Friedrich G Barth

List of Publications by Year
in descending order

86 papers	4,362 citations	101543 36 h-index	118850 62 g-index
92 all docs	92 docs citations	92 times ranked	2897 citing authors

#	Article	IF	Citations
1	A spider in motion: facets of sensory guidance. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2021, 207, 239-255.	1.6	10
2	Measuring strain in the exoskeleton of spidersâ€"virtues and caveats. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2021, 207, 191-204.	1.6	10
3	Einstein, von Frisch and the honeybee: a historical letter comes to light. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2021, 207, 449-456.	1.6	8
4	The spider cuticle: a remarkable material toolbox for functional diversity. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2021, 379, 20200332.	3.4	14
5	As time passes byâ€"an editorâ€™s farewell. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2021, 207, 681-683.	1.6	0
6	Adaptations for Wear Resistance and Damage Resilience: Micromechanics of Spider Cuticular â€œToolsâ€. Advanced Functional Materials, 2020, 30, 2000400.	14.9	26
7	Mechanics to pre-process information for the fine tuning of mechanoreceptors. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2019, 205, 661-686.	1.6	35
8	One of the most fascinating stories in biology. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2019, 205, 281-284.	1.6	0
9	Remembering Franz Huber (November 20, 1925â€"April 27, 2017), a pioneer of insect neuroethology. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2017, 203, 953-957.	1.6	1
10	Stingless bees (Meliponini): senses and behavior. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2016, 202, 597-601.	1.6	52
11	Nectar profitability, not empty honey stores, stimulate recruitment and foraging in Melipona scutellaris (Apidae, Meliponini). Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2016, 202, 709-722.	1.6	9
12	Micromechanical properties of strain-sensitive lyriform organs of a wandering spider (Cupiennius) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50	8.3	18
13	A Spiderâ€™s Sense of Touch: What to Do with Myriads of Tactile Hairs?. , 2016, , 27-57.		6
14	Ordering of protein and water molecules at their interfaces with chitin nano-crystals. Journal of Structural Biology, 2016, 193, 124-131.	2.8	22
15	Micro- and nano-structural details of a spider's filter for substrate vibrations: relevance for low-frequency signal transmission. Journal of the Royal Society Interface, 2015, 12, 20141111.	3.4	31
16	Spider joint hair sensilla: adaptation to proprioreceptive stimulation. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2015, 201, 235-248.	1.6	18
17	Multiscale structural gradients enhance the biomechanical functionality of the spider fang. Nature Communications, 2014, 5, 3894.	12.8	76
18	A spiderâ€™s biological vibration filter: Micromechanical characteristics of a biomaterial surface. Acta Biomaterialia, 2014, 10, 4832-4842.	8.3	44

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19	200 volumes in 90Âyears. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2014, 200, 1-4.	1.6	4
20	Vibratory Communication in Stingless Bees (Meliponini): The Challenge of Interpreting the Signals. Animal Signals and Communication, 2014, , 349-374.	0.8	18
21	The Slightest Whiff of Air: Airflow Sensing in Arthropods. , 2014, , 169-196.		13
22	Airflow elicits a spider's jump towards airborne prey. II. Flow characteristics guiding behaviour. Journal of the Royal Society Interface, 2013, 10, 20120820.	3.4	15
23	Airflow elicits a spider's jump towards airborne prey. I. Airflow around a flying blowfly. Journal of the Royal Society Interface, 2012, 9, 2591-2602.	3.4	17
24	Air motion sensing hairs of arthropods detect high frequencies at near-maximal mechanical efficiency. Journal of the Royal Society Interface, 2012, 9, 1131-1143.	3.4	36
25	Learning from animal sensors: the clever "design" of spider mechanoreceptors. Proceedings of SPIE, 2012, , .	0.8	5
26	Force transformation in spider strain sensors: white light interferometry. Journal of the Royal Society Interface, 2012, 9, 1254-1264.	3.4	46
27	A Spider's Fang: How to Design an Injection Needle Using Chitinâ€Based Composite Material. Advanced Functional Materials, 2012, 22, 2519-2528.	14.9	153
28	Spider strain detection. , 2012, , 251-273.		17
29	Pheromone paths attached to the substrate in meliponine bees: helpful but not obligatory for recruitment success. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2011, 197, 755-764.	1.6	9
30	Surface force spectroscopic point load measurements and viscoelastic modelling of the micromechanical properties of air flow sensitive hairs of a spider (<i>Cupiennius salei</i>). Journal of the Royal Society Interface, 2009, 6, 681-694.	3.4	44
31	Finite element modeling of arachnid slit sensilla: II. Actual lyriform organs and the face deformations of the individual slits. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2009, 195, 881-894.	1.6	29
32	In search of differences between the two types of sensory cells innervating spider slit sensilla (Cupiennius salei Keys.). Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2009, 195, 1031-1041.	1.6	20
33	Biomaterial systems for mechanosensing and actuation. Nature, 2009, 462, 442-448.	27.8	591
34	Signals and cues in the recruitment behavior of stingless bees (Meliponini). Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2008, 194, 313-327.	1.6	68
35	Food profitability affects intranidal recruitment behaviour in the stingless beeNannotrigonatestaceicornis. Apidologie, 2008, 39, 260-272.	2.0	13
36	Thoracic vibrations in stingless bees (<i>Melipona seminigra</i>):resonances of the thorax influence vibrations associated with flight but not those associated with sound production. Journal of Experimental Biology, 2008, 211, 678-685.	1.7	38

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37	The sound field generated by tethered stingless bees (Melipona scutellaris): inferences on its potential as a recruitment mechanism inside the hive. Journal of Experimental Biology, 2008, 211, 686-698.	1.7	23
38	Medium Flow-Sensing Hairs: Biomechanics and Models. Advances in Insect Physiology, 2007, 34, 1-80.	2.7	55
39	Spitting out information: Trigona bees deposit saliva to signal resource locations. Proceedings of the Royal Society B: Biological Sciences, 2007, 274, 895-899.	2.6	47
40	Viscoelastic nanoscale properties of cuticle contribute to the high-pass properties of spider vibration receptor (Cupiennius salei Keys). Journal of the Royal Society Interface, 2007, 4, 1135-1143.	3.4	53
41	Finite element modeling of arachnid slit sensillaâ€"I. The mechanical significance of different slit arrays. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2007, 193, 445-459.	1.6	32
42	Adaptations for vision in dim light: impulse responses and bumps in nocturnal spider photoreceptor cells (Cupiennius salei Keys). Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2007, 193, 1081-1087.	1.6	24
43	Hexyl Decanoate, the First Trail Pheromone Compound Identified in a Stingless Bee, Trigona recursa. Journal of Chemical Ecology, 2006, 32, 1555-1564.	1.8	40
44	Intracellular recording from a spider vibration receptor. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2006, 192, 551-558.	1.6	20
45	Vibrating the food receivers: a direct way of signal transmission in stingless bees (Melipona) Tj ETQq1 1 0.784314 rgBT /Overlock 10 Tf Physiology, 2006, 192, 879-887.	1.6	35
46	Arthropod mechanoreceptive hairs: modeling the directionality of the joint. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2006, 192, 1271-1278.	1.6	8
47	Collective foraging in a stingless bee: dependence on food profitability and sequence of discovery. Animal Behaviour, 2006, 72, 1309-1317.	1.9	33
48	Recruitment in a scent trail laying stingless bee (Scaptotrigonaaff.depilis): Changes with reduction but not with increase of the energy gain. Apidologie, 2006, 37, 487-500.	2.0	22
49	Viscosity-mediated motion coupling between pairs of trichobothria on the leg of the spider Cupiennius salei. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2005, 191, 733-746.	1.6	51
50	Morphology and structure of the tarsal glands of the stingless bee Melipona seminigra. Die Naturwissenschaften, 2005, 92, 147-150.	1.6	23
51	Scent marks left by Nannotrigona testaceicornis at the feeding site: cues rather than signals. Apidologie, 2005, 36, 285-291.	2.0	28
52	On the origin and properties of scent marks deposited at the food source by a stingless bee, Melipona seminigra. Apidologie, 2004, 35, 3-13.	2.0	44
53	Spider mechanoreceptors. Current Opinion in Neurobiology, 2004, 14, 415-422.	4.2	139
54	A Stingless Bee (Melipona seminigra) Marks Food Sources with a Pheromone from Its Claw Retractor Tendons. Journal of Chemical Ecology, 2004, 30, 793-804.	1.8	41

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55	Hansjochem Autrum. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2004, 190, 85-89.	1.6	0
56	Karl von Frisch lectures: the biology of sensesâ€"a contribution to integrative biology. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2003, 189, 163-163.	1.6	0
57	A stingless bee marks the feeding site in addition to the scent path (Scaptotrigona aff. depilis). Apidologie, 2003, 34, 237-248.	2.0	54
58	Arthropod Cuticular Hairs: Tactile Sensors and the Refinement of Stimulus Transformation. , 2003, , 159-171.		10
59	The Physics of Arthropod Medium-Flow Sensitive Hairs: Biological Models for Artificial Sensors. , 2003, , 129-144.		20
60	Spider senses â€" technical perfection and biology. Zoology, 2002, 105, 271-285.	1.2	99
61	A Spiderâ€™s World. , 2002, , .		226
62	Recruitment behavior in stingless bees, Melipona scutellaris and M. quadrifasciata. II. Possible mechanisms of communication. Apidologie, 2000, 31, 93-113.	2.0	51
63	Dynamics of arthropod filiform hairs. V. The response of spider trichobothria to natural stimuli. Philosophical Transactions of the Royal Society B: Biological Sciences, 1999, 354, 183-192.	4.0	74
64	The Vibrational Sense of Spiders. Springer Handbook of Auditory Research, 1998, , 228-278.	0.7	68
65	Two visual systems in one brain: Neuropils serving the secondary eyes of the spiderCupiennius salei. Journal of Comparative Neurology, 1993, 328, 43-62.	1.6	107
66	Two visual systems in one brain: Neuropils serving the principal eyes of the spiderCupiennius salei. Journal of Comparative Neurology, 1993, 328, 63-75.	1.6	113
67	Central nervous projection patterns of trichobothria and other cuticular sensilla in the wandering spider Cupiennius salei (Arachnida, Araneae). Zoomorphology, 1993, 113, 21-32.	0.8	30
68	Tuning of vibration sensitive neurons in the central nervous system of a wandering spider,Cupiennius salei Keys. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 1987, 160, 467-475.	1.6	28
69	Vibrationssinn und vibratorische Umwelt von Spinnen. Die Naturwissenschaften, 1986, 73, 519-530.	1.6	33
70	Strains in the exoskeleton of spiders. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 1985, 157, 115-147.	1.6	104
71	Model studies on the mechanical significance of grouping in compound spider slit sensilla (Chelicerata, Araneida). Zoomorphology, 1984, 104, 204-215.	0.8	31
72	Neuroanatomy of the central nervous system of the wandering spider, Cupiennius salei (Arachnida,) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 5	0.8	96

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73	The release of attack and escape behavior by vibratory stimuli in a wandering spider (Cupiennim salei) Tj ETQq1 1 0.784314 rgBT /Overlo Physiology, 1983, 152, 347-359.	1.6	54
74	Vibratory signals and spider behavior: How do the sensory inputs from the eight legs interact in orientation?. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 1983, 152, 361-371.	1.6	76
75	Spider vibration receptors: Threshold curves of individual slits in the metatarsal lyriform organ. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 1982, 148, 175-185.	1.6	86
76	Idiothetic orientation of a wandering spider: Compensation of detours and estimates of goal distance. Behavioral Ecology and Sociobiology, 1982, 11, 139-148.	1.4	115
77	Lyriform slit sense organ: Thresholds and stimulus amplitude ranges in a multi-unit mechanoreceptor. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 1978, 125, 37-43.	1.6	44
78	The slit sense organs of arachnids. Zoomorphologie, 1976, 86, 1-23.	0.8	54
79	Lyriform slit sense organs. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 1975, 103, 39-54.	1.6	35
80	Slit sense organs on the scorpion leg (Androctonus australis L.,Buthidae). Journal of Morphology, 1975, 145, 209-227.	1.2	29
81	Microfiber reinforcement of an arthropod cuticle. Cell and Tissue Research, 1973, 144, 409-433.	2.9	61
82	Compound slit sense organs on the spider leg: Mechanoreceptors involved in kinesthetic orientation. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 1972, 78, 176-191.	1.6	101
83	Die Physiologie der Spaltsinnesorgane. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 1972, 81, 159-186.	1.6	52
84	Die Physiologie der Spaltsinnesorgane. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 1972, 78, 315-336.	1.6	36
85	Ein atlas der spaltsinnesorgane von Cupiennius salei keys. Chelicerata (Araneae). Zoomorphology, 1970, 68, 343-369.	0.8	105
86	Die Feinstruktur des Spinneninteguments. Cell and Tissue Research, 1969, 97, 137-159.	2.9	41