

# Sean N Brennan

## List of Publications by Year in descending order

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Version: 2024-02-01

114  
papers

1,161  
citations

430874

18  
h-index

501196

28  
g-index

114  
all docs

114  
docs citations

114  
times ranked

1113  
citing authors

| #  | ARTICLE   | IF   | CITATIONS |
|----|---|------|-----------|
| 1  | Cooperative Exchange-Based Platooning Using Predicted Fuel-Optimal Operation of Heavy-Duty Vehicles. IEEE Transactions on Intelligent Transportation Systems, 2022, 23, 17312-17324.                                      | 8.0  | 3         |
| 2  | On-line estimation of power model parameters for skid-steer robots with applications in mission energy use prediction. Journal of Field Robotics, 2022, 39, 763-782.  | 6.0  | 2         |
| 3  | Motion Estimation From Doppler and Spatial Data in SONAR Images. IEEE Journal of Oceanic Engineering, 2021, 46, 665-674.  | 3.8  | 1         |
| 4  | Modeling and friction estimation for automotive steering torque at very low speeds. Vehicle System Dynamics, 2021, 59, 458-484.   | 3.7  | 4         |
| 5  | Allan Variance-based Granulation Technique for Large Temporal Databases. , 2021, , .  |      | 2         |
| 6  | Statistical Determination of Decision-Making Regions for Branching Paths: An Algorithm With a Wheelchair Assistance Application. ASME Letters in Dynamic Systems and Control, 2021, 1, .                                  | 0.7  | 0         |
| 7  | ROS Integration of External Vehicle Motion Simulations with an AIMSUN Traffic Simulator as a Tool to Assess CAV Impacts on Traffic. IFAC-PapersOnLine, 2021, 54, 870-875.   | 0.9  | 2         |
| 8  | Fast Allan Variance (FAVAR) and Dynamic Fast Allan Variance (D-FAVAR) Algorithms for both Regularly and Irregularly Sampled Data. IFAC-PapersOnLine, 2021, 54, 26-31.   | 0.9  | 3         |
| 9  | Defining the Operational Cost of En-Route Platoon Formation Scenarios. , 2021, , .  |      | 0         |
| 10 | Friction detection from stationary steering manoeuvres. Vehicle System Dynamics, 2020, 58, 1736-1765.   | 3.7  | 5         |
| 11 | Energy-Aware Path Planning for Skid-Steer Robots Operating on Hilly Terrain. , 2020, , .  |      | 7         |
| 12 | RADARODO: Ego-Motion Estimation From Doppler and Spatial Data in RADAR Images. IEEE Transactions on Intelligent Vehicles, 2020, 5, 475-484.   | 12.7 | 23        |
| 13 | At what cost? How planned collisions with pedestrians may save lives. Accident Analysis and Prevention, 2020, 141, 105492.  | 5.7  | 5         |
| 14 | Increasing Efficiency of Grid Free Path Planning by Bounding the Search Region*. , 2020, , .  |      | 0         |
| 15 | An Instantaneous Center of Rotation-Based Extended Kalman Filter Approach for the On-Line Estimation of Wheelchair Tire Slip. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2019, 141, . | 1.6  | 1         |
| 16 | Diesel Engine Characterization and Performance Scaling via Brake Specific Fuel Consumption Map Dimensional Analysis. , 2019, , .  |      | 1         |
| 17 | Bridging the gap between sensor noise modeling and sensor characterization. Measurement: Journal of the International Measurement Confederation, 2018, 116, 350-366.  | 5.0  | 36        |
| 18 | Mechanical Performance Analysis of ULTEM 9085 in a Heated, Irradiated Environment. , 2018, , .  |      | 2         |

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|----|---|-----|-----------|
| 19 | Nuclear Storage Cask Inspection Robotics As a Case Study in System Design Challenges. , 2018, , .   |     | 1         |
| 20 | Extracting Geometric Road Centerline and Lane Edges from Single-Scan LiDAR Intensity Using Optimally Filtered Extrema Features. , 2018, , .   |     | 1         |
| 21 | Doppler Velocity Log Placement Effects on Autonomous Underwater Vehicle Navigation Accuracy. , 2018, , .  |     | 5         |
| 22 | Ego-Motion Estimate Corruption Due to Violations of the Range Flow Constraint. , 2018, , .  |     | 0         |
| 23 | An Examination of Vehicle Spacing to Reduce Aerodynamic Drag in Truck Platoons. , 2018, , .   |     | 19        |
| 24 | Change Propagation During Protoyping: A Case Study of a Robotic Inspection System for Dry Nuclear Waste Storage Casks. , 2018, , .  |     | 1         |
| 25 | Negative Obstacle Detection Using LiDAR Sensors for a Robotic Wheelchair. , 2018, , .   |     | 2         |
| 26 | Discriminating Spatial Intent From Noisy Joystick Signals for Wheelchair Path Planning and Guidance. , 2018, , .  |     | 1         |
| 27 | Improving Lithium-Ion Battery Pack Diagnostics by Optimizing the Internal Allocation of Demand Current for Parameter Identifiability. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2017, 139, . | 1.6 | 6         |
| 28 | Development of an Open-Source Tractor Driving Simulator for Tractor Stability Tests. Journal of Agricultural Safety and Health, 2016, 22, 227-246.  | 0.4 | 11        |
| 29 | Effects of symmetry on the structural controllability of neural networks: A perspective. , 2016, 2016, 5785-5790.   |     | 2         |
| 30 | State of Charge Estimation for an Electric Wheelchair Using a Fuel Gauge Model. , 2016, , .   |     | 0         |
| 31 | On-Line Estimation of Wheelchair Tire Slip Utilizing an Instantaneous Center of Rotation Extended Kalman Filter. , 2016, , .  |     | 0         |
| 32 | A ROS-Simulink Real-Time Communication Bridge Using UDP With a Driver-in-the-Loop Application. , 2016, , .  |     | 2         |
| 33 | Region of Attraction for a Vehicle Pose Estimator Utilizing Monocular Vision and Lane Marker Maps. , 2016, , .  |     | 0         |
| 34 | Characterizing Successful Robotic Insertion and Removal From a Dry Storage Cask Using Peg-Like Jamming and Wedging Analysis. , 2016, , .  |     | 5         |
| 35 | Vehicle road departure detection using anomalies in dynamics. , 2016, , .   |     | 3         |
| 36 | Variable-sensitivity road departure warning system based on static, mapped, near-road threats. , 2016, , .  |     | 7         |

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|----|---|-----|-----------|
| 37 | Energy-based path planning for skid-steer vehicles operating in areas with mixed surface types. , 2016, , .   |     | 11        |
| 38 | Observability and Controllability of Nonlinear Networks: The Role of Symmetry. Physical Review X, 2015, 5, .  | 8.9 | 100       |
| 39 | Indoor Mapping and Localization for a Smart Wheelchair Using Measurements of Ambient Magnetic Fields. , 2015, , .   |     | 1         |
| 40 | MPC-Based Energy Management of a Parallel Hybrid Electric Vehicle Using Terrain Information. , 2015, , .  |     | 7         |
| 41 | Vehicle Rollover Prevention Using the Zero-Moment Point in an LQR Output Regulator. , 2015, , .   |     | 0         |
| 42 | Identification of locally influential agents in self-organizing multi-agent systems. , 2015, , .  |     | 2         |
| 43 | Preview Horizon Analysis for Vehicle Rollover Prevention Using the Zero-Moment Point. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2015, 137, .           | 1.6 | 12        |
| 44 | Dynamic Prediction of Vehicle Cluster Distribution in Mixed Traffic: A Statistical Mechanics-Inspired Method. IEEE Transactions on Intelligent Transportation Systems, 2015, 16, 2424-2434. | 8.0 | 11        |
| 45 | Lateral Vehicle State and Environment Estimation Using Temporally Previewed Mapped Lane Features. IEEE Transactions on Intelligent Transportation Systems, 2015, 16, 1601-1608.             | 8.0 | 10        |
| 46 | Simulating vehicle dynamics on both design plans and laser-scanned road geometry to guide highway design policy. Transportation Research Part C: Emerging Technologies, 2015, 50, 28-36.    | 7.6 | 10        |
| 47 | Low-order modeling of vehicle impacts upon boulders embedded in cohesionless soil. International Journal of Impact Engineering, 2015, 75, 88-99.  | 5.0 | 4         |
| 48 | Vehicle Localization Using In-Vehicle Pitch Data and Dynamical Models. IEEE Transactions on Intelligent Transportation Systems, 2015, 16, 206-220.  | 8.0 | 37        |
| 49 | Superelevation Design for Sharp Horizontal Curves on Steep Grades. Transportation Research Record, 2014, 2436, 81-91.   | 1.9 | 20        |
| 50 | The use of unicycle robot control strategies for skid-steer robots through the ICR kinematic mapping. , 2014, , .   |     | 14        |
| 51 | Differential Diagnostics for Lithium Ion Battery Cells Connected in Series. , 2014, , .   |     | 0         |
| 52 | Improving SOC accuracy using collective estimation for Lithium Ion battery cells in series. , 2014, , .   |     | 2         |
| 53 | Robust data map design using chance constrained optimization. , 2014, , .   |     | 1         |
| 54 | Temporal preview estimation for design of a low cost lane-following system using a forward-facing monocular camera. , 2014, , .   |     | 0         |

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|----|---|------|-----------|
| 55 | Model-based Prediction of Skid-steer Robot Kinematics Using Online Estimation of Track Instantaneous Centers of Rotation. <i>Journal of Field Robotics</i> , 2014, 31, 455-476. | 6.0  | 63        |
| 56 | Statistical mechanics-inspired framework for studying the effects of mixed traffic flows on highway congestion. , 2014, , .   |      | 3         |
| 57 | On-line estimation of vehicle motion and power model parameters for skid-steer robot energy use prediction. , 2014, , .   |      | 15        |
| 58 | Open-loop vehicle collision avoidance and rollover prevention using previewed Zero-Moment Point. , 2014, , .  |      | 3         |
| 59 | On the required complexity of vehicle dynamic models for use in simulation-based highway design. <i>Journal of Safety Research</i> , 2014, 49, 105.e1-112.                      | 3.6  | 12        |
| 60 | Maximizing Parameter Identifiability of an Equivalent-Circuit Battery Model Using Optimal Periodic Input Shaping. , 2014, , .   |      | 18        |
| 61 | Multi-attribute data dynamics discontinuity identification: A probabilistic approach using linear modeling. , 2014, , .   |      | 0         |
| 62 | Superelevation Criteria for Sharp Horizontal Curves on Steep Grades. , 2014, , .  |      | 20        |
| 63 | Determination of Minimum State Preview Time to Prevent Vehicle Rollover. , 2013, , .  |      | 2         |
| 64 | Extending driving simulator capabilities toward Hardware-in-the-Loop testbeds and remote vehicle interfaces. , 2013, , .  |      | 11        |
| 65 | Robust Extrema Features for Time-Series Data Analysis. <i>IEEE Transactions on Pattern Analysis and Machine Intelligence</i> , 2013, 35, 1464-1479.                             | 13.9 | 16        |
| 66 | Global and local frameworks for vehicle state estimation using temporally previewed mapped lane features. , 2013, , .   |      | 1         |
| 67 | Global and local frameworks for vehicle state estimation using temporally previewed mapped lane features. , 2013, , .   |      | 1         |
| 68 | Robust map design by outlier point selection for terrain-based vehicle localization. , 2013, , .  |      | 5         |
| 69 | Extending driving simulator capabilities toward Hardware-in-the-Loop testbeds and remote vehicle interfaces. , 2013, , .  |      | 4         |
| 70 | Optimally robust extrema filters for time series data. , 2012, , .  |      | 3         |
| 71 | Observability of neuronal network motifs. , 2012, 2012, .   |      | 4         |
| 72 | Zero-moment point determination of worst-case manoeuvres leading to vehicle wheel lift. <i>Vehicle System Dynamics</i> , 2012, 50, 191-214.                                     | 3.7  | 21        |

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|----|--|-----|-----------|
| 73 | Terrain-based vehicle localization from real-time data using dynamical models. , 2012, , .   |     | 10        |
| 74 | Analytical Prediction of Self-Organized Traffic Jams as a Function of Increasing ACC Penetration. IEEE Transactions on Intelligent Transportation Systems, 2012, 13, 1782-1791.                              | 8.0 | 52        |
| 75 | Model-Based Vehicle State Estimation Using Previewed Road Geometry and Noisy Sensors. , 2012, , .  |     | 1         |
| 76 | Simulation, Design, and Verification of an Electrified Bicycle Energy Model. , 2012, , .   |     | 1         |
| 77 | Monitoring delayed systems using the Smith Predictor. , 2012, , .  |     | 0         |
| 78 | Investigation of the effect of continuously variable transmissions on ground robot powertrain efficiency. , 2012, , .  |     | 1         |
| 79 | GPS-free terrain-based vehicle tracking on road networks. , 2012, , .  |     | 3         |
| 80 | From user requirements to commonality specifications: an integrated approach to product family design. Research in Engineering Design - Theory, Applications, and Concurrent Engineering, 2012, 23, 141-153. | 2.1 | 74        |
| 81 | Comparing batteries to generators as power sources for use with mobile robotics. Journal of Power Sources, 2012, 212, 130-138.   | 7.8 | 9         |
| 82 | Pattern Matching of In-Vehicle Acceleration Time Series Data. , 2012, , .  |     | 0         |
| 83 | Terrain-based road vehicle localisation using particle filters. Vehicle System Dynamics, 2011, 49, 1209-1223.  | 3.7 | 30        |
| 84 | Terrain-Aided Localization Using Feature-Based Particle Filtering. , 2011, , .   |     | 5         |
| 85 | GPS-Free Terrain-Based Vehicle Tracking Performance as a Function of Inertial Sensor Characteristics. , 2011, , .  |     | 15        |
| 86 | Pitch based vehicle localization using time series subsequence matching with Multi-scale Extrema Features. , 2011, , .   |     | 17        |
| 87 | A failure rate analysis of complex vehicles. International Journal of Heavy Vehicle Systems, 2010, 17, 76.   | 0.2 | 0         |
| 88 | Analyzing the influence of median cross-section design on highway safety using vehicle dynamics simulations. Accident Analysis and Prevention, 2010, 42, 1769-1777.  | 5.7 | 23        |
| 89 | Terrain-aware rollover prediction for ground vehicles using the zero-moment point method. , 2010, , .  |     | 10        |
| 90 | Improvements in terrain-based road vehicle localization by initializing an Unscented Kalman Filter using Particle Filters. , 2010, , .   |     | 4         |

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|-----|---|------|-----------|
| 91  | From User Requirements to Commonality Specifications: An Integrated Approach to Product Family Design. , 2010, , .  |      | 0         |
| 92  | Fidelity of using scaled vehicles for chassis dynamic studies. Vehicle System Dynamics, 2009, 47, 1401-1437.  | 3.7  | 20        |
| 93  | Terrain-based road vehicle localization on multi-lane highways. , 2009, , .   |      | 21        |
| 94  | Scaling of hybrid-electric vehicle powertrain components for Hardware-in-the-loop simulation. Mechatronics, 2009, 19, 1078-1090.  | 3.3  | 39        |
| 95  | Terrain-based vehicle orientation estimation combining vision and inertial measurements. Journal of Field Robotics, 2008, 25, 181-202.  | 6.0  | 25        |
| 96  | Scaling of hybrid electric vehicle powertrain components for hardware-in-the-loop simulation. , 2008, , .   |      | 13        |
| 97  | Experimentally Verified Optimal Serpentine Gait and Hyperredundancy of a Rigid-Link Snake Robot. IEEE Transactions on Robotics, 2008, 24, 348-360.                                  | 10.3 | 18        |
| 98  | Design and development of a family of explosive ordnance disposal (EOD) robots. , 2008, , .   |      | 1         |
| 99  | Highway Evaluation of Terrain-Aided Localization Using Particle Filters. , 2008, , .  |      | 12        |
| 100 | Reduction in the Number of Gain-Scheduling Parameters Using Dimensional Transformation. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2008, 130, . | 1.6  | 0         |
| 101 | Terrain-based road vehicle localization using particle filters. , 2008, , .   |      | 18        |
| 102 | A low-order dynamic model of a tracked robot inclusive of non-linear slip. International Journal of Heavy Vehicle Systems, 2008, 15, 327.   | 0.2  | 2         |
| 103 | Editorial: Special Issue on Control Applications in Automotive Engineering. IEEE Transactions on Control Systems Technology, 2007, 15, 403-405.                                     | 5.2  | 3         |
| 104 | Utilization of Vehicle Dynamic Simulations as Predictors of Highway Safety. , 2007, , 157.  |      | 1         |
| 105 | VEHICLE STATE ESTIMATION USING VISION AND INERTIAL MEASUREMENTS. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2007, 40, 63-70.                      | 0.4  | 0         |
| 106 | Lessons Learned From Matching Experimental Data to Low-Order Models of Vehicle Behavior. , 2007, , .  |      | 2         |
| 107 | A Comparative, Experimental Study of Model Suitability to Describe Vehicle Rollover Dynamics for Control Design. , 2005, , 405.   |      | 8         |
| 108 | Dimensionless robust control with application to vehicles. IEEE Transactions on Control Systems Technology, 2005, 13, 624-630.  | 5.2  | 21        |

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|-----|--|-----|-----------|
| 109 | Simplifying Robust Control Designs of Parametric Uncertain Systems Using Dimensional Transformations. , 2005, , .  |     | 0         |
| 110 | Real-time identification of vehicle chassis dynamics using a novel reparameterization based on sensitivity invariance. International Journal of Adaptive Control and Signal Processing, 2004, 18, 103-123. | 4.1 | 8         |
| 111 | Dimensionless Sensitivity Methods to Identify Vehicle Cornering Stiffness From Yaw Rate Measurements. , 2003, , .  |     | 0         |
| 112 | Robust Scalable Vehicle Control via Non-Dimensional Vehicle Dynamics. Vehicle System Dynamics, 2001, 36, 255-277.  | 3.7 | 26        |
| 113 | The Illinois Roadway Simulator: a mechatronic testbed for vehicle dynamics and control. IEEE/ASME Transactions on Mechatronics, 2000, 5, 349-359.  | 5.8 | 41        |
| 114 | Determining Gravimetric Bark Content in Cotton with Machine Vision. Textile Reseach Journal, 1998, 68, 94-104.   | 2.2 | 20        |