# Andrew G Alleyne

List of Publications by Year
in descending order

| 294 papers | 7,923 citations | 76196 40 h-index | 60497 81 g-index |
| 298 all docs | 298 docs citations | 298 times ranked | 5745 citing authors |

| # | Article | IF | Citations |
|---|---------|-----|-----------|
| 1 | High-resolution electrohydrodynamic jetÂprinting. Nature Materials, 2007, 6, 782-789. | 13.3 | 1,231 |
| 2 | Nonlinear adaptive control of active suspensions. IEEE Transactions on Control Systems Technology, 1995, 3, 94-101. | 3.2 | 467 |
| 3 | Mechanisms, Capabilities, and Applications of Highâ€Resolution Electrohydrodynamic Jet Printing. Small, 2015, 11, 4237-4266. | 5.2 | 437 |
| 4 | A simplified approach to force control for electro-hydraulic systems. Control Engineering Practice, 2000, 8, 1347-1356. | 3.2 | 246 |
| 5 | Stamp Collapse in Soft Lithography. Langmuir, 2005, 21, 8058-8068. | 1.6 | 201 |
| 6 | High-speed and drop-on-demand printing with a pulsed electrohydrodynamic jet. Journal of Micromechanics and Microengineering, 2010, 20, 095026. | 1.5 | 198 |
| 7 | A Cross-Coupled Iterative Learning Control Design for Precision Motion Control. IEEE Transactions on Control Systems Technology, 2008, 16, 1218-1231. | 3.2 | 181 |
| 8 | Hierarchical patterns of three-dimensional block-copolymer films formed by electrohydrodynamic jet printing and self-assembly. Nature Nanotechnology, 2013, 8, 667-675. | 15.6 | 157 |
| 9 | An advanced nonlinear switched heat exchanger model for vapor compression cycles using the moving-boundary method. International Journal of Refrigeration, 2008, 31, 1253-1264. | 1.8 | 139 |
| 10 | A dynamic model of a vapor compression cycle with shut-down and start-up operations. International Journal of Refrigeration, 2010, 33, 538-552. | 1.8 | 136 |
| 11 | A Norm Optimal Approach to Time-Varying ILC With Application to a Multi-Axis Robotic Testbed. IEEE Transactions on Control Systems Technology, 2011, 19, 166-180. | 3.2 | 130 |
| 12 | Nanoscale, Electrified Liquid Jets for High-Resolution Printing of Charge. Nano Letters, 2010, 10, 584-591. | 4.5 | 120 |
| 13 | Autonomous Vehicle Control: A Nonconvex Approach for Obstacle Avoidance. IEEE Transactions on Control Systems Technology, 2017, 25, 469-484. | 3.2 | 115 |
| 14 | Nonlinear control of an electrohydraulic injection molding machine via iterative adaptive learning. IEEE/ASME Transactions on Mechatronics, 1999, 4, 312-323. | 3.7 | 101 |
| 15 | Control-Oriented Modeling of Transcritical Vapor Compression Systems. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2004, 126, 54-64. | 0.9 | 101 |
| 16 | On the Limitations of Force Tracking Control for Hydraulic Servosystems. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 1999, 121, 184-190. | 0.9 | 100 |
| 17 | Basis Task Approach to Iterative Learning Control With Applications to Micro-Robotic Deposition. IEEE Transactions on Control Systems Technology, 2011, 19, 1138-1148. | 3.2 | 94 |
| 18 | Systematic control of a class of nonlinear systems with application to electrohydraulic cylinder pressure control. IEEE Transactions on Control Systems Technology, 2000, 8, 623-634. | 3.2 | 89 |

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|---|---------|----|-----------|
| 19 | Design of a Class of Nonlinear Controllers via State Dependent Riccati Equations. IEEE Transactions on Control Systems Technology, 2004, 12, 133-137. | 3.2 | 85 |
| 20 | Improved Vehicle Performance Using Combined Suspension and Braking Forces. Vehicle System Dynamics, 1997, 27, 235-265. | 2.2 | 74 |
| 21 | A multimaterial electrohydrodynamic jet (E-jet) printing system. Journal of Micromechanics and Microengineering, 2012, 22, 045008. | 1.5 | 74 |
| 22 | A desktop electrohydrodynamic jet printing system. Mechatronics, 2010, 20, 611-616. | 2.0 | 73 |
| 23 | Combined $H_{\infty}$-Feedback Control and Iterative Learning Control Design With Application to Nanopositioning Systems. IEEE Transactions on Control Systems Technology, 2010, 18, 336-351. | 3.2 | 72 |
| 24 | Application of Nonlinear Control Theory to Electronically Controlled Suspensions. Vehicle System Dynamics, 1993, 22, 309-320. | 2.2 | 71 |
| 25 | Control of high-resolution electrohydrodynamic jet printing. Control Engineering Practice, 2011, 19, 1266-1273. | 3.2 | 71 |
| 26 | A High Precision Motion Control System With Application to Microscale Robotic Deposition. IEEE Transactions on Control Systems Technology, 2006, 14, 1008-1020. | 3.2 | 66 |
| 27 | Nonlinear Force/Pressure Tracking of an Electro-Hydraulic Actuator1. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2000, 122, 232-236. | 0.9 | 66 |
| 28 | Functional Protein Microarrays by Electrohydrodynamic Jet Printing. Analytical Chemistry, 2012, 84, 10012-10018. | 3.2 | 64 |
| 29 | Optimal subcooling in vapor compression systems via extremum seeking control: Theory and experiments. International Journal of Refrigeration, 2014, 43, 14-25. | 1.8 | 61 |
| 30 | Mechanism for stamp collapse in soft lithography. Applied Physics Letters, 2005, 87, 251925. | 1.5 | 59 |
| 31 | Model-driven system identification of transcritical vapor compression systems. IEEE Transactions on Control Systems Technology, 2005, 13, 444-451. | 3.2 | 55 |
| 32 | A comparison between finite volume and switched moving boundary approaches for dynamic vapor compression system modeling. International Journal of Refrigeration, 2015, 53, 101-114. | 1.8 | 54 |
| 33 | Adaptive Model Predictive Control of an SCR Catalytic Converter System for Automotive Applications. IEEE Transactions on Control Systems Technology, 2012, 20, 1533-1547. | 3.2 | 52 |
| 34 | Block Copolymer Assembly on Nanoscale Patterns of Polymer Brushes Formed by Electrohydrodynamic Jet Printing. ACS Nano, 2014, 8, 6606-6613. | 7.3 | 52 |
| 35 | Monotonic Convergence of Iterative Learning Control for Uncertain Systems Using a Time-Varying Filter. IEEE Transactions on Automatic Control, 2008, 53, 582-585. | 3.6 | 51 |
| 36 | Application of a multivariable adaptive control strategy to automotive air conditioning systems. International Journal of Adaptive Control and Signal Processing, 2004, 18, 199-221. | 2.3 | 50 |

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| 37 | A practical and effective approach to active suspension controlâ€. Vehicle System Dynamics, 2005, 43, 305-330. | 2.2 | 49 |
| 38 | A Comparison of Alternative Intervention Strategies for Unintended Roadway Departure (URD) Control. Vehicle System Dynamics, 1997, 27, 157-186. | 2.2 | 46 |
| 39 | Exergy-based optimal control of a vapor compression system. Energy Conversion and Management, 2015, 92, 353-365. | 4.4 | 46 |
| 40 | Dynamic Thermal Management for Aerospace Technology: Review and Outlook. Journal of Thermophysics and Heat Transfer, 2017, 31, 86-98. | 0.9 | 45 |
| 41 | Gain Scheduled Control of an Air Conditioning System Using the Youla Parameterization. IEEE Transactions on Control Systems Technology, 2010, 18, 1216-1225. | 3.2 | 42 |
| 42 | The Illinois Roadway Simulator: a mechatronic testbed for vehicle dynamics and control. IEEE/ASME Transactions on Mechatronics, 2000, 5, 349-359. | 3.7 | 41 |
| 43 | Cross-coupled iterative learning control of systems with dissimilar dynamics: design and implementation. International Journal of Control, 2011, 84, 1223-1233. | 1.2 | 40 |
| 44 | Moving-Boundary Heat Exchanger Models With Variable Outlet Phase. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2008, 130, . | 0.9 | 38 |
| 45 | A Robust Controller Interpolation Design Technique. IEEE Transactions on Control Systems Technology, 2010, 18, 1-10. | 3.2 | 38 |
| 46 | Mixture Non-Uniformity in SCR Systems: Modeling and Uniformity Index Requirements for Steady-State and Transient Operation. SAE International Journal of Fuels and Lubricants, 0, 3, 486-499. | 0.2 | 36 |
| 47 | A computationally efficient norm optimal iterative learning control approach for LTV systems. Automatica, 2014, 50, 141-148. | 3.0 | 36 |
| 48 | Modeling and H2/Hâˆž MIMO Control of an Earthmoving Vehicle Powertrain. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2002, 124, 625-636. | 0.9 | 35 |
| 49 | Optimal onâ€"off control of refrigerated transport systems. Control Engineering Practice, 2010, 18, 1406-1417. | 3.2 | 35 |
| 50 | A hybrid control strategy for active vibration isolation with electrohydraulic actuators. Control Engineering Practice, 2005, 13, 279-289. | 3.2 | 34 |
| 51 | Robust Wireless Servo Control Using a Discrete-Time Uncertain Markovian Jump Linear Model. IEEE Transactions on Control Systems Technology, 2009, 17, 733-742. | 3.2 | 33 |
| 52 | High Precision Electrohydrodynamic Printing of Polymer Onto Microcantilever Sensors. IEEE Sensors Journal, 2011, 11, 2246-2253. | 2.4 | 33 |
| 53 | Decentralized predictive thermal control for buildings. Journal of Process Control, 2014, 24, 820-835. | 1.7 | 33 |
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| 55 | Micro-robotic deposition guidelines by a design of experiments approach to maximize fabrication reliability for the bone scaffold application. Acta Biomaterialia, 2008, 4, 897-912. | 4.1 | 32 |
| 56 | A Comparison of Alternative Obstacle Avoidance Strategies for Vehicle Control. Vehicle System Dynamics, 1997, 27, 371-392. | 2.2 | 31 |
| 57 | Performance Limitations of a Class of Two-Stage Electro-Hydraulic Flow Valves. International Journal of Fluid Power, 2002, 3, 47-53. | 0.7 | 31 |
| 58 | Direct process feedback in extrusion-based 3D bioprinting. Biofabrication, 2020, 12, 015017. | 3.7 | 30 |
| 59 | Modeling and optimization of a combined cooling, heating and power plant system. , 2012, , . | | 29 |
| 60 | Fundamental Limits in Combine Harvester Header Height Control. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2013, 135, 345031-345038. | 0.9 | 28 |
| 61 | Decentralized Feedback Structures of a Vapor Compression Cycle System. IEEE Transactions on Control Systems Technology, 2010, 18, 185-193. | 3.2 | 27 |
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| 75 | 1D and 2D error assessment and correction for extrusion-based bioprinting using process sensing and control strategies. Biofabrication, 2020, 12, 045023. | 3.7 | 22 |
| 76 | A Stability Result With Application to Nonlinear Regulation1. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2002, 124, 452-456. | 0.9 | 21 |
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| 80 | Iterative Learning Identification for Linear Time-Varying Systems. IEEE Transactions on Control Systems Technology, 2016, 24, 310-317. | 3.2 | 20 |
| 81 | Feedback shape control for deployable mesh reflectors using gain scheduling method. Acta Astronautica, 2016, 121, 241-255. | 1.7 | 20 |
| 82 | An Improved Approach to Iterative Learning Control for Uncertain Systems. IEEE Transactions on Control Systems Technology, 2021, 29, 546-555. | 3.2 | 20 |
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| 84 | Modeling and Control for Smart Mesoflap Aeroelastic Control. IEEE/ASME Transactions on Mechatronics, 2004, 9, 30-39. | 3.7 | 19 |
| 85 | A KYP Lemma for LMI Regions. IEEE Transactions on Automatic Control, 2007, 52, 1926-1930. | 3.6 | 19 |
| 86 | Iterative Learning Control for robotic deposition using machine vision. , 2008, , . | | 19 |
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| 89 | Bumpless Transfer Filter for Exogenous Feedforward Signals. IEEE Transactions on Control Systems Technology, 2014, 22, 1581-1588. | 3.2 | 19 |
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| 92 | A model predictive control approach for a parallel hydraulic hybrid powertrain. , 2011, , . | | 17 |
| 93 | A Dynamic Modeling Toolbox for Air Vehicle Vapor Cycle Systems. , 2012, , . | | 17 |
| 94 | Photonic crystal enhancement of a homogeneous fluorescent assay using submicron fluid channels fabricated by Eâ€jet patterning. Journal of Biophotonics, 2014, 7, 266-275. | 1.1 | 17 |
| 95 | Velocity scheduled driver assisted control. International Journal of Vehicle Design, 2002, 29, 1. | 0.1 | 16 |
| 96 | High bandwidth control of precision motion instrumentation. Review of Scientific Instruments, 2008, 79, 103704. | 0.6 | 16 |
| 97 | An anti-windup technique for LMI regions. Automatica, 2009, 45, 2344-2349. | 3.0 | 16 |
| 98 | Net shape fabrication of calcium phosphate scaffolds with multiple material domains. Biofabrication, 2016, 8, 015005. | 3.7 | 16 |
| 99 | Hardware-in-the-Loop Validation of Advanced Fuel Thermal Management Control. Journal of Thermophysics and Heat Transfer, 2017, 31, 901-909. | 0.9 | 16 |
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| 101 | Robust Controller Interpolation via Parameterization. , 2008, , . | | 15 |
| 102 | OPTIMIZATION OF A PASSENGER HYDRAULIC HYBRID VEHICLE TO IMPROVE FUEL ECONOMY. Proceedings of the JFPS International Symposium on Fluid Power, 2008, 2008, 143-148. | 0.1 | 15 |
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| 104 | Iterative Learning Identification Applied to Automated Off-Highway Vehicle. IEEE Transactions on Control Systems Technology, 2014, 22, 331-337. | 3.2 | 15 |
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| 106 | A Multi-Input Single-Output iterative learning control for improved material placement in extrusion-based additive manufacturing. Control Engineering Practice, 2021, 111, 104783. | 3.2 | 14 |
| 107 | Model Predictive Control: A Unified Approach for Urea-Based SCR Systems. SAE International Journal of Fuels and Lubricants, 0, 3, 673-689. | 0.2 | 13 |
| 108 | Polarized quantum dot emission in electrohydrodynamic jet printed photonic crystals. Applied Physics Letters, 2015, 107, . | 1.5 | 13 |

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| 110 | Predictive control of complex hydronic systems. , 2010, , . | | 12 |
| 111 | Comparison of wind turbine operating transitions through the use of iterative learning control. , 2011, , . | | 12 |
| 112 | Modeling and Control Design of a Powertrain Simulation Testbed for Earthmoving Vehicles. , 1999, , . | | 12 |
| 113 | Advances in Energy Systems Modeling and Control. Proceedings of the American Control Conference, 2007, , . | 0.0 | 11 |
| 114 | A Switched, Controls-Oriented SCR Catalyst Model Using On-Line Eigenvalue Estimation. , 2009, , . | | 11 |
| 115 | Predictive Energy Management for Parallel Hydraulic Hybrid Passenger Vehicle. , 2010, , . | | 11 |
| 116 | Passivity and Decentralized MPC of Switched Graph-Based Power Flow Systems. , 2018, , . | | 11 |
| 117 | Robust hierarchical model predictive control of graph-based power flow systems. Automatica, 2018, 96, 127-133. | 3.0 | 11 |
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| 120 | Optimal control architecture selection for thermal control of buildings. , 2011, , . | | 10 |
| 121 | Model Accuracy of Variable Fidelity Vapor Cycle System Simulations. , 2014, , . | | 10 |
| 122 | Learning-Based Precool Algorithms for Exploiting Foodstuff as Thermal Energy Reserve. IEEE Transactions on Control Systems Technology, 2015, 23, 557-569. | 3.2 | 10 |
| 123 | Hierarchical model-based predictive controller for a hybrid UAV powertrain. Control Engineering Practice, 2021, 115, 104883. | 3.2 | 10 |
| 124 | Reachability of Chaotic Dynamic Systems. Physical Review Letters, 1998, 80, 3751-3754. | 2.9 | 9 |
| 125 | Precision coordination and motion control of multiple systems via iterative learning control. , 2010, , . | | 9 |
| 126 | Optimal on-off control of an air conditioning and refrigeration system. , 2010, , . | | 9 |

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| 127 | Decoupled feedforward control for an air-conditioning and refrigeration system. , 2010, , . | | 9 |
| 128 | Comparative Study of Energy Management Strategies for Hydraulic Hybrids. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2015, 137, . | 0.9 | 9 |
| 129 | Selective Autonomous Molecular Transport and Collection by Hydrogelâ€‰Embedded Supramolecular Chemical Gradients. Angewandte Chemie - International Edition, 2019, 58, 18165-18170. | 7.2 | 9 |
| 130 | A Novel Framework for Simultaneous Topology and Sizing Optimization of Complex, Multi-Domain Systems-of-Systems. Journal of Mechanical Design, Transactions of the ASME, 2020, 142, . | 1.7 | 9 |
| 131 | Multivariable Control of an Earthmoving Vehicle Powertrain Experimentally Validated in an Emulated Working Cycle. , 2003, , 515. | | 8 |
| 132 | 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. | 2.3 | 8 |
| 133 | Feedback Structures for Vapor Compression Cycle Systems. Proceedings of the American Control Conference, 2007, , . | 0.0 | 8 |
| 134 | An Analysis Framework for Evaluating Dropout Compensation Strategies in Wireless Servo Systems. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2008, 130, . | 0.9 | 8 |
| 135 | Optimizing Learning Convergence Speed and Converged Error for Precision Motion Control. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2008, 130, . | 0.9 | 8 |
| 136 | NLMPC for Real Time Path Following and Collision Avoidance. SAE International Journal of Passenger Cars - Electronic and Electrical Systems, 2015, 8, 401-405. | 0.3 | 8 |
| 137 | Hierarchical Control of Multi-Domain Power Flow in Mobile Systems: Part I â€" Framework Development and Demonstration. , 2015, , . | | 8 |
| 138 | Iterative Learning Identification/Iterative Learning Control for Linear Time-Varying Systems. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2016, 138, . | 0.9 | 8 |
| 139 | Electro-Thermal Graph-Based Modeling for Hierarchical Control with Application to an Electric Vehicle. , 2018, , . | | 8 |
| 140 | Hierarchical Control for Electro-Thermal Power Management of an Electric Vehicle Powertrain. , 2018, , . | | 8 |
| 141 | Directed Molecular Collection by Eâ€‰Jet Printed Microscale Chemical Potential Wells in Hydrogel Films. Advanced Materials, 2018, 30, 1803140. | 11.1 | 8 |
| 142 | Plant and Controller Optimization for Power and Energy Systems With Model Predictive Control. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2021, 143, . | 0.9 | 8 |
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| 144 | Dynamic Emulation Using a Resistive Control Input. , 2002, , . | | 8 |

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| 151 | Two-Level Hierarchical Mission-Based Model Predictive Control. , 2018, , . | | 7 |
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| 155 | A Urea Decomposition Modeling Framework for SCR Systems. SAE International Journal of Fuels and Lubricants, 0, 2, 612-626. | 0.2 | 6 |
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| 161 | Extremum seeking control of battery powered vapor compression systems for commercial vehicles. International Journal of Refrigeration, 2020, 115, 63-72. | 1.8 | 6 |
| 162 | A lateral position sensing system for automated vehicle following. IEEE/ASME Transactions on Mechatronics, 1998, 3, 218-224. | 3.7 | 5 |

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| 164 | A full dynamic model of a HVAC vapor compression cycle interacting with a dynamic environment. , 2009, , . | | 5 |
| 165 | Iterative Learning Control using a basis signal library. , 2009, , . | | 5 |
| 166 | Control of high-resolution Electrohydrodynamic jet printing. , 2010, , . | | 5 |
| 167 | Robust gain-scheduled control. , 2010, , . | | 5 |
| 168 | An energy management strategy for a hydraulic hybrid vehicle. , 2012, , . | | 5 |
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| 171 | HVAC System Modeling and Control: Vapor Compression System Modeling and Control. Advances in Industrial Control, 2018, , 73-103. | 0.4 | 5 |
| 172 | Optimal Flow Control and Single Split Architecture Exploration for Fluid-Based Thermal Management. , 2018, , . | | 5 |
| 173 | Experimental Model and Controller Validation for a Series Hybrid Unmanned Aerial Vehicle. , 2020, , . | | 5 |
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