Alexander Sprwitz

List of Publications by Year in Descending Order

30 papers	961 citations	13 h-index	31 g-index
33 ext. papers	1,342 ext. citations	5.1 avg, IF	4.21 L-index

#	Paper	IF	Citations
30	BirdBot achieves energy-efficient gait with minimal control using avian-inspired leg clutching.. *Science Robotics*, **2022**, 7, eabg4055	18.6	3
29	Hybrid Parallel Compliance Allows Robots to Operate With Sensorimotor Delays and Low Control Frequencies. *Frontiers in Robotics and AI*, **2021**, 8, 645748	2.8	1
28	An Open Torque-Controlled Modular Robot Architecture for Legged Locomotion Research. *IEEE Robotics and Automation Letters*, **2020**, 5, 3650-3657	4.2	34
27	Trunk pitch oscillations for energy trade-offs in bipedal running birds and robots. *Bioinspiration and Biomimetics*, **2020**, 15, 036013	2.6	6
26	3D Anatomy of the Quail Lumbosacral Spinal Canal-Implications for Putative Mechanosensory Function. *Integrative Organismal Biology*, **2020**, 2, obaa037	2.3	0
25	Postural stability in human running with step-down perturbations: an experimental and numerical study. *Royal Society Open Science*, **2020**, 7, 200570	3.3	3
24	A little damping goes a long way: a simulation study of how damping influences task-level stability in running. *Biology Letters*, **2020**, 16, 20200467	3.6	4
23	Effective Viscous Damping Enables Morphological Computation in Legged Locomotion. *Frontiers in Robotics and AI*, **2020**, 7, 110	2.8	6
22	Virtual Point Control for Step-Down Perturbations and Downhill Slopes in Bipedal Running. *Frontiers in Bioengineering and Biotechnology*, **2020**, 8, 586534	5.8	
21	Series Elastic Behavior of Biarticular Muscle-Tendon Structure in a Robotic Leg. *Frontiers in Neurorobotics*, **2019**, 13, 64	3.4	8
20	Beyond Basins of Attraction: Quantifying Robustness of Natural Dynamics. *IEEE Transactions on Robotics*, **2019**, 35, 939-952	6.5	3
19	Trunk Pitch Oscillations for Joint Load Redistribution in Humans and Humanoid Robots **2019**,		3
18	Learning from outside the viability kernel: Why we should build robots that can fall with grace **2018** ,		1
17	**2018**,		4
16	Spinal joint compliance and actuation in a simulated bounding quadruped robot. *Autonomous Robots*, **2017**, 41, 437-452	3	32
15	Scalable pneumatic and tendon driven robotic joint inspired by jumping spiders **2017**,		8
14	ATRIAS: Design and validation of a tether-free 3D-capable spring-mass bipedal robot. *International Journal of Robotics Research*, **2016**, 35, 1497-1521	5.7	89

List of Publications

13	Exciting Engineered Passive Dynamics in a Bipedal Robot. *IEEE Transactions on Robotics*, **2015**, 31, 1244-1251	3.5	45
12	Comparing the effect of different spine and leg designs for a small bounding quadruped robot **2015**,		33
11	Roombots: A hardware perspective on 3D self-reconfiguration and locomotion with a homogeneous modular robot. *Robotics and Autonomous Systems*, **2014**, 62, 1016-1033	3.5	58
10	Horse-like walking, trotting, and galloping derived from kinematic Motion Primitives (kMPs) and their application to walk/trot transitions in a compliant quadruped robot. *Biological Cybernetics*, **2013**, 107, 309-20	2.8	36
9	Towards dynamic trot gait locomotion: Design, control, and experiments with Cheetah-cub, a compliant quadruped robot. *International Journal of Robotics Research*, **2013**, 32, 932-950	5.7	252
8	Modular control of limit cycle locomotion over unperceived rough terrain **2013**,		21
7	Roombots: Reconfigurable Robots for Adaptive Furniture. *IEEE Computational Intelligence Magazine*, **2010**, 5, 20-32	5.6	152
6	Distributed Online Learning of Central Pattern Generators in Modular Robots. *Lecture Notes in Computer Science*, **2010**, 402-412	0.9	5
5	Passive compliant quadruped robot using Central Pattern Generators for locomotion control **2008**,		44
4	Learning to Move in Modular Robots using Central Pattern Generators and Online Optimization. *International Journal of Robotics Research*, **2008**, 27, 423-443	5.7	83
3	An easy to use bluetooth scatternet protocol for fast data exchange in wireless sensor networks and autonomous robots **2007**,		3
2	Project course "Design of Mechatronic Systems" (ICM 2006) **2006**,		4
1	Passive compliance for a RC servo-controlled bouncing robot. *Advanced Robotics*, **2006**, 20, 953-961	1.7	19