# Noah J Cowan

List of Publications by Year
in descending order

Source: https://exaly.com/author-pdf/8379153/publications.pdf

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| 92 | 4,477 | 236925 25 | 138484 58 |
|---|---|---|---|
| papers | citations | h-index | g-index |

| 114 | 114 | 114 | 2633 |
|---|---|---|---|
| all docs | docs citations | times ranked | citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | The Dome: A virtual reality apparatus for freely locomoting rodents. Journal of Neuroscience Methods, 2022, 368, 109336. | 2.5 | 7 |
| 2 | Wide-angle, monocular head tracking using passive markers. Journal of Neuroscience Methods, 2022, 368, 109453. | 2.5 | 6 |
| 3 | Enhancing Maneuverability via Gait Design. , 2022, , . | | 1 |
| 4 | De novo learning versus adaptation of continuous control in a manual tracking task. ELife, 2021, 10, . | 6.0 | 33 |
| 5 | The Synergy Between Neuroscience and Control Theory: The Nervous System as Inspiration for Hard Control Challenges. Annual Review of Control, Robotics, and Autonomous Systems, 2020, 3, 243-267. | 11.8 | 27 |
| 6 | Biologically Inspired Catheter for Endovascular Sensing and Navigation. Scientific Reports, 2020, 10, 5643. | 3.3 | 7 |
| 7 | Spooky Interaction at a Distance in Cave and Surface Dwelling Electric Fishes. Frontiers in Integrative Neuroscience, 2020, 14, 561524. | 2.1 | 12 |
| 8 | Variability in locomotor dynamics reveals the critical role of feedback in task control. ELife, 2020, 9, . | 6.0 | 14 |
| 9 | Cerebellar patients have intact feedback control that can be leveraged to improve reaching. ELife, 2020, 9, . | 6.0 | 31 |
| 10 | Patients with Cerebellar Ataxia Do Not Benefit from Limb Weights. Cerebellum, 2019, 18, 128-136. | 2.5 | 9 |
| 11 | Haptic Feedback and the Internal Model Principle. , 2019, , . | | 4 |
| 12 | Sensory Cues Modulate Smooth Pursuit and Active Sensing Movements. Frontiers in Behavioral Neuroscience, 2019, 13, 59. | 2.0 | 12 |
| 13 | Complementary spatial and timing control in rhythmic arm movements. Journal of Neurophysiology, 2019, 121, 1543-1560. | 1.8 | 6 |
| 14 | Recalibration of path integration in hippocampal place cells. Nature, 2019, 566, 533-537. | 27.8 | 72 |
| 15 | Frequency-Domain Subspace Identification of Linear Time-Periodic (LTP) Systems. IEEE Transactions on Automatic Control, 2019, 64, 2529-2536. | 5.7 | 20 |
| 16 | Using Control Theory to Characterize Active Sensing in Weakly Electric Fishes. Springer Handbook of Auditory Research, 2019, , 227-249. | 0.7 | 6 |
| 17 | High-resolution behavioral mapping of electric fishes in Amazonian habitats. Scientific Reports, 2018, 8, 5830. | 3.3 | 20 |
| 18 | Ultra Broad Band Neural Activity Portends Seizure Onset in a Rat Model of Epilepsy. , 2018, 2018, 2276-2279. | | 4 |

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| 19 | Closed-Loop Control of Active Sensing Movements Regulates Sensory Slip. Current Biology, 2018, 28, 4029-4036.e4. | 3.9 | 31 |
| 20 | Recovering Observability via Active Sensing. , 2018, , . | | 9 |
| 21 | Body stiffness and damping depend sensitively on the timing of muscle activation in lampreys. Integrative and Comparative Biology, 2018, 58, 860-873. | 2.0 | 31 |
| 22 | Dynamic modulation of visual and electrosensory gains for locomotor control. Journal of the Royal Society Interface, 2016, 13, 20160057. | 3.4 | 22 |
| 23 | Bioelectric Navigation: A New Paradigm for Intravascular Device Guidance. Lecture Notes in Computer Science, 2016, , 474-481. | 1.3 | 2 |
| 24 | Identification of a vertical hopping robot model via harmonic transfer functions. Transactions of the Institute of Measurement and Control, 2016, 38, 501-511. | 1.7 | 10 |
| 25 | Walking dynamics are symmetric (enough). Journal of the Royal Society Interface, 2015, 12, 20150209. | 3.4 | 21 |
| 26 | Independent Estimation of Input and Measurement Delays for a Hybrid Vertical Spring-Mass-Damper via Harmonic Transfer Functions. IFAC-PapersOnLine, 2015, 48, 298-303. | 0.9 | 4 |
| 27 | Toward data-driven models of legged locomotion using harmonic transfer functions. , 2015, , . | | 4 |
| 28 | Snake robot uncovers secrets to sidewindersâ€™ maneuverability. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 5870-5871. | 7.1 | 5 |
| 29 | Linear systems with sparse inputs: Observability and input recovery. , 2015, , . | | 15 |
| 30 | Optimal Control with Noisy Time. IEEE Transactions on Automatic Control, 2015, , 1-1. | 5.7 | 5 |
| 31 | Torsional Dynamics of Steerable Needles: Modeling and Fluoroscopic Guidance. IEEE Transactions on Biomedical Engineering, 2014, 61, 2707-2717. | 4.2 | 28 |
| 32 | Mechanical processing via passive dynamic properties of the cockroach antenna can facilitate control during rapid running. Journal of Experimental Biology, 2014, 217, 3333-45. | 1.7 | 14 |
| 33 | System identification of rhythmic hybrid dynamical systems via discrete time harmonic transfer functions. , 2014, , . | | 8 |
| 34 | Haptic feedback enhances rhythmic motor control by reducing variability, not improving convergence rate. Journal of Neurophysiology, 2014, 111, 1286-1299. | 1.8 | 23 |
| 35 | Feedback Control as a Framework for Understanding Tradeoffs in Biology. Integrative and Comparative Biology, 2014, 54, 223-237. | 2.0 | 105 |
| 36 | Locomotion- and mechanics-mediated tactile sensing: antenna reconfiguration simplifies control during high-speed navigation in cockroaches. Journal of Experimental Biology, 2013, 216, 4530-4541. | 1.7 | 36 |

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| 37 | Flexible strategies for flight control: an active role for the abdomen. Journal of Experimental Biology, 2013, 216, 1523-1536. | 1.7 | 94 |
| 38 | The Visual Representation of 3D Object Orientation in Parietal Cortex. Journal of Neuroscience, 2013, 33, 19352-19361. | 3.6 | 63 |
| 39 | Closed-loop stabilization of the jamming avoidance response reveals its locally unstable and globally nonlinear dynamics. Journal of Experimental Biology, 2013, 216, 4272-84. | 1.7 | 30 |
| 40 | State-estimation and cooperative control with uncertain time. , 2013, , . | | 4 |
| 41 | Mutually opposing forces during locomotion can eliminate the tradeoff between maneuverability and stability. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 18798-18803. | 7.1 | 89 |
| 42 | Time-changed linear quadratic regulators. , 2013, , . | | 2 |
| 43 | Nodal Dynamics, Not Degree Distributions, Determine the Structural Controllability of Complex Networks. PLoS ONE, 2012, 7, e38398. | 2.5 | 225 |
| 44 | Counter-propagating waves enhance maneuverability and stability: A bio-inspired strategy for robotic ribbon-fin propulsion. , 2012, , . | | 18 |
| 45 | Active sensing via movement shapes spatiotemporal patterns of sensory feedback. Journal of Experimental Biology, 2012, 215, 1567-1574. | 1.7 | 64 |
| 46 | A task-level model for optomotor yaw regulation in drosophila melanogaster: A frequency-domain system identification approach. , 2012, , . | | 33 |
| 47 | An almost global estimator on SO(3) with measurement on S<sup>2</sup>. , 2012, , . | | 3 |
| 48 | Autostabilizing airframe articulation: Animal inspired air vehicle control. , 2012, , . | | 10 |
| 49 | Beyond the Jamming Avoidance Response: weakly electric fish respond to the envelope of social electrosensory signals. Journal of Experimental Biology, 2012, 215, 4196-4207. | 1.7 | 44 |
| 50 | Torsional dynamics compensation enhances robotic control of tip-steerable needles. , 2012, , . | | 17 |
| 51 | Observer Design for Needle Steering Using Task-Induced Symmetry and Reduction. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2011, 44, 8028-8033. | 0.4 | 3 |
| 52 | Robot-Assisted Needle Steering. IEEE Robotics and Automation Magazine, 2011, 18, 35-46. | 2.0 | 146 |
| 53 | Stimulus predictability mediates a switch in locomotor smooth pursuit performance for Eigenmannia virescens. Journal of Experimental Biology, 2011, 214, 1170-1180. | 1.7 | 63 |
| 54 | Robotic Needle Steering: Design, Modeling, Planning, and Image Guidance. , 2011, , 557-582. | | 74 |

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| 55 | Equilibrium Conformations of Concentric-tube Continuum Robots. International Journal of Robotics Research, 2010, 29, 1263-1280. | 8.5 | 181 |
| 56 | Task-Induced Symmetry and Reduction With Application to Needle Steering. IEEE Transactions on Automatic Control, 2010, 55, 664-673. | 5.7 | 11 |
| 57 | A tunable physical model of arthropod antennae. , 2010, , . | | 4 |
| 58 | Empirical Characterization of Convergence Properties for Kernel-based Visual Servoing. Lecture Notes in Control and Information Sciences, 2010, , 23-38. | 1.0 | 8 |
| 59 | Controlling a robotically steered needle in the presence of torsional friction. , 2009, , 3476-3481. | | 19 |
| 60 | Modeling and Control of Needles With Torsional Friction. IEEE Transactions on Biomedical Engineering, 2009, 56, 2905-2916. | 4.2 | 85 |
| 61 | Optimal motor control may mask sensory dynamics. Biological Cybernetics, 2009, 101, 35-42. | 1.3 | 3 |
| 62 | Image Guidance of Flexible Tip-Steerable Needles. IEEE Transactions on Robotics, 2009, 25, 191-196. | 10.3 | 115 |
| 63 | Lateral stability of the spring-mass hopper suggests a two-step control strategy for running. Chaos, 2009, 19, 026106. | 2.5 | 43 |
| 64 | Mechanics of Precurved-Tube Continuum Robots. IEEE Transactions on Robotics, 2009, 25, 67-78. | 10.3 | 400 |
| 65 | Closed-Form Differential Kinematics for Concentric-Tube Continuum Robots with Application to Visual Servoing. Springer Tracts in Advanced Robotics, 2009, , 485-494. | 0.4 | 50 |
| 66 | Toward SLAM on Graphs. Springer Tracts in Advanced Robotics, 2009, , 631-645. | 0.4 | 2 |
| 67 | Integrated planning and image-guided control for planar needle steering. , 2008, 2008, 819-824. | | 71 |
| 68 | Templates and Anchors for Antenna-Based Wall Following in Cockroaches and Robots. IEEE Transactions on Robotics, 2008, 24, 130-143. | 10.3 | 58 |
| 69 | Synaptic Plasticity Can Produce and Enhance Direction Selectivity. PLoS Computational Biology, 2008, 4, e32. | 3.2 | 29 |
| 70 | Kinematics and calibration of active cannulas. , 2008, , . | | 30 |
| 71 | Kernel-based visual servoing. , 2007, , . | | 61 |
| 72 | Task-induced symmetry and reduction in kinematic systems with application to needle steering. , 2007, 2007, 3302-3308. | | 8 |

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| 73 | A hierarchy of neuromechanical and robotic models of antenna-based wall following in cockroaches. , 2007, , . | | 1 |
| 74 | The Critical Role of Locomotion Mechanics in Decoding Sensory Systems. Journal of Neuroscience, 2007, 27, 1123-1128. | 3.6 | 89 |
| 75 | Image-guided Control of Flexible Bevel-Tip Needles. , 2007, 2007, 3015-3020. | | 40 |
| 76 | Navigation Functions on Cross Product Spaces. IEEE Transactions on Automatic Control, 2007, 52, 1297-1302. | 5.7 | 5 |
| 77 | Toward Active Cannulas: Miniature Snake-Like Surgical Robots. , 2006, , . | | 185 |
| 78 | Task-level control of rapid wall following in the American cockroach. Journal of Experimental Biology, 2006, 209, 1617-1629. | 1.7 | 94 |
| 79 | Task-Level Control of the Lateral Leg Spring Model of Cockroach Locomotion. , 2006, , 167-188. | | 10 |
| 80 | A Biologically Inspired Passive Antenna for Steering Control of a Running Robot. Springer Tracts in Advanced Robotics, 2005, , 541-550. | 0.4 | 19 |
| 81 | Geometric visual servoing. , 2005, 21, 1128-1138. | | 38 |
| 82 | Synaptic Plasticity Can Produce and Enhance Direction Selectivity. PLoS Computational Biology, 2005, preprint, e32. | 3.2 | 0 |
| 83 | Visual servoing via navigation functions. IEEE Transactions on Automation Science and Engineering, 2002, 18, 521-533. | 2.3 | 163 |
| 84 | Toward global visual servos and estimators for rigid bodies. , 0, , . | | 0 |
| 85 | Planar image based visual servoing as a navigation problem. , 0, , . | | 35 |
| 86 | Rigid body visual servoing using navigation functions. , 0, , . | | 6 |
| 87 | Empirical validation of a new visual servoing strategy. , 0, , . | | 3 |
| 88 | Vision-based follow-the-leader. , 0, , . | | 47 |
| 89 | Multi-view visual servoing using epipoles. , 0, , . | | 2 |
| 90 | Auto-epipolar visual servoing. , 0, , . | | 5 |

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|---|---|---|---|
| 91 | Dynamical Wall Following for a Wheeled Robot Using a Passive Tactile Sensor. , 0, , . | | 22 |
| 92 | Diffusion-Based Motion Planning for a Nonholonomic Flexible Needle Model. , 0, , . | | 62 |