Detlev Arendt

List of Publications by Year
in descending order

104 papers	10,858 citations	34076 52 h-index	37183 96 g-index
123 all docs	123 docs citations	123 times ranked	9728 citing authors

#	Article	IF	Citations
1	Molecular biology for green recoveryâ€"A call for action. PLoS Biology, 2022, 20, e3001623.	2.6	5
2	Evolution of new cell types at the lateral neural border. Current Topics in Developmental Biology, 2021, 141, 173-205.	1.0	11
3	Reframing cognition: getting down to biological basics. Philosophical Transactions of the Royal Society B: Biological Sciences, 2021, 376, 20190750.	1.8	85
4	Uncovering cognitive similarities and differences, conservation and innovation. Philosophical Transactions of the Royal Society B: Biological Sciences, 2021, 376, 20200458.	1.8	29
5	Elementary nervous systems. Philosophical Transactions of the Royal Society B: Biological Sciences, 2021, 376, 20200347.	1.8	30
6	The dorsoanterior brain of adult amphioxus shares similarities in expression profile and neuronal composition with the vertebrate telencephalon. BMC Biology, 2021, 19, 110.	1.7	16
7	Mapping single-cell atlases throughout Metazoa unravels cell type evolution. ELife, 2021, 10, .	2.8	124
8	MoBIE: A free and open-source platform for integration and cloud-based sharing of multi-modal correlative big image data. Microscopy and Microanalysis, 2021, 27, 2588-2589.	0.2	1
9	Animal evolution: Of flame and collar cells. Current Biology, 2021, 31, R1003-R1006.	1.8	1
10	The Nereid on the rise: Platynereis as a model system. EvoDevo, 2021, 12, 10.	1.3	34
11	Whole-body integration of gene expression and single-cell morphology. Cell, 2021, 184, 4819-4837.e22.	13.5	65
12	Profiling cellular diversity in sponges informs animal cell type and nervous system evolution. Science, 2021, 374, 717-723.	6.0	111
13	Single-cell RNA sequencing of the Strongylocentrotus purpuratus larva reveals the blueprint of major cell types and nervous system of a non-chordate deuterostome. ELife, 2021, 10, .	2.8	33
14	The conserved core of the nereid brain: Circular CNS, apical nervous system and lhx6-arx-dlx neurons. Current Opinion in Neurobiology, 2021, 71, 178-187.	2.0	9
15	A community-based transcriptomics classification and nomenclature of neocortical cell types. Nature Neuroscience, 2020, 23, 1456-1468.	7.1	183
16	Whole Body Integration of Gene Expression and Morphology Using Correlative Volume EM. Microscopy and Microanalysis, 2020, 26, 1044-1045.	0.2	0
17	The Evolutionary Assembly of Neuronal Machinery. Current Biology, 2020, 30, R603-R616.	1.8	46
18	Many Ways to Build a Polyp. Trends in Genetics, 2019, 35, 885-887.	2.9	3

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19	Leveraging Domain Knowledge to Improve Microscopy Image Segmentation With Lifted Multicuts. Frontiers in Computer Science, 2019, 1, .	1.7	20
20	From spiral cleavage to bilateral symmetry: the developmental cell lineage of the annelid brain. BMC Biology, 2019, 17, 81.	1.7	14
21	Remnants of ancestral larval eyes in an eyeless mollusk? Molecular characterization of photoreceptors in the scaphopod Antalis entalis. EvoDevo, 2019, 10, 25.	1.3	3
22	Evolution of neuronal types and families. Current Opinion in Neurobiology, 2019, 56, 144-152.	2.0	94
23	The ancestral retinoic acid receptor was a low-affinity sensor triggering neuronal differentiation. Science Advances, 2018, 4, eaao1261.	4.7	37
24	Animal Evolution: Convergent Nerve Cords?. Current Biology, 2018, 28, R225-R227.	1.8	22
25	Whole-Body Single-Cell Sequencing Reveals Transcriptional Domains in the Annelid Larval Body. Molecular Biology and Evolution, 2018, 35, 1047-1062.	3.5	48
26	Whole-head recording of chemosensory activity in the marine annelid <i>Platynereis dumerilii</i>. Open Biology, 2018, 8, .	1.5	23
27	<i>Hox</i> genes and body segmentation. Science, 2018, 361, 1310-1311.	6.0	23
28	Evolution of the bilaterian mouth and anus. Nature Ecology and Evolution, 2018, 2, 1358-1376.	3.4	37
29	Whole-organism cellular gene-expression atlas reveals conserved cell types in the ventral nerve cord of <i>Platynereis dumerilii</i>. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 5878-5885.	3.3	66
30	Loss and gain of cone types in vertebrate ciliary photoreceptor evolution. Developmental Biology, 2017, 431, 26-35.	0.9	24
31	Editorial - Development and evolution of sensory cells and organs. Developmental Biology, 2017, 431, 1-2.	0.9	0
32	How Single-Cell Genomics Is Changing Evolutionary and Developmental Biology. Annual Review of Cell and Developmental Biology, 2017, 33, 537-553.	4.0	82
33	The enigmatic xenopsins. ELife, 2017, 6, .	2.8	13
34	Neurotrophin, p75, and Trk Signaling Module in the Developing Nervous System of the Marine Annelid<i>Platynereis dumerilii</i>. BioMed Research International, 2016, 2016, 1-12.	0.9	8
35	Animal Evolution: The Hard Problem of Cartilage Origins. Current Biology, 2016, 26, R685-R688.	1.8	5
36	The origin and evolution of cell types. Nature Reviews Genetics, 2016, 17, 744-757.	7.7	572

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37	Editorial overview: Developmental mechanisms, patterning and evolution: New models for genetics and development â€" diversity at last. Current Opinion in Genetics and Development, 2016, 39, iv-vi.	1.5	2
38	From nerve net to nerve ring, nerve cord and brain â€" evolution of the nervous system. Nature Reviews Neuroscience, 2016, 17, 61-72.	4.9	187
39	Old knowledge and new technologies allow rapid development of model organisms. Molecular Biology of the Cell, 2016, 27, 882-887.	0.9	13
40	The mid-developmental transition and the evolution of animal body plans. Nature, 2016, 531, 637-641.	13.7	231
41	From damage response to action potentials: early evolution of neural and contractile modules in stem eukaryotes. Philosophical Transactions of the Royal Society B: Biological Sciences, 2016, 371, 20150043.	1.8	68
42	The evolutionary origin of bilaterian smooth and striated myocytes. ELife, 2016, 5, .	2.8	86
43	Did the notochord evolve from an ancient axial muscle? The axochord hypothesis. BioEssays, 2015, 37, 836-850.	1.2	29
44	Gastric pouches and the mucociliary sole: setting the stage for nervous system evolution. Philosophical Transactions of the Royal Society B: Biological Sciences, 2015, 370, 20150286.	1.8	72
45	Quantifying Preferences and Responsiveness of Marine Zooplankton to Changing Environmental Conditions using Microfluidics. PLoS ONE, 2015, 10, e0140553.	1.1	8
46	Effects of low seawater pH on the marine polychaete Platynereis dumerilii. Marine Pollution Bulletin, 2015, 95, 166-172.	2.3	5
47	High-throughput spatial mapping of single-cell RNA-seq data to tissue of origin. Nature Biotechnology, 2015, 33, 503-509.	9.4	380
48	Perspectiveâ€"Evolution of Neural Cell Types. , 2015, , 18-25.		1
49	Illuminating the Base of the Annelid Tree Using Transcriptomics. Molecular Biology and Evolution, 2014, 31, 1391-1401.	3.5	268
50	Structural evolution of cell types by step-wise assembly of cellular modules. Current Opinion in Genetics and Development, 2014, 27, 102-108.	1.5	41
51	Development of the annelid axochord: Insights into notochord evolution. Science, 2014, 345, 1365-1368.	6.0	90
52	Evolution: Ctenophore Genomes and the Origin of Neurons. Current Biology, 2014, 24, R757-R761.	1.8	66
53	Larval body patterning and apical organs are conserved in animal evolution. BMC Biology, 2014, 12, 7.	1.7	166
54	Melatonin Signaling Controls Circadian Swimming Behavior in Marine Zooplankton. Cell, 2014, 159, 46-57.	13.5	130

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55	Evolution of clitellate phaosomes from rhabdomeric photoreceptor cells of polychaetes â€“ a study in the leech Helobdella robusta (Annelida, Sedentaria, Clitellata). Frontiers in Zoology, 2013, 10, 52.	0.9	16
56	The bilaterian forebrain: an evolutionary chimaera. Current Opinion in Neurobiology, 2013, 23, 1080-1089.	2.0	75
57	Insights into bilaterian evolution from three spiralian genomes. Nature, 2013, 493, 526-531.	13.7	564
58	Linking micro- and macro-evolution at the cell type level: a view from the lophotrochozoan Platynereis dumerilii. Briefings in Functional Genomics, 2013, 12, 430-439.	1.3	16
59	Mesoteloblastâ€Like Mesodermal Stem Cells in the Polychaete Annelid <i>Platynereis dumerilii</i> (Nereididae). Journal of Experimental Zoology Part B: Molecular and Developmental Evolution, 2013, 320, 94-104.	0.6	32
60	Methods for Generating Year-Round Access to Amphioxus in the Laboratory. PLoS ONE, 2013, 8, e71599.	1.1	21
61	Extensive Chordate and Annelid Macrosynteny Reveals Ancestral Homeobox Gene Organization. Molecular Biology and Evolution, 2012, 29, 157-165.	3.5	53
62	Molecular analysis of the amphioxus frontal eye unravels the evolutionary origin of the retina and pigment cells of the vertebrate eye. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 15383-15388.	3.3	115
63	A Holistic Approach to Marine Eco-Systems Biology. PLoS Biology, 2011, 9, e1001177.	2.6	353
64	The segmental pattern of otx, gbx, and Hox genes in the annelid Platynereis dumerilii. Evolution & Development, 2011, 13, 72-79.	1.1	82
65	Three consecutive generations of nephridia occur during development of <i>Platynereis dumerilii</i> (Annelida, Polychaeta). Developmental Dynamics, 2010, 239, 1967-1976.	0.8	9
66	The normal development of Platynereis dumerilii (Nereididae, Annelida). Frontiers in Zoology, 2010, 7, 31.	0.9	169
67	Ancient animal microRNAs and the evolution of tissue identity. Nature, 2010, 463, 1084-1088.	13.7	271
68	Six3 demarcates the anterior-most developing brain region in bilaterian animals. EvoDevo, 2010, 1, 14.	1.3	149
69	Profiling by Image Registration Reveals Common Origin of Annelid Mushroom Bodies and Vertebrate Pallium. Cell, 2010, 142, 800-809.	13.5	271
70	Hedgehog Signaling Regulates Segment Formation in the Annelid <i>Platynereis</i>. Science, 2010, 329, 339-342.	6.0	84
71	The â€˜division of labourâ€™ model of eye evolution. Philosophical Transactions of the Royal Society B: Biological Sciences, 2009, 364, 2809-2817.	1.8	78
72	The evolution of phototransduction and eyes. Philosophical Transactions of the Royal Society B: Biological Sciences, 2009, 364, 2791-2793.	1.8	25

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73	CNS Evolution: New Insight from theÂMud. Current Biology, 2009, 19, R640-R642.	1.8	24
74	Features of the ancestral bilaterian inferred from Platynereis dumerilii ParaHox genes. BMC Biology, 2009, 7, 43.	1.7	58
75	Mechanism of phototaxis in marine zooplankton. Nature, 2008, 456, 395-399.	13.7	254
76	The evolution of cell types in animals: emerging principles from molecular studies. Nature Reviews Genetics, 2008, 9, 868-882.	7.7	403
77	atonal- and achaete-scute-related genes in the annelid Platynereis dumerilii: insights into the evolution of neural basic-Helix-Loop-Helix genes. BMC Evolutionary Biology, 2008, 8, 170.	3.2	54
78	Eye Evolution: The Blurry Beginning. Current Biology, 2008, 18, R1096-R1098.	1.8	42
79	The evolution of nervous system centralization. Philosophical Transactions of the Royal Society B: Biological Sciences, 2008, 363, 1523-1528.	1.8	172
80	Polychaete trunk neuroectoderm converges and extends by mediolateral cell intercalation. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 2727-2732.	3.3	44
81	Duplication of the ribosomal gene cluster in the marine polychaete Platynereis dumerilii correlates with ITS polymorphism. Journal of the Marine Biological Association of the United Kingdom, 2007, 87, 443-449.	0.4	11
82	Molecular Architecture of Annelid Nerve Cord Supports Common Origin of Nervous System Centralization in Bilateria. Cell, 2007, 129, 277-288.	13.5	406
83	Cellular resolution expression profiling using confocal detection of NBT/BCIP precipitate by reflection microscopy. BioTechniques, 2007, 42, 751-755.	0.8	72
84	Conserved Sensory-Neurosecretory Cell Types in Annelid and Fish Forebrain: Insights into Hypothalamus Evolution. Cell, 2007, 129, 1389-1400.	13.5	344
85	Hox gene expression in larval development of the polychaetes Nereis virens and Platynereis dumerilii (Annelida, Lophotrochozoa). Development Genes and Evolution, 2007, 217, 39-54.	0.4	113
86	Photoreceptor cells and eyes in Annelida. Arthropod Structure and Development, 2006, 35, 211-230.	0.8	88
87	Evolution of intraflagellar transport from coated vesicles and autogenous origin of the eukaryotic cilium. BioEssays, 2006, 28, 191-198.	1.2	206
88	Fluorescent two-color whole mount in situ hybridization in <i>Platynereis dumerilii</i> (Polychaeta,) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 5 39, 460-464.	0.8	80
89	Genes and homology in nervous system evolution: Comparing gene functions, expression patterns, and cell type molecular fingerprints. Theory in Biosciences, 2005, 124, 185-197.	0.6	42
90	Vertebrate-Type Intron-Rich Genes in the Marine Annelid Platynereis dumerilii. Science, 2005, 310, 1325-1326.	6.0	244

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91	Metazoan Evolution: Some Animals Are More Equal than Others. Current Biology, 2004, 14, R106-R108.	1.8	43
92	Ciliary Photoreceptors with a Vertebrate-Type Opsin in an Invertebrate Brain. Science, 2004, 306, 869-871.	6.0	391
93	Metazoan evolution: some animals are more equal than others. Current Biology, 2004, 14, R106-8.	1.8	18
94	Spiralians in the limelight. Genome Biology, 2003, 5, 303.	13.9	3
95	Evolution of eyes and photoreceptor cell types. International Journal of Developmental Biology, 2003, 47, 563-71.	0.3	281
96	Development of pigment-cup eyes in the polychaete<i>Platynereis dumerilii</i>and evolutionary conservation of larval eyes in Bilateria. Development (Cambridge), 2002, 129, 1143-1154.	1.2	169
97	Development of pigment-cup eyes in the polychaete Platynereis dumerilii and evolutionary conservation of larval eyes in Bilateria. Development (Cambridge), 2002, 129, 1143-54.	1.2	79
98	Reconstructing the eyes of Urbilateria. Philosophical Transactions of the Royal Society B: Biological Sciences, 2001, 356, 1545-1563.	1.8	183
99	Evolution of the bilaterian larval foregut. Nature, 2001, 409, 81-85.	13.7	238
100	Medaka<i>eyeless</i>is the key factor linking retinal determination and eye growth. Development (Cambridge), 2001, 128, 4035-4044.	1.2	124
101	Rearranging gastrulation in the name of yolk: evolution of gastrulation in yolk-rich amniote eggs. Mechanisms of Development, 1999, 81, 3-22.	1.7	106
102	Dorsal or ventral: Similarities in fate maps and gastrulation patterns in annelids, arthropods and chrodates. Mechanisms of Development, 1997, 61, 7-21.	1.7	177
103	Enteropneusts and chordate evolution. Current Biology, 1996, 6, 352-353.	1.8	63
104	Common ground plans in early brain development in mice and flies. BioEssays, 1996, 18, 255-259.	1.2	130