

# Detlev Arendt

## List of Publications by Year in descending order

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104  
papers

10,858  
citations

34016

52  
h-index

37111

96  
g-index

123  
all docs

123  
docs citations

123  
times ranked

9728  
citing authors

#	ARTICLE	IF	CITATIONS
1	The origin and evolution of cell types. <i>Nature Reviews Genetics</i> , 2016, 17, 744-757.	7.7	572
2	Insights into bilaterian evolution from three spiralian genomes. <i>Nature</i> , 2013, 493, 526-531.	13.7	564
3	Molecular Architecture of Annelid Nerve Cord Supports Common Origin of Nervous System Centralization in Bilateria. <i>Cell</i> , 2007, 129, 277-288.	13.5	406
4	The evolution of cell types in animals: emerging principles from molecular studies. <i>Nature Reviews Genetics</i> , 2008, 9, 868-882.	7.7	403
5	Ciliary Photoreceptors with a Vertebrate-Type Opsin in an Invertebrate Brain. <i>Science</i> , 2004, 306, 869-871.	6.0	391
6	High-throughput spatial mapping of single-cell RNA-seq data to tissue of origin. <i>Nature Biotechnology</i> , 2015, 33, 503-509.	9.4	380
7	A Holistic Approach to Marine Eco-Systems Biology. <i>PLoS Biology</i> , 2011, 9, e1001177.	2.6	353
8	Conserved Sensory-Neurosecretory Cell Types in Annelid and Fish Forebrain: Insights into Hypothalamus Evolution. <i>Cell</i> , 2007, 129, 1389-1400.	13.5	344
9	Evolution of eyes and photoreceptor cell types. <i>International Journal of Developmental Biology</i> , 2003, 47, 563-71.	0.3	281
10	Ancient animal microRNAs and the evolution of tissue identity. <i>Nature</i> , 2010, 463, 1084-1088.	13.7	271
11	Profiling by Image Registration Reveals Common Origin of Annelid Mushroom Bodies and Vertebrate Pallium. <i>Cell</i> , 2010, 142, 800-809.	13.5	271
12	Illuminating the Base of the Annelid Tree Using Transcriptomics. <i>Molecular Biology and Evolution</i> , 2014, 31, 1391-1401.	3.5	268
13	Mechanism of phototaxis in marine zooplankton. <i>Nature</i> , 2008, 456, 395-399.	13.7	254
14	Vertebrate-Type Intron-Rich Genes in the Marine Annelid <i>Platynereis dumerilii</i> . <i>Science</i> , 2005, 310, 1325-1326.	6.0	244
15	Evolution of the bilaterian larval foregut. <i>Nature</i> , 2001, 409, 81-85.	13.7	238
16	The mid-developmental transition and the evolution of animal body plans. <i>Nature</i> , 2016, 531, 637-641.	13.7	231
17	Evolution of intraflagellar transport from coated vesicles and autogenous origin of the eukaryotic cilium. <i>BioEssays</i> , 2006, 28, 191-198.	1.2	206
18	From nerve net to nerve ring, nerve cord and brain – evolution of the nervous system. <i>Nature Reviews Neuroscience</i> , 2016, 17, 61-72.	4.9	187

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19	Reconstructing the eyes of Urbilateria. <i>Philosophical Transactions of the Royal Society B: Biological Sciences</i> , 2001, 356, 1545-1563.	1.8	183
20	A community-based transcriptomics classification and nomenclature of neocortical cell types. <i>Nature Neuroscience</i> , 2020, 23, 1456-1468.	7.1	183
21	Dorsal or ventral: Similarities in fate maps and gastrulation patterns in annelids, arthropods and chordates. <i>Mechanisms of Development</i> , 1997, 61, 7-21.	1.7	177
22	The evolution of nervous system centralization. <i>Philosophical Transactions of the Royal Society B: Biological Sciences</i> , 2008, 363, 1523-1528.	1.8	172
23	The normal development of <i>Platynereis dumerilii</i> (Nereididae, Annelida). <i>Frontiers in Zoology</i> , 2010, 7, 31.	0.9	169
24	Development of pigment-cup eyes in the polychaete <i>Platynereis dumerilii</i> and evolutionary conservation of larval eyes in Bilateria. <i>Development (Cambridge)</i> , 2002, 129, 1143-1154.	1.2	169
25	Larval body patterning and apical organs are conserved in animal evolution. <i>BMC Biology</i> , 2014, 12, 7.	1.7	166
26	Six3 demarcates the anterior-most developing brain region in bilaterian animals. <i>EvoDevo</i> , 2010, 1, 14.	1.3	149
27	Common ground plans in early brain development in mice and flies. <i>BioEssays</i> , 1996, 18, 255-259.	1.2	130
28	Melatonin Signaling Controls Circadian Swimming Behavior in Marine Zooplankton. <i>Cell</i> , 2014, 159, 46-57.	13.5	130
29	Mapping single-cell atlases throughout Metazoa unravels cell type evolution. <i>ELife</i> , 2021, 10, .	2.8	124
30	<i>Medaka eyeless</i> is the key factor linking retinal determination and eye growth. <i>Development (Cambridge)</i> , 2001, 128, 4035-4044.	1.2	124
31	Molecular analysis of the amphioxus frontal eye unravels the evolutionary origin of the retina and pigment cells of the vertebrate eye. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2012, 109, 15383-15388.	3.3	115
32	Hox gene expression in larval development of the polychaetes <i>Nereis virens</i> and <i>Platynereis dumerilii</i> (Annelida, Lophotrochozoa). <i>Development Genes and Evolution</i> , 2007, 217, 39-54.	0.4	113
33	Profiling cellular diversity in sponges informs animal cell type and nervous system evolution. <i>Science</i> , 2021, 374, 717-723.	6.0	111
34	Rearranging gastrulation in the name of yolk: evolution of gastrulation in yolk-rich amniote eggs. <i>Mechanisms of Development</i> , 1999, 81, 3-22.	1.7	106
35	Evolution of neuronal types and families. <i>Current Opinion in Neurobiology</i> , 2019, 56, 144-152.	2.0	94
36	Development of the annelid axochord: Insights into notochord evolution. <i>Science</i> , 2014, 345, 1365-1368.	6.0	90

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37	Photoreceptor cells and eyes in Annelida. <i>Arthropod Structure and Development</i> , 2006, 35, 211-230.	0.8	88
38	The evolutionary origin of bilaterian smooth and striated myocytes. <i>ELife</i> , 2016, 5, .	2.8	86
39	Reframing cognition: getting down to biological basics. <i>Philosophical Transactions of the Royal Society B: Biological Sciences</i> , 2021, 376, 20190750.	1.8	85
40	Hedgehog Signaling Regulates Segment Formation in the Annelid <i>Platynereis</i> . <i>Science</i> , 2010, 329, 339-342.	6.0	84
41	The segmental pattern of <i>otx</i> , <i>gbx</i> , and <i>Hox</i> genes in the annelid <i>Platynereis dumerilii</i> . <i>Evolution &amp; Development</i> , 2011, 13, 72-79.	1.1	82
42	How Single-Cell Genomics Is Changing Evolutionary and Developmental Biology. <i>Annual Review of Cell and Developmental Biology</i> , 2017, 33, 537-553.	4.0	82
43	Fluorescent two-color whole mount in situ hybridization in <i>Platynereis dumerilii</i> (Polychaeta). <i>Development</i> , 2007, 134, 460-464.	0.8	80
44	Development of pigment-cup eyes in the polychaete <i>Platynereis dumerilii</i> and evolutionary conservation of larval eyes in Bilateria. <i>Development (Cambridge)</i> , 2002, 129, 1143-54.	1.2	79
45	The "division of labour" model of eye evolution. <i>Philosophical Transactions of the Royal Society B: Biological Sciences</i> , 2009, 364, 2809-2817.	1.8	78
46	The bilaterian forebrain: an evolutionary chimaera. <i>Current Opinion in Neurobiology</i> , 2013, 23, 1080-1089.	2.0	75
47	Cellular resolution expression profiling using confocal detection of NBT/BCIP precipitate by reflection microscopy. <i>BioTechniques</i> , 2007, 42, 751-755.	0.8	72
48	Gastric pouches and the mucociliary sole: setting the stage for nervous system evolution. <i>Philosophical Transactions of the Royal Society B: Biological Sciences</i> , 2015, 370, 20150286.	1.8	72
49	From damage response to action potentials: early evolution of neural and contractile modules in stem eukaryotes. <i>Philosophical Transactions of the Royal Society B: Biological Sciences</i> , 2016, 371, 20150043.	1.8	68
50	Evolution: Ctenophore Genomes and the Origin of Neurons. <i>Current Biology</i> , 2014, 24, R757-R761.	1.8	66
51	Whole-organism cellular gene-expression atlas reveals conserved cell types in the ventral nerve cord of <i>Platynereis dumerilii</i> . <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2017, 114, 5878-5885.	3.3	66
52	Whole-body integration of gene expression and single-cell morphology. <i>Cell</i> , 2021, 184, 4819-4837.e22.	13.5	65
53	Enteropneusts and chordate evolution. <i>Current Biology</i> , 1996, 6, 352-353.	1.8	63
54	Features of the ancestral bilaterian inferred from <i>Platynereis dumerilii</i> ParaHox genes. <i>BMC Biology</i> , 2009, 7, 43.	1.7	58

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55	atonal- and achaete-scute-related genes in the annelid <i>Platynereis dumerilii</i> : insights into the evolution of neural basic-Helix-Loop-Helix genes. <i>BMC Evolutionary Biology</i> , 2008, 8, 170.	3.2	54
56	Extensive Chordate and Annelid Macrosynteny Reveals Ancestral Homeobox Gene Organization. <i>Molecular Biology and Evolution</i> , 2012, 29, 157-165.	3.5	53
57	Whole-Body Single-Cell Sequencing Reveals Transcriptional Domains in the Annelid Larval Body. <i>Molecular Biology and Evolution</i> , 2018, 35, 1047-1062.	3.5	48
58	The Evolutionary Assembly of Neuronal Machinery. <i>Current Biology</i> , 2020, 30, R603-R616.	1.8	46
59	Polychaete trunk neuroectoderm converges and extends by mediolateral cell intercalation. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2007, 104, 2727-2732.	3.3	44
60	Metazoan Evolution: Some Animals Are More Equal than Others. <i>Current Biology</i> , 2004, 14, R106-R108.	1.8	43
61	Genes and homology in nervous system evolution: Comparing gene functions, expression patterns, and cell type molecular fingerprints. <i>Theory in Biosciences</i> , 2005, 124, 185-197.	0.6	42
62	Eye Evolution: The Blurry Beginning. <i>Current Biology</i> , 2008, 18, R1096-R1098.	1.8	42
63	Structural evolution of cell types by step-wise assembly of cellular modules. <i>Current Opinion in Genetics and Development</i> , 2014, 27, 102-108.	1.5	41
64	The ancestral retinoic acid receptor was a low-affinity sensor triggering neuronal differentiation. <i>Science Advances</i> , 2018, 4, eaao1261.	4.7	37
65	Evolution of the bilaterian mouth and anus. <i>Nature Ecology and Evolution</i> , 2018, 2, 1358-1376.	3.4	37
66	The Nereid on the rise: <i>Platynereis</i> as a model system. <i>EvoDevo</i> , 2021, 12, 10.	1.3	34
67	Single-cell RNA sequencing of the <i>Strongylocentrotus purpuratus</i> larva reveals the blueprint of major cell types and nervous system of a non-chordate deuterostome. <i>ELife</i> , 2021, 10, .	2.8	33
68	Mesoteloblast-Like Mesodermal Stem Cells in the Polychaete Annelid <i>Platynereis dumerilii</i> (Nereididae). <i>Journal of Experimental Zoology Part B: Molecular and Developmental Evolution</i> , 2013, 320, 94-104.	0.6	32
69	Elementary nervous systems. <i>Philosophical Transactions of the Royal Society B: Biological Sciences</i> , 2021, 376, 20200347.	1.8	30
70	Did the notochord evolve from an ancient axial muscle? The axochord hypothesis. <i>BioEssays</i> , 2015, 37, 836-850.	1.2	29
71	Uncovering cognitive similarities and differences, conservation and innovation. <i>Philosophical Transactions of the Royal Society B: Biological Sciences</i> , 2021, 376, 20200458.	1.8	29
72	The evolution of phototransduction and eyes. <i>Philosophical Transactions of the Royal Society B: Biological Sciences</i> , 2009, 364, 2791-2793.	1.8	25

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73	CNS Evolution: New Insight from the Mud. <i>Current Biology</i> , 2009, 19, R640-R642.	1.8	24
74	Loss and gain of cone types in vertebrate ciliary photoreceptor evolution. <i>Developmental Biology</i> , 2017, 431, 26-35.	0.9	24
75	Whole-head recording of chemosensory activity in the marine annelid <i>Platynereis dumerilii</i> . <i>Open Biology</i> , 2018, 8, .	1.5	23
76	<i>Hox</i> genes and body segmentation. <i>Science</i> , 2018, 361, 1310-1311.	6.0	23
77	Animal Evolution: Convergent Nerve Cords?. <i>Current Biology</i> , 2018, 28, R225-R227.	1.8	22
78	Methods for Generating Year-Round Access to Amphioxus in the Laboratory. <i>PLoS ONE</i> , 2013, 8, e71599.	1.1	21
79	Leveraging Domain Knowledge to Improve Microscopy Image Segmentation With Lifted Multicuts. <i>Frontiers in Computer Science</i> , 2019, 1, .	1.7	20
80	Metazoan evolution: some animals are more equal than others. <i>Current Biology</i> , 2004, 14, R106-8.	1.8	18
81	Evolution of clitellate phaosomes from rhabdomic photoreceptor cells of polychaetes – a study in the leech <i>Helobdella robusta</i> (Annelida, Sedentaria, Clitellata). <i>Frontiers in Zoology</i> , 2013, 10, 52.	0.9	16
82	Linking micro- and macro-evolution at the cell type level: a view from the lophotrochozoan <i>Platynereis dumerilii</i> . <i>Briefings in Functional Genomics</i> , 2013, 12, 430-439.	1.3	16
83	The dorsoanterior brain of adult amphioxus shares similarities in expression profile and neuronal composition with the vertebrate telencephalon. <i>BMC Biology</i> , 2021, 19, 110.	1.7	16
84	From spiral cleavage to bilateral symmetry: the developmental cell lineage of the annelid brain. <i>BMC Biology</i> , 2019, 17, 81.	1.7	14
85	Old knowledge and new technologies allow rapid development of model organisms. <i>Molecular Biology of the Cell</i> , 2016, 27, 882-887.	0.9	13
86	The enigmatic xenopsins. <i>ELife</i> , 2017, 6, .	2.8	13
87	Duplication of the ribosomal gene cluster in the marine polychaete <i>Platynereis dumerilii</i> correlates with ITS polymorphism. <i>Journal of the Marine Biological Association of the United Kingdom</i> , 2007, 87, 443-449.	0.4	11
88	Evolution of new cell types at the lateral neural border. <i>Current Topics in Developmental Biology</i> , 2021, 141, 173-205.	1.0	11
89	Three consecutive generations of nephridia occur during development of <i>Platynereis dumerilii</i> (Annelida, Polychaeta). <i>Developmental Dynamics</i> , 2010, 239, 1967-1976.	0.8	9
90	The conserved core of the nereid brain: Circular CNS, apical nervous system and <i>lhx6-<i>arx</i>-<i>dlx</i></i> neurons. <i>Current Opinion in Neurobiology</i> , 2021, 71, 178-187.	2.0	9

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91	Quantifying Preferences and Responsiveness of Marine Zooplankton to Changing Environmental Conditions using Microfluidics. PLoS ONE, 2015, 10, e0140553.	1.1	8
92	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
93	Effects of low seawater pH on the marine polychaete <i>Platynereis dumerilii</i> . Marine Pollution Bulletin, 2015, 95, 166-172.	2.3	5
94	Animal Evolution: The Hard Problem of Cartilage Origins. Current Biology, 2016, 26, R685-R688.	1.8	5
95	Molecular biology for green recovery – A call for action. PLoS Biology, 2022, 20, e3001623.	2.6	5
96	Spiralians in the limelight. Genome Biology, 2003, 5, 303.	13.9	3
97	Many Ways to Build a Polyp. Trends in Genetics, 2019, 35, 885-887.	2.9	3
98	Remnants of ancestral larval eyes in an eyeless mollusk? Molecular characterization of photoreceptors in the scaphopod <i>Antalis entalis</i> . EvoDevo, 2019, 10, 25.	1.3	3
99	Editorial overview: Developmental mechanisms, patterning and evolution: New models for genetics and development – diversity at last. Current Opinion in Genetics and Development, 2016, 39, iv-vi.	1.5	2
100	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
101	Animal evolution: Of flame and collar cells. Current Biology, 2021, 31, R1003-R1006.	1.8	1
102	Perspective – Evolution of Neural Cell Types. , 2015, , 18-25.		1
103	Editorial - Development and evolution of sensory cells and organs. Developmental Biology, 2017, 431, 1-2.	0.9	0
104	Whole Body Integration of Gene Expression and Morphology Using Correlative Volume EM. Microscopy and Microanalysis, 2020, 26, 1044-1045.	0.2	0