Amir Ayali

List of Publications by Year
in descending order

#	Article	IF	Citations
1	Morphological characterization ofin vitroneuronal networks. Physical Review E, 2002, 66, 021905.	2.1	135
2	The Regulative Role of Neurite Mechanical Tension in Network Development. Biophysical Journal, 2009, 96, 1661-1670.	0.5	114
3	A locust-inspired miniature jumping robot. Bioinspiration and Biomimetics, 2015, 10, 066012.	2.9	110
4	Distributed Effects of Dopamine Modulation in the Crustacean Pyloric Networka. Annals of the New York Academy of Sciences, 1998, 860, 155-167.	3.8	108
5	Locust Collective Motion and Its Modeling. PLoS Computational Biology, 2015, 11, e1004522.	3.2	106
6	From Molecules to Management: Mechanisms and Consequences of Locust Phase Polyphenism. Advances in Insect Physiology, 2017, 53, 167-285.	2.7	101
7	Process entanglement as a neuronal anchorage mechanism to rough surfaces. Nanotechnology, 2009, 20, 015101.	2.6	97
8	Monoamine Control of the Pacemaker Kernel and Cycle Frequency in the Lobster Pyloric Network. Journal of Neuroscience, 1999, 19, 6712-6722.	3.6	92
9	The comparative investigation of the stick insect and cockroach models in the study of insect locomotion. Current Opinion in Insect Science, 2015, 12, 1-10.	4.4	67
10	The locust frontal ganglion: a central pattern generator network controlling foregut rhythmic motor patterns. Journal of Experimental Biology, 2002, 205, 2825-2832.	1.7	51
11	Molecular Underpinnings of Motor Pattern Generation: Differential Targeting of Shal and Shaker in the Pyloric Motor System. Journal of Neuroscience, 2000, 20, 6619-6630.	3.6	49
12	The Insect Frontal Ganglion and Stomatogastric Pattern Generator Networks. NeuroSignals, 2004, 13, 20-36.	0.9	48
13	Dopamine Modulates Graded and Spike-Evoked Synaptic Inhibition Independently at Single Synapses in Pyloric Network of Lobster. Journal of Neurophysiology, 1998, 79, 2063-2069.	1.8	45
14	The locust <i>foraging</i> gene. Archives of Insect Biochemistry and Physiology, 2010, 74, 52-66.	1.5	44
15	Intersegmental coordination of cockroach locomotion: adaptive control of centrally coupled pattern generator circuits. Frontiers in Neural Circuits, 2010, 4, 125.	2.8	44
16	Density-dependent phase polymorphism affects response to adipokinetic hormone in Locusta. Comparative Biochemistry and Physiology A, Comparative Physiology, 1992, 101, 549-552.	0.6	43
17	The puzzle of locust density-dependent phase polyphenism. Current Opinion in Insect Science, 2019, 35, 41-47.	4.4	41
18	The locust frontal ganglion: a central pattern generator network controlling foregut rhythmic motor patterns. Journal of Experimental Biology, 2002, 205, 2825-32.	1.7	39

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19	Coemergence of regularity and complexity during neural network development. Developmental Neurobiology, 2007, 67, 1802-1814.	3.0	38
20	Individual Pause-and-Go Motion Is Instrumental to the Formation and Maintenance of Swarms of Marching Locust Nymphs. PLoS ONE, 2014, 9, e101636.	2.5	37
21	Growth morphology of two-dimensional insect neural networks. Neurocomputing, 2002, 44-46, 635-643.	5.9	36
22	Emergence of Small-World Anatomical Networks in Self-Organizing Clustered Neuronal Cultures. PLoS ONE, 2014, 9, e85828.	2.5	36
23	Sensory feedback in cockroach locomotion: current knowledge and open questions. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2015, 201, 841-850.	1.6	36
24	Rhythmic behaviour and pattern-generating circuits in the locust: Key concepts and recent updates. Journal of Insect Physiology, 2010, 56, 834-843.	2.0	35
25	Proprioceptive feedback reinforces centrally generated stepping patterns in the cockroach. Journal of Experimental Biology, 2012, 215, 1884-1891.	1.7	35
26	Intersegmental coupling and recovery from perturbations in freely running cockroaches. Journal of Experimental Biology, 2015, 218, 285-297.	1.7	33
27	Rigidity and Flexibility: The Central Basis of Inter-Leg Coordination in the Locust. Frontiers in Neural Circuits, 2016, 10, 112.	2.8	33
28	Adipokinetic Hormone and Flight Fuel Related Characteristics of Density-Dependent Locust Phase Polymorphism: A Review. Comparative Biochemistry and Physiology - B Biochemistry and Molecular Biology, 1997, 117, 513-524.	1.6	32
29	Neuromodulation for behavior in the locust frontal ganglion. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2004, 190, 301-309.	1.6	32
30	The formation of synchronization cliques during the development of modular neural networks. Physical Biology, 2009, 6, 036018.	1.8	32
31	Jump stabilization and landing control by wing-spreading of a locust-inspired jumper. Bioinspiration and Biomimetics, 2017, 12, 066006.	2.9	32
32	The role of the frontal ganglion in locust feeding and moulting related behaviours. Journal of Experimental Biology, 2002, 205, 2833-2841.	1.7	32
33	Neural correlates to flight-related density-dependent phase characteristics in locusts. Journal of Neurobiology, 2003, 57, 152-162.	3.6	30
34	Memoirs of a locust: Density-dependent behavioral change as a model for learning and memory. Neurobiology of Learning and Memory, 2010, 93, 175-182.	1.9	30
35	The role of the arthropod stomatogastric nervous system in moulting behaviour and ecdysis. Journal of Experimental Biology, 2009, 212, 453-459.	1.7	29
36	Biophysical constraints on neuronal branching. Neurocomputing, 2004, 58-60, 487-495.	5.9	28

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37	One-to-one neuronâ€"electrode interfacing. Journal of Neuroscience Methods, 2009, 182, 219-224.	2.5	27
38	Intra- versus intergroup variance in collective behavior. Science Advances, 2019, 5, eaav0695.	10.3	27
39	The role of the frontal ganglion in locust feeding and moulting related behaviours. Journal of Experimental Biology, 2002, 205, 2833-41.	1.7	27
40	Neuromodulation of the locust frontal ganglion during the moult: a novel role for insect ecdysis peptides. Journal of Experimental Biology, 2006, 209, 2911-2919.	1.7	26
41	Lateral-line activity during undulatory body motions suggests a feedback link in closed-loop control of sea lamprey swimming. Canadian Journal of Zoology, 2009, 87, 671-683.	1.0	26
42	Modeling of caterpillar crawl using novel tensegrity structures. Bioinspiration and Biomimetics, 2012, 7, 046006.	2.9	26
43	Comparative study of neuropeptides from the corpora cardiaca of solitary and gregariousLocusta. Archives of Insect Biochemistry and Physiology, 1996, 31, 439-450.	1.5	25
44	The function of mechanical tension in neuronal and network development. Integrative Biology (United Kingdom), 2010, 2, 178.	1.3	25
45	A two-phase growth strategy in cultured neuronal networks as reflected by the distribution of neurite branching angles. Journal of Neurobiology, 2005, 62, 361-368.	3.6	24
46	The relations of adipokinetic response and body lipid content in locusts (Locusta migratoria) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 387 T 85-89.	2.0	23
47	Flight fuel related differences between solitary and gregarious locusts (Locusta migratoria) Tj ETQq1 1 0.784314 rgBT /Overlock 10 Tf 5	1.5	23
48	Contextual regularity and complexity of neuronal activity: From stand-alone cultures to task-performing animals. Complexity, 2004, 9, 25-32.	1.6	22
49	Adipokinetic hormone content of the corpora cardiaca in gregarious and solitary migratory locusts. Physiological Entomology, 1996, 21, 167-172.	1.5	21
50	Neuronal recruitment in adult zebra finch brain during a reproductive cycle. Developmental Neurobiology, 2007, 67, 687-701.	3.0	21
51	Dispersing away from bad genotypes: the evolution of Fitness-Associated Dispersal (FAD) in homogeneous environments. BMC Evolutionary Biology, 2013, 13, 125.	3.2	20
52	Interaction of dopamine and cardiac sac modulatory inputs on the pyloric network in the lobster stomatogastric ganglion. Brain Research, 1998, 794, 155-161.	2.2	19
53	Endogenous rhythm and pattern-generating circuit interactions in cockroach motor centres. Biology Open, 2016, 5, 1229-1240.	1.2	19
54	Larval lampreys possess a functional lateral line system. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2007, 193, 271-277.	1.6	18

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55	Graphâ€based unsupervised segmentation algorithm for cultured neuronal networks' structure characterization and modeling. Cytometry Part A: the Journal of the International Society for Analytical Cytology, 2015, 87, 513-523.	1.5	18
56	The subesophageal ganglion modulates locust inter-leg sensory-motor interactions via contralateral pathways. Journal of Insect Physiology, 2018, 107, 116-124.	2.0	18
57	Neuronal soma migration is determined by neurite tension. Neuroscience, 2011, 172, 572-579.	2.3	17
58	Dynamics and stability of directional jumps in the desert locust. PeerJ, 2016, 4, e2481.	2.0	17
59	Locust-inspired miniature jumping robot. , 2015, , .		16
60	Interactions of suboesophageal ganglion and frontal ganglion motor patterns in the locust. Journal of Insect Physiology, 2008, 54, 854-860.	2.0	15
61	The effect of discontinuous gas exchange on respiratory water loss in grasshoppers (Orthoptera:) Tj ETQq1 1 0.784314 rgBT /Overlock	1.7	15
62	The Effect of Density-Dependent Phase on the Locust Gut Bacterial Composition. Frontiers in Microbiology, 2018, 9, 3020.	3.5	15
63	The functional connectivity between the locust leg pattern generators and the subesophageal ganglion higher motor center. Neuroscience Letters, 2019, 692, 77-82.	2.1	15
64	Locust Bacterial Symbionts: An Update. Insects, 2020, 11, 655.	2.2	15
65	Lifelong exposure to artificial light at night impacts stridulation and locomotion activity patterns in the cricket<i>Gryllus bimaculatus</i>. Proceedings of the Royal Society B: Biological Sciences, 2021, 288, 20211626.	2.6	15
66	Precopulatory behavior and sexual conflict in the desert locust. PeerJ, 2018, 6, e4356.	2.0	15
67	Innexin genes and gap junction proteins in the locust frontal ganglion. Insect Biochemistry and Molecular Biology, 2009, 39, 224-233.	2.7	14
68	Self body-size perception in an insect. Die Naturwissenschaften, 2013, 100, 479-484.	1.6	14
69	The role of gap junction proteins in the development of neural network functional topology. Insect Molecular Biology, 2013, 22, 457-472.	2.0	14
70	Neural Control of Gas Exchange Patterns in Insects: Locust Density-Dependent Phases as a Test Case. PLoS ONE, 2013, 8, e59967.	2.5	14
71	The locust frontal ganglion: a multi-tasked central pattern generato. Acta Biologica Hungarica, 2004, 55, 129-135.	0.7	14
72	Differential control of temporal and spatial aspects of cockroach leg coordination. Journal of Insect Physiology, 2015, 79, 96-104.	2.0	13

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73	Bio-based design methodologies for products, processes, machine tools and production systems. CIRP Journal of Manufacturing Science and Technology, 2021, 32, 46-60.	4.5	13
74	Collective motion as a distinct behavioral state of the individual. IScience, 2021, 24, 102299.	4.1	13
75	Locust research in the age of model organisms. Journal of Insect Physiology, 2010, 56, 831-833.	2.0	12
76	The function of intersegmental connections in determining temporal characteristics of the spinal cord rhythmic output. Neuroscience, 2007, 147, 236-246.	2.3	11
77	Neuroanatomy and neurophysiology of the locust hypocerebral ganglion. Journal of Insect Physiology, 2010, 56, 884-892.	2.0	11
78	The Metastability of the Double-Tripod Gait in Locust Locomotion. IScience, 2019, 12, 53-65.	4.1	11
79	Enhanced Neurite Outgrowth and Branching Precede Increased Amyloid-Î²-Induced Neuronal Apoptosis in a Novel Alzheimer's Disease Model. Journal of Alzheimer's Disease, 2014, 43, 993-1006.	2.6	10
80	Ear-Bot: Locust Ear-on-a-Chip Bio-Hybrid Platform. Sensors, 2021, 21, 228.	3.8	10
81	The effect of changing topography on the coordinated marching of locust nymphs. PeerJ, 2016, 4, e2742.	2.0	10
82	The Effect of Octopamine on the Locust Stomatogastric Nervous System. Frontiers in Physiology, 2012, 3, 288.	2.8	9
83	Role of wing pronation in evasive steering of locusts. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2012, 198, 541-555.	1.6	9
84	The Cell Birth Marker BrdU Does Not Affect Recruitment of Subsequent Cell Divisions in the Adult Avian Brain. BioMed Research International, 2015, 2015, 1-11.	1.9	9
85	The social brain of â€˜non-eusocialâ€™ insects. Current Opinion in Insect Science, 2021, 48, 1-7.	4.4	9
86	Sexual Behavior of the Desert Locust During Intra- and Inter-Phase Interactions. Journal of Insect Behavior, 2018, 31, 629-641.	0.7	8
87	Ex vivo recordings reveal desert locust forelimb control is asymmetric. Current Biology, 2018, 28, R1290-R1291.	3.9	8
88	Metamorphosis-related changes in the lateral line system of lampreys, Petromyzon marinus. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2008, 194, 945-956.	1.6	7
89	Innate phase behavior in the desert locust, <i>Schistocerca gregaria</i>. Insect Science, 2012, 19, 649-656.	3.0	7
90	Neurophysiological studies of flight-related density-dependent phase characteristics in locusts. Acta Biologica Hungarica, 2004, 55, 137-141.	0.7	7

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91	Comparative testing of several juvenile hormone analogues in two species of locusts,Locusta migratoria migratorioidesandSchistocerca gregaria. Pest Management Science, 1997, 51, 443-449.	0.4	6
92	Discontinuous gas-exchange cycle characteristics are differentially affected by hydration state and energy metabolism in gregarious and solitarious desert locusts. Journal of Experimental Biology, 2015, 218, 3807-15.	1.7	6
93	An experimental evolution study confirms that discontinuous gas exchange does not contribute to body water conservation in locusts. Biology Letters, 2016, 12, 20160807.	2.3	6
94	Dynamics of bacterial composition in the locust reproductive tract are affected by the density-dependent phase. FEMS Microbiology Ecology, 2020, 96, .	2.7	6
95	The biomechanics of the locust ovipositor valves: a unique digging apparatus. Journal of the Royal Society Interface, 2022, 19, 20210955.	3.4	6
96	Editorial: models of invertebrate neurons in culture. Journal of Molecular Histology, 2012, 43, 379-381.	2.2	5
97	Fly neurons in culture: a model for neural development and pathology. Journal of Molecular Histology, 2012, 43, 421-430.	2.2	5
98	The use of MEMRI for monitoring central nervous system activity during intact insect walking. Journal of Insect Physiology, 2018, 108, 48-53.	2.0	5
99	Adult, sex-specific behavior characterized by elevated neuronal functional complexity. NeuroReport, 2006, 17, 1153-1158.	1.2	4
100	Intricate but tight coupling of spiracular activity and abdominal ventilation during locust discontinuous gas exchange cycles. Journal of Experimental Biology, 2018, 221, .	1.7	4
101	A Juvenile Hormone analogue enhances homosexual behaviour in femaleâ€deprived males of the migratory locust. Physiological Entomology, 2012, 37, 291-294.	1.5	3
102	The maternal foam plug constitutes a reservoir for the desert locust's bacterial symbionts. Environmental Microbiology, 2021, 23, 2461-2472.	3.8	3
103	From Motor-Output to Connectivity: An In-Depth Study of in-vitro Rhythmic Patterns in the Cockroach Periplaneta americana. Frontiers in Insect Science, 2021, 1, .	2.1	3
104	Microbiomeâ€related aspects of locust densityâ€dependent phase transition. Environmental Microbiology, 2022, 24, 507-516.	3.8	3
105	Respiratory gas levels interact to control ventilatory motor patterns in isolated locust ganglia. Journal of Experimental Biology, 2019, 222, .	1.7	2
106	Reprint of: Bio-based design methodologies for products, processes, machine tools and production systems. CIRP Journal of Manufacturing Science and Technology, 2021, 34, 22-36.	4.5	2
107	Tight coupling of human walking and a four-legged walking-device inspired by insect six-legged locomotion. Engineering Research Express, 2020, 2, 036001.	1.6	2
108	Design of a bio-mimetic jumping robot. , 2012, , .		1

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109	The Metastability of the Double-Tripod Gait in Locust Locomotion. SSRN Electronic Journal, 0, , .	0.4	1
110	Self Organization of Two-dimensional Insect Neural Networks. AIP Conference Proceedings, 2002, , .	0.4	0
111	Neuro-fuzzy learning of locust's marching in a Swarm. , 2016, , .		0
112	Editorial overview: Insect neuroscience: roads less travelled. Current Opinion in Insect Science, 2021, 48, v-vii.	4.4	0
113	Editorial: Biological and Robotic Inter-Limb Coordination. Frontiers in Robotics and AI, 2022, 9, 875493.	3.2	0
114	Comparative testing of several juvenile hormone analogues in two species of locusts, Locusta migratoria migratorioides and Schistocerca gregaria. Pest Management Science, 1997, 51, 443-449.	0.4	0