

# R Brent Gillespie

## List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/2898335/publications.pdf>

Version: 2024-02-01

109  
papers

2,054  
citations

394421

19  
h-index

330143

37  
g-index

111  
all docs

111  
docs citations

111  
times ranked

1840  
citing authors

#	ARTICLE	IF	CITATIONS
1	Restoration of Proprioceptive and Cutaneous Sensation Using Regenerative Peripheral Nerve Interfaces in Humans with Upper Limb Amputations. <i>Plastic and Reconstructive Surgery</i> , 2022, 149, 1149e-1154e.	1.4	11
2	Programmable Pressure Amplification Using a Soft Folding Actuator. , 2022, , .		1
3	Comparison and experimental validation of predictive models for soft, fiber-reinforced actuators. <i>International Journal of Robotics Research</i> , 2021, 40, 119-135.	8.5	14
4	The Effects of Haptic Feedback and Transition Type on Transfer of Control Between Drivers and Vehicle Automation. <i>IEEE Transactions on Human-Machine Systems</i> , 2021, 51, 613-621.	3.5	6
5	Getting a Grip on the Impact of Incidental Feedback From Body-Powered and Myoelectric Prostheses. <i>IEEE Transactions on Neural Systems and Rehabilitation Engineering</i> , 2021, 29, 1905-1912.	4.9	12
6	Comparing Coupled and Decoupled Steering Interface Designs for Emergency Obstacle Evasion. <i>IEEE Access</i> , 2021, 9, 116857-116868.	4.2	4
7	Vector Field Control Methods for Discretely Variable Passive Robotic Devices. <i>IEEE Transactions on Robotics</i> , 2021, 37, 375-389.	10.3	2
8	Data-Driven Control of Soft Robots Using Koopman Operator Theory. <i>IEEE Transactions on Robotics</i> , 2021, 37, 948-961.	10.3	90
9	Estimation and decomposition of rack force for driving on uneven roads. <i>Control Engineering Practice</i> , 2021, 114, 104876.	5.5	4
10	Koopman-Based Control of a Soft Continuum Manipulator Under Variable Loading Conditions. <i>IEEE Robotics and Automation Letters</i> , 2021, 6, 6852-6859.	5.1	34
11	Simulating microgravity using a random positioning machine for inducing cellular responses to mechanotransduction in human osteoblasts. <i>Review of Scientific Instruments</i> , 2021, 92, 114101.	1.3	5
12	Respecting the Coupled Dynamics: Haptic Feedback Carries both Power and Information. , 2020, , .		1
13	Modeling and Experimental Evaluation of a Variable Hydraulic Transmission. <i>IEEE/ASME Transactions on Mechatronics</i> , 2020, 25, 750-761.	5.8	6
14	A regenerative peripheral nerve interface allows real-time control of an artificial hand in upper limb amputees. <i>Science Translational Medicine</i> , 2020, 12, .	12.4	166
15	Whoâ€™s the boss? Arbitrating control authority between a human driver and automation system. <i>Transportation Research Part F: Traffic Psychology and Behaviour</i> , 2020, 68, 144-160.	3.7	28
16	Haptic Feedback and the Internal Model Principle. , 2019, , .		4
17	A Haptic Object to Quantify the Effect of Feedback Modality on Prosthetic Grasping. <i>IEEE Robotics and Automation Letters</i> , 2019, 4, 1101-1108.	5.1	4
18	Shared control architectures for vehicle steering. <i>Cognition, Technology and Work</i> , 2019, 21, 699-709.	3.0	18

#	ARTICLE	IF	CITATIONS
19	Estimating Rack Force due to Road Slopes for Electric Power Steering Systems. , 2019, , .		3
20	Unilateral and Bilateral Virtual Springs: Contact Transitions Unmask Device Dynamics. IEEE Transactions on Haptics, 2019, 12, 205-216.	2.7	3
21	Evaluating Approaches to Rendering Braille Text on a High-Density Pin Display. IEEE Transactions on Haptics, 2018, 11, 476-481.	2.7	2
22	Toward Controllable Hydraulic Coupling of Joints in a Wearable Robot. IEEE Transactions on Robotics, 2018, 34, 748-763.	10.3	15
23	Self-powered robots to reduce motor slacking during upper-extremity rehabilitation: a proof of concept study. Restorative Neurology and Neuroscience, 2018, 36, 693-708.	0.7	11
24	The impact of high-frequency haptic device behavior on perception. , 2018, , .		4
25	Once More, with Feeling: Revisiting the Role of Touch in Performer-Instrument Interaction. Springer Series on Touch and Haptic Systems, 2018, , 11-27.	0.3	7
26	Haptic Scene Analysis: Mechanical Property Separation Despite Parasitic Dynamics. Lecture Notes in Computer Science, 2018, , 234-245.	1.3	2
27	An Empirical Evaluation of Force Feedback in Body-Powered Prostheses. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2017, 25, 215-226.	4.9	22
28	Adjacent regenerative peripheral nerve interfaces produce phase-antagonist signals during voluntary walking in rats. Journal of NeuroEngineering and Rehabilitation, 2017, 14, 33.	4.6	9
29	A pneu shape display: Physical buttons with programmable touch response. , 2017, , .		16
30	Decomposing the performance of admittance and series elastic haptic rendering architectures. , 2017, , .		5
31	Role Negotiation in a Haptic Shared Control Framework. , 2016, , .		6
32	Comparing Series Elasticity and Admittance Control for Haptic Rendering. Lecture Notes in Computer Science, 2016, , 240-250.	1.3	0
33	Architectures for Shared Control of Vehicle Steering**The authors wish to acknowledge the financial support of the Automotive Research Center (ARC) under Cooperative Agreement W56HZV-04-2-0001 with the U.S. Army Tank Automotive Research, Development and Engineering Center (TARDEC) Warren, MI. Disclaimer: Reference herein to any specific commercial company, product, process, or service by trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or approval by the U.S. Government or any agency thereof. Paper OnLine, 2016, 49, 639-644.	0.9	14
34	Human Motor Control and the Internal Model Principle**The authors wish to acknowledge the financial support of the National Science Foundation under award number 1035271.. IFAC-PapersOnLine, 2016, 49, 114-119.	0.9	13
35	Non-Colocated Kinesthetic Display Limits Compliance Discrimination in the Absence of Terminal Force Cues. IEEE Transactions on Haptics, 2016, 9, 387-396.	2.7	9
36	Modeling latching fluidic circuits to determine clocking limits for a refreshable braille display. , 2016, , .		2

#	ARTICLE	IF	CITATIONS
37	<i>In vivo</i> characterization of regenerative peripheral nerve interface function. Journal of Neural Engineering, 2016, 13, 026012.	3.5	33
38	A Novel Application of Eddy Current Braking for Functional Strength Training During Gait. Annals of Biomedical Engineering, 2016, 44, 2760-2773.	2.5	28
39	Origami Structured Compliant Actuator (OSCA). , 2015, , .		9
40	Providing a Sense of Touch to Prosthetic Hands. Plastic and Reconstructive Surgery, 2015, 135, 1652-1663.	1.4	77
41	An exploration of grip force regulation with a low-impedance myoelectric prosthesis featuring referred haptic feedback. Journal of NeuroEngineering and Rehabilitation, 2015, 12, 104.	4.6	35
42	The role of auxiliary and referred haptic feedback in myoelectric control. , 2015, , .		12
43	A novel variable transmission with digital hydraulics. , 2015, , .		3
44	The design of pressure-controlled valves for a refreshable tactile display. , 2015, , .		17
45	Beyond synchronization: String instability in coupled harmonic oscillator systems. International Journal of Robust and Nonlinear Control, 2015, 25, 2745-2769.	3.7	8
46	Refreshing Refreshable Braille Displays. IEEE Transactions on Haptics, 2015, 8, 287-297.	2.7	61
47	The effect of haptic cues on motor and perceptual based implicit sequence learning. Frontiers in Human Neuroscience, 2014, 8, 130.	2.0	2
48	Human control strategies in pursuit tracking with a disturbance input. , 2014, , .		15
49	Real-World Robustness for Hybrid Vehicle Optimal Energy Management Strategies Incorporating Drivability Metrics. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2014, 136, .	1.6	17
50	Series elasticity for free free-space motion for free. , 2014, , .		11
51	Identification of human feedforward control in grasp and twist tasks. , 2014, , .		5
52	Negotiated control between the manual and visual systems for visually guided hand reaching movements. Journal of NeuroEngineering and Rehabilitation, 2014, 11, 102.	4.6	1
53	Modeling Pneumatic Actuators for a Refreshable Tactile Display. Lecture Notes in Computer Science, 2014, , 385-393.	1.3	8
54	Simple, robust control and synchronization of the Lorenz system. Nonlinear Dynamics, 2013, 73, 971-980.	5.2	16

#	ARTICLE	IF	CITATIONS
55	Reconstructing surface EMG from scalp EEG during myoelectric control of a closed looped prosthetic device. , 2013, 2013, 5602-5.		8
56	Role of haptic cues in motor learning. , 2013, , .		2
57	Vibrotactile feedback of pose error enhances myoelectric control of a prosthetic hand. , 2013, , .		20
58	Understanding the role of haptic feedback in a teleoperated/prosthetic grasp and lift task. , 2013, , .		30
59	Effect of coupling point selection on distortion in internet-distributed hardware-in-the-loop simulation. International Journal of Vehicle Design, 2013, 61, 67.	0.3	15
60	The Objective Assessment of Expertsâ€™ and Novicesâ€™ Suturing Skills Using An Image Analysis Program. Academic Medicine, 2013, 88, 260-264.	1.6	16
61	Dynamic coupling between a human user and haptic virtual environment. , 2012, , .		2
62	An Energy Management Controller to Optimally Trade Off Fuel Economy and Drivability for Hybrid Vehicles. IEEE Transactions on Control Systems Technology, 2012, 20, 1490-1505.	5.2	149
63	String instability analysis of heterogeneous coupled oscillator systems. , 2012, , .		0
64	Co-location of force and action improves identification of force-displacement features. , 2012, , .		12
65	A high bandwidth low inertia motor for haptic rendering based on clutched eddy current effects. , 2012, , .		1
66	Will they fit? Development of a measurement device to assess body habitus compatibility with MRI bore diameter for emergency trauma imaging. Emergency Radiology, 2012, 19, 141-148.	1.8	8
67	The effect of force/motion coupling on motor and cognitive performance. , 2011, , .		12
68	Embodied cognition as a motivating perspective for haptic interaction design: A position paper. , 2011, , .		13
69	A Fundamental Linear Systems Conflict Between Performance and Passivity in Haptic Rendering. IEEE Transactions on Robotics, 2011, 27, 75-88.	10.3	31
70	What you can't feel won't hurt you: Evaluating haptic hardware using a haptic contrast sensitivity function. IEEE Transactions on Haptics, 2011, 4, 134-146.	2.7	17
71	Characterizing the Feel of the Piano Action. Computer Music Journal, 2011, 35, 43-57.	0.1	14
72	String instability in coupled harmonic oscillator systems. , 2011, , .		3

#	ARTICLE	IF	CITATIONS
73	Toward improved sensorimotor integration and learning using upper-limb prosthetic devices. , 2010, 2010, 5077-80.		20
74	Modeling pneumatic bubble displacements with membrane theory. , 2010, , .		2
75	Recovering haptic performance by relaxing passivity requirements. , 2009, , .		3
76	Functionally biarticular control for smart prosthetics. , 2009, , .		6
77	Effects of haptic device attributes on vibration detection thresholds. , 2009, , .		14
78	Compact and low-cost tendon vibrator for inducing proprioceptive illusions. , 2009, , .		8
79	Automated Characterization and Compensation for a Compliant Mechanism Haptic Device. IEEE/ASME Transactions on Mechatronics, 2008, 13, 136-146.	5.8	12
80	Characterizing Teleoperator Behavior for Feedback Design and Performance Analysis. , 2008, , .		3
81	A Fundamental Tradeoff Between Performance and Sensitivity Within Haptic Rendering. , 2008, 24, 537-548.		30
82	A fundamental conflict between performance and passivity in haptic rendering. , 2008, , .		3
83	The instrumented instrument: characterization and training of manual skill in open suturing. Studies in Health Technology and Informatics, 2008, 132, 141-6.	0.3	1
84	Visual and Haptic Feedback Contribute to Tuning and Online Control During Object Manipulation. Journal of Motor Behavior, 2007, 39, 179-193.	0.9	57
85	Cancellation of Biodynamic Feedthrough in Vehicle Control Tasks. IEEE Transactions on Control Systems Technology, 2007, 15, 1018-1029.	5.2	26
86	Head movement control in visually guided tasks: Postural goal and optimality. Computers in Biology and Medicine, 2007, 37, 1009-1019.	7.0	11
87	Symmetry-based resistance as a novel means of lower limb rehabilitation. Journal of Biomechanics, 2007, 40, 1286-1292.	2.1	37
88	Human Adaptation to Interaction Forces in Visuo-Motor Coordination. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2006, 14, 390-397.	4.9	21
89	Model-Based Cancellation of Biodynamic Feedthrough Using a Force-Reflecting Joystick. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2006, 128, 94-103.	1.6	6
90	On-Line Symbolic Constraint Embedding for Simulation of Hybrid Dynamical Systems. Multibody System Dynamics, 2005, 14, 387-417.	2.7	11

#	ARTICLE	IF	CITATIONS
91	Sharing Control Between Humans and Automation Using Haptic Interface: Primary and Secondary Task Performance Benefits. Human Factors, 2005, 47, 574-590.	3.5	166
92	Feedback-stabilized minimum distance maintenance for convex parametric surfaces. , 2005, 21, 1009-1016.		9
93	Modeling the Coordinated Movements of the Head and Hand Using Differential Inverse Kinematics. , 2004, , .		5
94	Haptic feedback improves manual excitation of a sprung mass. , 2004, , .		6
95	Haptic rendering of parametric surfaces using a feedback stabilized extremal distance tracking algorithm. , 2004, , .		6
96	Shared control between human and machine: haptic display of automation during manual control of vehicle heading. , 2004, , .		70
97	An Investigation of Vibration Feedthrough and Feedthrough Cancellation in Joystick Controlled Vehicles. , 2003, , 569.		1
98	Kinematic Creep in a Continuously Variable Transmission: Traction Drive Mechanics for Cobots. Journal of Mechanical Design, Transactions of the ASME, 2002, 124, 713-722.	2.9	21
99	An Assistive Cobot for Aid in Self Care Activities. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2002, 35, 511-516.	0.4	6
100	Toward Improved CVTs: Theoretical and Experimental Results. , 2002, , 855.		6
101	Shared Control between Human and Machine: Using a Haptic Steering Wheel to Aid in Land Vehicle Guidance. Proceedings of the Human Factors and Ergonomics Society, 2001, 45, 1671-1675.	0.3	89
102	<title>Design of high-fidelity haptic display for one-dimensional force reflection applications</title>. , 1995, 2351, 44.		6
103	Haptic feedback and human performance in a dynamic task. , 0, , .		14
104	The haptic probe: mechanized haptic exploration and automated modeling. , 0, , .		0
105	Haptic interface for hands-on instruction in system dynamics and embedded control. , 0, , .		30
106	Investigation of Motor Adaptation to Movement Versus Object Parameters. , 0, , .		0
107	A Closest Point Algorithm for Parametric Surfaces with Global Uniform Asymptotic Stability. , 0, , .		7
108	Posture and Motion Prediction: Perspectives for Unconstrained Head Movements. , 0, , .		2

#	ARTICLE	IF	CITATIONS
109	Modeling and Control of Soft Robots Using the Koopman Operator and Model Predictive Control. , 0, , ·		74