

# Radhika Nagpal

## List of Publications by Year in descending order

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Version: 2024-02-01

49  
papers

3,632  
citations

331670

21  
h-index

395702

33  
g-index

50  
all docs

50  
docs citations

50  
times ranked

3589  
citing authors

#	ARTICLE	IF	CITATIONS
1	Hysteresis stabilizes dynamic control of self-assembled army ant constructions. <i>Nature Communications</i> , 2022, 13, 1160.	12.8	9
2	Implicit coordination for 3D underwater collective behaviors in a fish-inspired robot swarm. <i>Science Robotics</i> , 2021, 6, .	17.6	130
3	Fish-like three-dimensional swimming with an autonomous, multi-fin, and biomimetic robot. <i>Bioinspiration and Biomimetics</i> , 2021, 16, 026018.	2.9	33
4	Validating a Termite-Inspired Construction Coordination Mechanism Using an Autonomous Robot. <i>Frontiers in Robotics and AI</i> , 2021, 8, 645728.	3.2	5
5	Hydrodynamic advantages of in-line schooling. <i>Bioinspiration and Biomimetics</i> , 2021, 16, 046002.	2.9	29
6	Self-Organized Evasive Fountain Maneuvers with a Bioinspired Underwater Robot Collective. , 2021, , .		7
7	The extension of internal humidity levels beyond the soil surface facilitates mound expansion in <i>Macrotermes</i> . <i>Proceedings of the Royal Society B: Biological Sciences</i> , 2020, 287, 20200894.	2.6	9
8	Tunable Multi-Modal Locomotion in Soft Dielectric Elastomer Robots. <i>IEEE Robotics and Automation Letters</i> , 2020, 5, 3868-3875.	5.1	39
9	Effects of load mass and size on cooperative transport in ants over multiple transport challenges. <i>Journal of Experimental Biology</i> , 2019, 222, .	1.7	3
10	Surface curvature guides early construction activity in mound-building termites. <i>Philosophical Transactions of the Royal Society B: Biological Sciences</i> , 2019, 374, 20180374.	4.0	22
11	Differential construction response to humidity by related species of mound-building termites. <i>Journal of Experimental Biology</i> , 2019, 222, .	1.7	8
12	Robust Maneuverability of a Miniature, Low-Cost Underwater Robot Using Multiple Fin Actuation. <i>IEEE Robotics and Automation Letters</i> , 2018, 3, 140-147.	5.1	25
13	Biomimetic actuation method for a miniature, low-cost multi-jointed robotic fish. , 2018, , .		5
14	Fast, Accurate, Small-Scale 3D Scene Capture Using a Low-Cost Depth Sensor. , 2017, 2017, 1268-1276.		10
15	Excavation and aggregation as organizing factors in de novo construction by mound-building termites. <i>Proceedings of the Royal Society B: Biological Sciences</i> , 2017, 284, 20162730.	2.6	20
16	Complex Design by Simple Robots: A Collective Embodied Intelligence Approach to Construction. <i>Architectural Design</i> , 2017, 87, 44-49.	0.1	11
17	Flippy: A soft, autonomous climber with simple sensing and control. , 2017, , .		21
18	Costs of task allocation with local feedback: Effects of colony size and extra workers in social insects and other multi-agent systems. <i>PLoS Computational Biology</i> , 2017, 13, e1005904.	3.2	3

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19	Collective strategy for obstacle navigation during cooperative transport by ants. <i>Journal of Experimental Biology</i> , 2016, 219, 3366-3375.	1.7	25
20	Arrestant property of recently manipulated soil on <i>Macrotermes michaelseni</i> as determined through visual tracking and automatic labeling of individual termite behaviors. <i>Behavioural Processes</i> , 2015, 116, 8-11.	1.1	12
21	Autonomous MAV guidance with a lightweight omnidirectional vision sensor. , 2014, , .		22
22	Distributed amorphous ramp construction in unstructured environments. <i>Robotica</i> , 2014, 32, 279-290.	1.9	32
23	Kilobot: A low cost robot with scalable operations designed for collective behaviors. <i>Robotics and Autonomous Systems</i> , 2014, 62, 966-975.	5.1	158
24	Designing Collective Behavior in a Termite-Inspired Robot Construction Team. <i>Science</i> , 2014, 343, 754-758.	12.6	475
25	Programmable self-assembly in a thousand-robot swarm. <i>Science</i> , 2014, 345, 795-799.	12.6	927
26	Task Allocation in Ant Colonies. <i>Lecture Notes in Computer Science</i> , 2014, , 46-60.	1.3	23
27	A computational framework for identifying design guidelines to increase the penetration of targeted nanoparticles into tumors. <i>Nano Today</i> , 2013, 8, 566-576.	11.9	43
28	Flight of the Robobees. <i>Scientific American</i> , 2013, 308, 60-65.	1.0	85
29	A comparison of deterministic and stochastic approaches for allocating spatially dependent tasks in micro-aerial vehicle collectives. , 2012, , .		13
30	Bio-Inspired Design of Soft Robotic Assistive Devices: The Interface of Physics, Biology, and Behavior. <i>Ecological Psychology</i> , 2012, 24, 300-327.	1.1	35
31	Design of control policies for spatially inhomogeneous robot swarms with application to commercial pollination. , 2011, , .		56
32	Bio-inspired active soft orthotic device for ankle foot pathologies. , 2011, , .		77
33	Control of the Mitotic Cleavage Plane by Local Epithelial Topology. <i>Cell</i> , 2011, 144, 427-438.	28.9	173
34	Applicability of Shape Memory Alloy Wire for an Active, Soft Orthotic. <i>Journal of Materials Engineering and Performance</i> , 2011, 20, 658-662.	2.5	65
35	A Self-adaptive Framework for Modular Robots in a Dynamic Environment: Theory and Applications. <i>International Journal of Robotics Research</i> , 2011, 30, 1015-1036.	8.5	21
36	Optimization of stochastic strategies for spatially inhomogeneous robot swarms: A case study in commercial pollination. , 2011, , .		10

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37	Optimization of personal distribution for evacuation guidance based on vector field. , 2011, , .		3
38	Bio-inspired active soft orthotic device for ankle foot pathologies. , 2011, , .		3
39	Self-adapting modular robotics: A generalized distributed consensus framework. , 2009, , .		23
40	Modeling and Inferring Cleavage Patterns in Proliferating Epithelia. PLoS Computational Biology, 2009, 5, e1000412.	3.2	49
41	Epithelial topology. BioEssays, 2008, 30, 260-266.	2.5	28
42	Morpho: A Self-Deformable Modular Robot Inspired by Cellular Structure. , 2008, , .		36
43	Towards Desynchronization of Multi-hop Topologies. , 2008, , .		50
44	Three-Dimensional Construction with Mobile Robots and Modular Blocks. International Journal of Robotics Research, 2008, 27, 463-479.	8.5	80
45	Self-organization of environmentally-adaptive shapes on a modular robot. , 2007, , .		9
46	Desynchronization: The Theory of Self-Organizing Algorithms for Round-Robin Scheduling. , 2007, , .		43
47	The emergence of geometric order in proliferating metazoan epithelia. Nature, 2006, 442, 1038-1041.	27.8	380
48	Firefly-inspired sensor network synchronicity with realistic radio effects. , 2005, , .		234
49	Experimental Results for and Theoretical Analysis of a Self-Organizing Global Coordinate System for Ad Hoc Sensor Networks. Telecommunication Systems, 2004, 26, 213-233.	2.5	44