

# Aaron D Ames

## List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/7587212/publications.pdf>

Version: 2024-02-01

265  
papers

9,705  
citations

186265

28  
h-index

91884

69  
g-index

268  
all docs

268  
docs citations

268  
times ranked

3555  
citing authors

#	ARTICLE	IF	CITATIONS
1	Multi-Rate Control Design Under Input Constraints via Fixed-Time Barrier Functions. , 2022, 6, 608-613.		10
2	Sampled-Data Stabilization With Control Lyapunov Functions via Quadratically Constrained Quadratic Programs. , 2022, 6, 680-685.		4
3	Safety-Critical Kinematic Control of Robotic Systems. , 2022, 6, 139-144.		38
4	Iterative Model Predictive Control for Piecewise Systems. , 2022, 6, 842-847.		3
5	Safe Controller Synthesis With Tunable Input-to-State Safe Control Barrier Functions. , 2022, 6, 908-913.		34
6	Risk-Averse Control via CVaR Barrier Functions: Application to Bipedal Robot Locomotion. , 2022, 6, 878-883.		18
7	Model-Free Safety-Critical Control for Robotic Systems. IEEE Robotics and Automation Letters, 2022, 7, 944-951.	5.1	39
8	Disturbance Bounds for Signal Temporal Logic Task Satisfaction: A Dynamics Perspective. , 2022, 6, 2018-2023.		0
9	Robust Stabilization of Periodic Gaits for Quadrupedal Locomotion via QP-Based Virtual Constraint Controllers. , 2022, 6, 1736-1741.		9
10	A Constructive Method for Designing Safe Multirate Controllers for Differentially-Flat Systems. , 2022, 6, 2138-2143.		5
11	Onboard Safety Guarantees for Racing Drones: High-Speed Geofencing With Control Barrier Functions. IEEE Robotics and Automation Letters, 2022, 7, 2897-2904.	5.1	20
12	Natural Multicontact Walking for Robotic Assistive Devices via Musculoskeletal Models and Hybrid Zero Dynamics. IEEE Robotics and Automation Letters, 2022, 7, 4283-4290.	5.1	4
13	3-D Underactuated Bipedal Walking via H-LIP Based Gait Synthesis and Stepping Stabilization. IEEE Transactions on Robotics, 2022, 38, 2405-2425.	10.3	22
14	Powered Prosthesis Locomotion on Varying Terrains: Model-Dependent Control With Real-Time Force Sensing. IEEE Robotics and Automation Letters, 2022, 7, 5151-5158.	5.1	3
15	Interactive Multi-Modal Motion Planning With Branch Model Predictive Control. IEEE Robotics and Automation Letters, 2022, 7, 5365-5372.	5.1	23
16	Distributed Quadratic Programming-Based Nonlinear Controllers for Periodic Gaits on Legged Robots. , 2022, , 1-1.		5
17	Robust Predictive Control for Quadrupedal Locomotion: Learning to Close the Gap Between Reduced- and Full-Order Models. IEEE Robotics and Automation Letters, 2022, 7, 6622-6629.	5.1	8
18	Safety and Efficiency in Robotics: The Control Barrier Functions Approach. IEEE Robotics and Automation Magazine, 2022, 29, 139-151.	2.0	12

#	ARTICLE	IF	CITATIONS
19	Toward a Data-Driven Template Model for Quadrupedal Locomotion. IEEE Robotics and Automation Letters, 2022, 7, 7636-7643.	5.1	11
20	Unified Multirate Control: From Low-Level Actuation to High-Level Planning. IEEE Transactions on Automatic Control, 2022, 67, 6627-6640.	5.7	8
21	Learning Controller Gains on Bipedal Walking Robots via User Preferences. , 2022, , .		3
22	Bipedal Walking on Constrained Footholds: Momentum Regulation via Vertical COM Control. , 2022, , .		8
23	Self-Supervised Online Learning for Safety-Critical Control using Stereo Vision. , 2022, , .		2
24	Guaranteed Obstacle Avoidance for Multi-Robot Operations With Limited Actuation: A Control Barrier Function Approach. , 2021, 5, 127-132.		71
25	Model-Based Adaptive Control of Transfemoral Prostheses: Theory, Simulation, and Experiments. IEEE Transactions on Systems, Man, and Cybernetics: Systems, 2021, 51, 1174-1191.	9.3	15
26	A Control Barrier Perspective on Episodic Learning via Projection-to-State Safety. , 2021, 5, 1019-1024.		20
27	Coupled Control Systems: Periodic Orbit Generation With Application to Quadrupedal Locomotion. , 2021, 5, 935-940.		8
28	Characterizing Safety: Minimal Control Barrier Functions From Scalar Comparison Systems. , 2021, 5, 523-528.		11
29	Integral Control Barrier Functions for Dynamically Defined Control Laws. , 2021, 5, 887-892.		24
30	Separable Control Lyapunov Functions With Application to Prostheses. , 2021, 5, 559-564.		10
31	Safety-Critical Event Triggered Control via Input-to-State Safe Barrier Functions. , 2021, 5, 749-754.		20
32	Multi-Rate Control Design Leveraging Control Barrier Functions and Model Predictive Control Policies. , 2021, 5, 1007-1012.		27
33	Safety-Critical Control Synthesis for Network Systems With Control Barrier Functions and Assume-Guarantee Contracts. IEEE Transactions on Control of Network Systems, 2021, 8, 487-499.	3.7	11
34	Safety-Critical Control of Compartmental Epidemiological Models With Measurement Delays. , 2021, 5, 1537-1542.		21
35	Dynamic Walking: Toward Agile and Efficient Bipedal Robots. Annual Review of Control, Robotics, and Autonomous Systems, 2021, 4, 535-572.	11.8	30
36	Learning Terrain Dynamics: A Gaussian Process Modeling and Optimal Control Adaptation Framework Applied to Robotic Jumping. IEEE Transactions on Control Systems Technology, 2021, 29, 1581-1596.	5.2	7

#	ARTICLE	IF	CITATIONS
37	Smooth Approximations for Hybrid Optimal Control Problems with Application to Robotic Walking. IFAC-PapersOnLine, 2021, 54, 181-186.	0.9	1
38	SLIP Walking Over Rough Terrain via H-LIP Stepping and Backstepping-Barrier Function Inspired Quadratic Program. IEEE Robotics and Automation Letters, 2021, 6, 2122-2129.	5.1	15
39	Coupled Control Lyapunov Functions for Interconnected Systems, With Application to Quadrupedal Locomotion. IEEE Robotics and Automation Letters, 2021, 6, 3761-3768.	5.1	7
40	Data-Driven Safety-Critical Control: Synthesizing Control Barrier Functions with Koopman Operators. , 2021, , .		0
41	Certifying Safety for Nonlinear Time Delay Systems via Safety Functionals: A Discretization Based Approach. , 2021, , .		4
42	Online decentralized decision making with inequality constraints: An ADMM approach. , 2021, , .		0
43	Safety-Critical Kinematic Control of Robotic Systems. , 2021, , .		6
44	Decentralized Task and Path Planning for Multi-Robot Systems. IEEE Robotics and Automation Letters, 2021, 6, 4337-4344.	5.1	15
45	Evaluation of safety and performance of the self balancing walking system Atalante in patients with complete motor spinal cord injury. Spinal Cord Series and Cases, 2021, 7, 71.	0.6	10
46	Versatile Dynamic Motion Generation Framework: Demonstration With a Crutch-Less Exoskeleton on Real-Life Obstacles at the Cybathlon 2020 With a Complete Paraplegic Person. Frontiers in Robotics and AI, 2021, 8, 723780.	3.2	2
47	Online Learning of Unknown Dynamics for Model-Based Controllers in Legged Locomotion. IEEE Robotics and Automation Letters, 2021, 6, 8442-8449.	5.1	14
48	Online Decentralized Decision Making With Inequality Constraints: An ADMM approach. , 2021, 5, 2156-2161.		4
49	Data-Driven Safety-Critical Control: Synthesizing Control Barrier Functions With Koopman Operators. , 2021, 5, 2012-2017.		18
50	Preference-Based Learning for User-Guided HZD Gait Generation on Bipedal Walking Robots. , 2021, , .		7
51	Towards the Unification of System Design and Motion Synthesis for High-Performance Hopping Robots. , 2021, , .		2
52	ROIAL: Region of Interest Active Learning for Characterizing Exoskeleton Gait Preference Landscapes. , 2021, , .		13
53	Global Position Control on Underactuated Bipedal Robots: Step-to-step Dynamics Approximation for Step Planning. , 2021, , .		14
54	Model-Dependent Prosthesis Control with Interaction Force Estimation. , 2021, , .		2

#	ARTICLE	IF	CITATIONS
55	Inverse Dynamics Control of Compliant Hybrid Zero Dynamic Walking. , 2021, , .		4
56	Multi-Layered Safety for Legged Robots via Control Barrier Functions and Model Predictive Control. , 2021, , .		52
57	Learning to Control an Unstable System with One Minute of Data: Leveraging Gaussian Process Differentiation in Predictive Control. , 2021, , .		1
58	Comparative Analysis of Control Barrier Functions and Artificial Potential Fields for Obstacle Avoidance. , 2021, , .		35
59	Measurement-Robust Control Barrier Functions: Certainty in Safety with Uncertainty in State. , 2021, , .		14
60	Verifying Safe Transitions between Dynamic Motion Primitives on Legged Robots. , 2021, , .		9
61	Estimate-to-State Stability for Hybrid Human-Prosthesis Systems. , 2021, , .		1
62	Backup Control Barrier Functions: Formulation and Comparative Study. , 2021, , .		28
63	Towards Robust Data-Driven Control Synthesis for Nonlinear Systems with Actuation Uncertainty. , 2021, , .		11
64	Robust Disturbance Rejection for Robotic Bipedal Walking: System-Level-Synthesis with Step-to-step Dynamics Approximation. , 2021, , .		3
65	Hierarchical and Safe Motion Control for Cooperative Locomotion of Robotic Guide Dogs and Humans: A Hybrid Systems Approach. IEEE Robotics and Automation Letters, 2020, 5, 56-63.	5.1	12
66	Nonholonomic Hybrid Zero Dynamics for the Stabilization of Periodic Orbits: Application to Underactuated Robotic Walking. IEEE Transactions on Control Systems Technology, 2020, 28, 2689-2696.	5.2	11
67	From Bipedal Walking to Quadrupedal Locomotion: Full-Body Dynamics Decomposition for Rapid Gait Generation. , 2020, , .		8
68	Recurrent Neural Network Control of a Hybrid Dynamical Transfemoral Prosthesis with EdgeDRNN Accelerator. , 2020, , .		4
69	Passive Dynamic Balancing and Walking in Actuated Environments. , 2020, , .		1
70	Safety-Critical Rapid Aerial Exploration of Unknown Environments. , 2020, , .		12
71	Distributed Feedback Controllers for Stable Cooperative Locomotion of Quadrupedal Robots: A Virtual Constraint Approach. , 2020, , .		3
72	Adaptive Safety with Control Barrier Functions. , 2020, , .		87

#	ARTICLE	IF	CITATIONS
73	Lyapunov-Like Conditions for Tight Exit Probability Bounds through Comparison Theorems for SDEs. , 2020, , .		1
74	Risk-Averse Planning Under Uncertainty. , 2020, , .		12
75	Invariant Sets for Integrators and Quadrotor Obstacle Avoidance. , 2020, , .		9
76	Intermittent Connectivity for Exploration in Communication-Constrained Multi-Agent Systems. , 2020, , .		3
77	A Scalable Safety Critical Control Framework for Nonlinear Systems. IEEE Access, 2020, 8, 187249-187275.	4.2	37
78	Safety-Critical Control of Active Interventions for COVID-19 Mitigation. IEEE Access, 2020, 8, 188454-188474.	4.2	24
79	Improved Performance on Moving-Mass Hopping Robots with Parallel Elasticity. , 2020, , .		7
80	Preference-Based Learning for Exoskeleton Gait Optimization. , 2020, , .		49
81	Density Functions for Guaranteed Safety on Robotic Systems. , 2020, , .		2
82	Dynamic and Versatile Humanoid Walking via Embedding 3D Actuated SLIP Model With Hybrid LIP Based Stepping. IEEE Robotics and Automation Letters, 2020, 5, 6286-6293.	5.1	18
83	Towards Variable Assistance for Lower Body Exoskeletons. IEEE Robotics and Automation Letters, 2020, 5, 266-273.	5.1	18
84	Distributed Collision-Free Motion Coordination on a Sphere: A Conic Control Barrier Function Approach. , 2020, 4, 976-981.		10
85	Biofuel-powered soft electronic skin with multiplexed and wireless sensing for human-machine interfaces. Science Robotics, 2020, 5, .	17.6	385
86	Energy-Efficient Motion Planning for Multi-Modal Hybrid Locomotion. , 2020, , .		5
87	Human Preference-Based Learning for High-dimensional Optimization of Exoskeleton Walking Gaits. , 2020, , .		18
88	Control Barrier Functions for Sampled-Data Systems with Input Delays. , 2020, , .		19
89	Algorithmic Foundations of Realizing Multi-Contact Locomotion on the Humanoid Robot DURUS. Springer Proceedings in Advanced Robotics, 2020, , 400-415.	1.3	15
90	Optimal Safe Controller Synthesis: A Density Function Approach. , 2020, , .		10

#	ARTICLE	IF	CITATIONS
91	An Inverse Dynamics Approach to Control Lyapunov Functions. , 2020, , .		13
92	Sequential Motion Planning for Bipedal Somersault via Flywheel SLIP and Momentum Transmission with Task Space Control. , 2020, , .		8
93	Data-driven Characterization of Human Interaction for Model-based Control of Powered Prostheses. , 2020, , .		3
94	Quadrupedal Robotic Walking on Sloped Terrains via Exact Decomposition into Coupled Bipedal Robots. , 2020, , .		1
95	Input-to-State Safety With Control Barrier Functions. , 2019, 3, 108-113.		122
96	Control Barrier Functions: Theory and Applications. , 2019, , .		650
97	Dynamic Walking on Slippery Surfaces : Demonstrating Stable Bipedal Gaits with Planned Ground Slippage. , 2019, , .		16
98	Every Hop is an Opportunity: Quickly Classifying and Adapting to Terrain During Targeted Hopping. , 2019, , .		8
99	Dynamic Walking with Compliance on a Cassie Bipedal Robot. , 2019, , .		35
100	Optimal Control of Piecewise-Smooth Control Systems via Singular Perturbations. , 2019, , .		0
101	Dynamically Stable 3D Quadrupedal Walking with Multi-Domain Hybrid System Models and Virtual Constraint Controllers. , 2019, , .		5
102	Realizable Set Invariance Conditions for Cyber-Physical Systems. , 2019, , .		12
103	Episodic Learning with Control Lyapunov Functions for Uncertain Robotic Systems. , 2019, , .		33
104	A Scalable Controlled Set Invariance Framework with Practical Safety Guarantees. , 2019, , .		13
105	A Control Lyapunov Perspective on Episodic Learning via Projection to State Stability. , 2019, , .		6
106	Optimal Walking Speed Transitions for Fully Actuated Bipedal Robots*. , 2019, , .		4
107	Safety Functionals for Time Delay Systems. , 2019, , .		14
108	First Steps Towards Full Model Based Motion Planning and Control of Quadrupeds: A Hybrid Zero Dynamics Approach. , 2019, , .		12

#	ARTICLE	IF	CITATIONS
109	Orbit Characterization, Stabilization and Composition on 3D Underactuated Bipedal Walking via Hybrid Passive Linear Inverted Pendulum Model. , 2019, , .		17
110	Motion Decoupling and Composition via Reduced Order Model optimization for Dynamic Humanoid Walking with CLF-QP based Active Force Control. , 2019, , .		6
111	Online Active Safety for Robotic Manipulators. , 2019, , .		19
112	Design and Comparative Analysis of 1D Hopping Robots. , 2019, , .		3
113	Safe Policy Synthesis in Multi-Agent POMDPs via Discrete-Time Barrier Functions. , 2019, , .		37
114	Compositional Set Invariance in Network Systems with Assume-Guarantee Contracts. , 2019, , .		8
115	Correctness Guarantees for the Composition of Lane Keeping and Adaptive Cruise Control. IEEE Transactions on Automation Science and Engineering, 2018, 15, 1216-1229.	5.2	103
116	Dynamic Humanoid Locomotion: A Scalable Formulation for HZD Gait Optimization. IEEE Transactions on Robotics, 2018, 34, 370-387.	10.3	79
117	Coupling Reduced Order Models via Feedback Control for 3D Underactuated Bipedal Robotic Walking. , 2018, , .		22
118	An Online Approach to Active Set Invariance. , 2018, , .		48
119	Bipedal Locomotion Up Sandy Slopes: Systematic Experiments Using Zero Moment Point Methods. , 2018, , .		1
120	Barrier Functions: Bridging the Gap between Planning from Specifications and Safety-Critical Control. , 2018, , .		18
121	Feedback Control of an Exoskeleton for Paraplegics: Toward Robustly Stable, Hands-Free Dynamic Walking. IEEE Control Systems, 2018, 38, 61-87.	0.8	72
122	Bipedal Hopping: Reduced-Order Model Embedding via Optimization-Based Control. , 2018, , .		51
123	Towards Restoring Locomotion for Paraplegics: Realizing Dynamically Stable Walking on Exoskeletons. , 2018, , .		40
124	Exponentially Stabilizing Controllers for Multi-Contact 3D Bipedal Locomotion. , 2018, , .		1
125	Towards a Framework for Realizable Safety Critical Control through Active Set Invariance. , 2018, , .		71
126	Direct Collocation for Dynamic Behaviors With Nonprehensile Contacts: Application to Flipping Burgers. IEEE Robotics and Automation Letters, 2018, 3, 3677-3684.	5.1	10



#	ARTICLE	IF	CITATIONS
127	Input to State Stabilizing Control Lyapunov Functions for Robust Bipedal Robotic Locomotion. , 2018, , .		15
128	Observer-Based Feedback Controllers for Exponential Stabilization of Hybrid Periodic Orbits: Application to Underactuated Bipedal Walking. , 2018, , .		5
129	First steps toward translating robotic walking to prostheses: a nonlinear optimization based control approach. Autonomous Robots, 2017, 41, 725-742.	4.8	41
130	Safety Barrier Certificates for Collisions-Free Multirobot Systems. IEEE Transactions on Robotics, 2017, 33, 661-674.	10.3	410
131	First steps toward formal controller synthesis for bipedal robots with experimental implementation. Nonlinear Analysis: Hybrid Systems, 2017, 25, 155-173.	3.5	12
132	Multi-contact bipedal robotic locomotion. Robotica, 2017, 35, 1072-1106.	1.9	15
133	Bipedal Robotic Running with DURUS-2D. , 2017, , .		25
134	First Steps Towards Translating HZD Control of Bipedal Robots to Decentralized Control of Exoskeletons. IEEE Access, 2017, 5, 9919-9934.	4.2	66
135	Control Barrier Function Based Quadratic Programs for Safety Critical Systems. IEEE Transactions on Automatic Control, 2017, 62, 3861-3876.	5.7	985
136	Robust control of a powered transfemoral prosthesis device with experimental verification. , 2017, , .		13
137	The Robotarium: A remotely accessible swarm robotics research testbed. , 2017, , .		224
138	Preliminary results on energy efficient 3D prosthetic walking with a powered compliant transfemoral prosthesis. , 2017, , .		26
139	Learning to jump in granular media: Unifying optimal control synthesis with Gaussian process-based regression. , 2017, , .		12
140	Abstracting Partially Feedback Linearizable Systems Compositionally. , 2017, 1, 227-232.		20
141	Closed-form controlled invariant sets for pedestrian avoidance. , 2017, , .		6
142	Parameter to state stability of control Lyapunov functions for hybrid system models of robots. Nonlinear Analysis: Hybrid Systems, 2017, 25, 174-191.	3.5	25
143	Safe certificate-based maneuvers for teams of quadrotors using differential flatness. , 2017, , .		85
144	FROST*: Fast robot optimization and simulation toolkit. , 2017, , .		73

#	ARTICLE	IF	CITATIONS
145	A stability region criterion for flat-footed bipedal walking on deformable granular terrain. , 2017, , .		15
146	Data-driven control for feedback linearizable single-input systems. , 2017, , .		24
147	Toward benchmarking locomotion economy across design configurations on the modular robot: AMBER-3M. , 2017, , .		14
148	Realizing simultaneous lane keeping and adaptive speed regulation on accessible mobile robot testbeds. , 2017, , .		26
149	Control of Motion and Compliance. , 2017, , 135-346.		3
150	Footstep and motion planning in semi-unstructured environments using randomized possibility graphs. , 2017, , .		19
151	Work those arms: Toward dynamic and stable humanoid walking that optimizes full-body motion. , 2016, , .		7
152	3D multi-contact gait design for prostheses: Hybrid system models, virtual constraints and two-step direct collocation. , 2016, , .		7
153	3D dynamic walking on stepping stones with control barrier functions. , 2016, , .		70
154	Multi-objective compositions for collision-free connectivity maintenance in teams of mobile robots. , 2016, , .		71
155	Mechanics-based design of underactuated robotic walking gaits: Initial experimental realization. , 2016, , .		5
156	Mechanics-based control of underactuated 3D robotic walking: Dynamic gait generation under torque constraints. , 2016, , .		9
157	Tractable terrain-aware motion planning on granular media: An impulsive jumping study. , 2016, , .		26
158	Humanoid manipulation planning using backward-forward search. , 2016, , .		4
159	Efficient HZD gait generation for three-dimensional underactuated humanoid running. , 2016, , .		8
160	Safety barrier certificates for heterogeneous multi-robot systems. , 2016, , .		51
161	Online optimal gait generation for bipedal walking robots using legendre pseudospectral optimization. , 2016, , .		15
162	Unification of locomotion pattern generation and control Lyapunov function-based Quadratic Programs. , 2016, , .		3

#	ARTICLE	IF	CITATIONS
163	Time dependent control Lyapunov functions and hybrid zero dynamics for stable robotic locomotion. , 2016, , .		9
164	Towards real-time parameter optimization for feasible nonlinear control with applications to robot locomotion. , 2016, , .		5
165	3D dynamic walking with underactuated humanoid robots: A direct collocation framework for optimizing hybrid zero dynamics. , 2016, , .		136
166	Realizing dynamic and efficient bipedal locomotion on the humanoid robot DURUS. , 2016, , .		67
167	Multicontact Locomotion on Transfemoral Prostheses via Hybrid System Models and Optimization-Based Control. IEEE Transactions on Automation Science and Engineering, 2016, 13, 502-513.	5.2	40
168	Correct-by-Construction Adaptive Cruise Control: Two Approaches. IEEE Transactions on Control Systems Technology, 2016, 24, 1294-1307.	5.2	114
169	Acumen: An Open-Source Testbed for Cyber-Physical Systems Research. Lecture Notes of the Institute for Computer Sciences, Social-Informatics and Telecommunications Engineering, 2016, , 118-130.	0.3	16
170	Establishing trust in remotely reprogrammable systems. , 2016, , .		1
171	Parameter Sensitivity and Boundedness of Robotic Hybrid Periodic Orbits**This work is supported by the National Science Foundation through grants CNS-0953823 and CNS-1136104.. IFAC-PapersOnLine, 2015, 48, 377-382.	0.9	5
172	Control Barrier Certificates for Safe Swarm Behavior. IFAC-PapersOnLine, 2015, 48, 68-73.	0.9	143
173	Robustness of Control Barrier Functions for Safety Critical Control**This work is partially supported by the National Science Foundation Grants 1239055, 1239037 and 1239085.. IFAC-PapersOnLine, 2015, 48, 54-61.	0.9	256
174	A hybrid systems and optimization-based control approach to realizing multi-contact locomotion on transfemoral prostheses. , 2015, , .		6
175	Continuity and smoothness properties of nonlinear optimization-based feedback controllers. , 2015, , .		31
176	Hybrid zero dynamics based multiple shooting optimization with applications to robotic walking. , 2015, , .		18
177	Model predictive control of underactuated bipedal robotic walking. , 2015, , .		18
178	Realizing underactuated bipedal walking with torque controllers via the ideal model resolved motion method. , 2015, , .		14
179	Valkyrie: NASA's First Bipedal Humanoid Robot. Journal of Field Robotics, 2015, 32, 397-419.	6.0	218
180	The Ach Library: A New Framework for Real-Time Communication. IEEE Robotics and Automation Magazine, 2015, 22, 76-85.	2.0	30

#	ARTICLE	IF	CITATIONS
181	Torque Saturation in Bipedal Robotic Walking Through Control Lyapunov Function-Based Quadratic Programs. IEEE Access, 2015, 3, 323-332.	4.2	111
182	Demonstration of locomotion with the powered prosthesis AMPRO utilizing online optimization-based control. , 2015, , .		2
183	Realization of nonlinear real-time optimization based controllers on self-contained transfemoral prosthesis. , 2015, , .		14
184	Realization of stair ascent and motion transitions on prostheses utilizing optimization-based control and intent recognition. , 2015, , .		8
185	Control barrier function based quadratic programs with application to bipedal robotic walking. , 2015, , .		119
186	Adaptive cruise control: Experimental validation of advanced controllers on scale-model cars. , 2015, , .		35
187	First steps toward formal controller synthesis for bipedal robots. , 2015, , .		9
188	Energy shaping of hybrid systems via control Lyapunov functions. , 2015, , .		8
189	Composing Dynamical Systems to Realize Dynamic Robotic Dancing. Springer Tracts in Advanced Robotics, 2015, , 425-442.	0.4	1
190	Quadratic program based nonlinear embedded control of series elastic actuators. , 2014, , .		5
191	Hierarchical control of series elastic actuators through control Lyapunov functions. , 2014, , .		4
192	Preliminary results on correct-by-construction control software synthesis for adaptive cruise control. , 2014, , .		28
193	Control barrier function based quadratic programs with application to adaptive cruise control. , 2014, , .		477
194	Embedding of SLIP dynamics on underactuated bipedal robots through multi-objective quadratic program based control. , 2014, , .		13
195	Dynamic multi-domain bipedal walking with atrias through SLIP based human-inspired control. , 2014, , .		39
196	Human-inspired motion primitives and transitions for bipedal robotic locomotion in diverse terrain. Optimal Control Applications and Methods, 2014, 35, 730-755.	2.1	22
197	Planar multi-contact bipedal walking using hybrid zero dynamics. , 2014, , .		22
198	Quadratic program based control of fully-actuated transfemoral prosthesis for flat-ground and up-slope locomotion. , 2014, , .		8

#	ARTICLE	IF	CITATIONS
199	Quadratic programming and impedance control for transfemoral prosthesis. , 2014, , .		17
200	Exponential convergence of a unified CLF controller for robotic systems under parameter uncertainty. , 2014, , .		3
201	Human-inspired walking via unified PD and impedance control. , 2014, , .		19
202	Models, feedback control, and open problems of 3D bipedal robotic walking. Automatica, 2014, 50, 1955-1988.	5.0	236
203	Rapidly Exponentially Stabilizing Control Lyapunov Functions and Hybrid Zero Dynamics. IEEE Transactions on Automatic Control, 2014, 59, 876-891.	5.7	278
204	Human-Inspired Control of Bipedal Walking Robots. IEEE Transactions on Automatic Control, 2014, 59, 1115-1130.	5.7	191
205	Human-inspired multi-contact locomotion with AMBER2. , 2014, , .		31
206	A human-inspired framework for bipedal robotic walking design. International Journal of Biomechanics and Biomedical Robotics, 2014, 3, 20.	0.2	9
207	Enclosing the behavior of a hybrid system up to and beyond a Zeno point. , 2013, , .		12
208	Lyapunov Theory for Zeno Stability. IEEE Transactions on Automatic Control, 2013, 58, 100-112.	5.7	59
209	Persistent homology for automatic determination of human-data based cost of bipedal walking. Nonlinear Analysis: Hybrid Systems, 2013, 7, 101-115.	3.5	11
210	Human-inspired control of bipedal robots via control lyapunov functions and quadratic programs. , 2013, , .		7
211	From Formal Methods to Algorithmic Implementation of Human Inspired Control on Bipedal Robots. Springer Tracts in Advanced Robotics, 2013, , 511-526.	0.4	16
212	Speed regulation in 3D robotic walking through motion transitions between Human-Inspired partial hybrid zero dynamics. , 2013, , .		21
213	Sufficient conditions for the Lipschitz continuity of QP-based multi-objective control of humanoid robots. , 2013, , .		40
214	Learning impedance controller parameters for lower-limb prostheses. , 2013, , .		36
215	Towards the Unification of Locomotion and Manipulation through Control Lyapunov Functions and Quadratic Programs. Lecture Notes in Control and Information Sciences, 2013, , 219-240.	1.0	64
216	Dynamically stable bipedal robotic walking with NAO via human-inspired hybrid zero dynamics. , 2012, , .		69

#	ARTICLE	IF	CITATIONS
217	Extending two-dimensional human-inspired bipedal robotic walking to three dimensions through geometric reduction. , 2012, , .		4
218	Control Lyapunov functions and hybrid zero dynamics. , 2012, , .		52
219	First steps toward underactuated human-inspired bipedal robotic walking. , 2012, , .		32
220	Bipedal robotic running with partial hybrid zero dynamics and human-inspired optimization. , 2012, , .		4
221	Zeno behavior in electromechanical hybrid systems: From theory to experimental validation. , 2012, , .		2
222	Outputs of human walking for bipedal robotic controller design. , 2012, , .		10
223	Human-inspired underactuated bipedal robotic walking with AMBER on flat-ground, up-slope and uneven terrain. , 2012, , .		20
224	Motion primitives for human-inspired bipedal robotic locomotion: walking and stair climbing. , 2012, , .		30
225	A Core Language for Executable Models of Cyber-Physical Systems (Preliminary Report). , 2012, , .		7
226	Achieving bipedal locomotion on rough terrain through human-inspired control. , 2012, , .		15
227	Rank deficiency and superstability of hybrid systems. <i>Nonlinear Analysis: Hybrid Systems</i> , 2012, 6, 787-805.	3.5	17
228	First Steps toward Automatically Generating Bipedal Robotic Walking from Human Data. <i>Lecture Notes in Control and Information Sciences</i> , 2012, , 89-116.	1.0	36
229	Bio-Inspired Feedback Control of Three-Dimensional Humanlike Bipedal Robots. <i>Journal of Robotics and Mechatronics</i> , 2012, 24, 595-601.	1.0	10
230	Stability and Completion of Zeno Equilibria in Lagrangian Hybrid Systems. <i>IEEE Transactions on Automatic Control</i> , 2011, 56, 1322-1336.	5.7	47
231	Human Based Cost from Persistent Homology for Bipedal Walking. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , 2011, 44, 3292-3297.	0.4	2
232	A Human-Inspired Hybrid Control Approach to Bipedal Robotic Walking. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , 2011, 44, 6904-6911.	0.4	28
233	Human-data based cost of bipedal robotic walking. , 2011, , .		31
234	Characterizing knee-bounce in bipedal robotic walking. , 2011, , .		5

#	ARTICLE	IF	CITATIONS
235	Compass gait revisited: A human data perspective with extensions to three dimensions. , 2011, , .		8
236	Rank deficiency and superstability of hybrid systems with application to bipedal robots. , 2011, , .		0
237	A core language for executable models of cyber physical systems. ACM SIGBED Review, 2011, 8, 39-43.	1.8	2
238	3D Bipedal Robotic Walking: Models, Feedback Control, and Open Problems. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2010, 43, 505-532.	0.4	74
239	Rank properties of poincare maps for hybrid systems with applications to bipedal walking. , 2010, , .		18
240	Mathematical equations as executable models of mechanical systems. , 2010, , .		24
241	2D bipedal walking with knees and feet: A hybrid control approach. , 2009, , .		21
242	3D bipedal walking with knees and feet: A hybrid geometric approach. , 2009, , .		19
243	Formal and practical completion of Lagrangian hybrid systems. , 2009, , .		5
244	Three-Dimensional Kneed Bipedal Walking: A Hybrid Geometric Approach. Lecture Notes in Computer Science, 2009, , 16-30.	1.3	28
245	Existence of Periodic Orbits with Zeno Behavior in Completed Lagrangian Hybrid Systems. Lecture Notes in Computer Science, 2009, , 291-305.	1.3	6
246	Approximate reduction of dynamic systems. Systems and Control Letters, 2008, 57, 538-545.	2.3	24
247	Stability of Zeno equilibria in Lagrangian hybrid systems. , 2008, , .		11
248	On the existence of Zeno behavior in hybrid systems with non-isolated Zeno equilibria. , 2008, , .		16
249	Complexity and fragility in stability for linear systems. , 2008, , .		1
250	Sufficient Conditions for Zeno Behavior in Lagrangian Hybrid Systems. Lecture Notes in Computer Science, 2008, , 622-625.	1.3	11
251	Lyapunov-Like Conditions for the Existence of Zeno Behavior in Hybrid and Lagrangian Hybrid Systems. , 2007, , .		30
252	Stably Extending Two-Dimensional Bipedal Walking to Three Dimensions. Proceedings of the American Control Conference, 2007, , .	0.0	11

#	ARTICLE	IF	CITATIONS
253	Sufficient conditions for the existence of zeno behavior in a class of nonlinear hybrid systems via constant approximations. , 2007, , .		16
254	A geometric approach to three-dimensional hipped bipedal robotic walking. , 2007, , .		37
255	Discrete mechanics and optimal control applied to the compass gait biped. , 2007, , .		26
256	On the Geometric Reduction of Controlled Three-Dimensional Bipedal Robotic Walkers. , 2007, , 183-196.		23
257	Composition of Dynamical Systems for Estimation of Human Body Dynamics. , 2007, , 702-705.		2
258	Approximate Reduction of Dynamical Systems. , 2006, , .		7
259	Hybrid Geometric Reduction of Hybrid Systems. , 2006, , .		5
260	On the Stability of Zeno Equilibria. Lecture Notes in Computer Science, 2006, , 34-48.	1.3	35
261	A Homology Theory for Hybrid Systems: Hybrid Homology. Lecture Notes in Computer Science, 2005, , 86-102.	1.3	18
262	Online safety calculations for glide-slope recapture. Innovations in Systems and Software Engineering, 2005, 1, 157-175.	2.1	9
263	Homogeneous Semantics Preserving Deployments of Heterogeneous Networks of Embedded Systems. , 0, , 127-154.		0
264	Toward Specification-Guided Active Mars Exploration for Cooperative Robot Teams. , 0, , .		22
265	Nonlinear Model Predictive Control of Robotic Systems with Control Lyapunov Functions. , 0, , .		18