphogenesis. Science, 2008, 321, 1641-1642.	12.6	3
85	Furry is required for cell movements during gastrulation and functionally interacts with NDR1. Scientific Reports, 2021, 11, 6607.	3.3	3
86	Chambers for Culturing and Immobilizing <i>Xenopus</i> Embryos and Organotypic Explants for Live Imaging. Cold Spring Harbor Protocols, 2022, 2022, pdb.prot107649.	0.3	3
87	The Physical Mechanical Processes that Shape Tissues in the Early Embryo. Studies in Mechanobiology, Tissue Engineering and Biomaterials, 2010, , 71-97.	1.0	1
88	Epithelial machines of morphogenesis and their potential application in organ assembly and tissue engineering. , 2012, 11, 1109.		1
89	High Local Curvature Reduces Migration Rate in Spreading Multi-Layer Tissues. Biophysical Journal, 2015, 108, 455a.	0.5	0
90	Editorial: Developmental mechanisms, patterning and evolution (2018). Current Opinion in Genetics and Development, 2018, 51, iii-v.	3.3	0

#	ARTICLE	IF	CITATIONS
91	Chemotaxis of Immune Cells in Microfluidic Flow-Free Concentration Gradient Generator. Biophysical Journal, 2018, 114, 217a.	0.5	0
92	The forces that shape the embryo: biomechanics of gastrulation.. FASEB Journal, 2007, 21, A198.	0.5	0
93	Xenopus Deep Cell Aggregates: A 3D Tissue Model for Mesenchymal-to-Epithelial Transition. Methods in Molecular Biology, 2021, 2179, 275-287.	0.9	0
94	Imaging Methods in <i>Xenopus</i> Cells, Embryos, and Tadpoles. Cold Spring Harbor Protocols, 2022, 2022, pdb.top105627.	0.3	0
95	Microsurgical Methods to Isolate and Culture the Early Gastrula Dorsal Marginal Zone.. Cold Spring Harbor Protocols, 2022, , .	0.3	0
96	Microsurgical Manipulations to Isolate Collectively Migrating Mesendoderm.. Cold Spring Harbor Protocols, 2022, , .	0.3	0
97	Microsurgical Methods to Make the Keller Sandwich Explant and the Dorsal Isolate.. Cold Spring Harbor Protocols, 2022, , .	0.3	0