

# Kamal Youcef-Toumi

## List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

137  
papers

2,730  
citations

25  
h-index

47  
g-index

160  
ext. papers

3,387  
ext. citations

5.5  
avg, IF

5.48  
L-index

#	Paper	IF	Citations
137	Comprehensive study of charge-based motion control for piezoelectric nanopositioners: Modeling, instrumentation and controller design. <i>Mechanical Systems and Signal Processing</i> , <b>2022</b> , 166, 108477	7.8	5
136	Principle, implementation, and applications of charge control for piezo-actuated nanopositioners: A comprehensive review. <i>Mechanical Systems and Signal Processing</i> , <b>2022</b> , 171, 108885	7.8	3
135	Intelligent disassembly of electric-vehicle batteries: a forward-looking overview. <i>Resources, Conservation and Recycling</i> , <b>2022</b> , 182, 106207	11.9	1
134	Magneto-hydrodynamic Energy Harvester for Low-Power Pipe Instrumentation. <i>IEEE/ASME Transactions on Mechatronics</i> , <b>2022</b> , 1-10	5.5	
133	Building block 3D printing based on molecular self-assembly monolayer with self-healing properties.. <i>Scientific Reports</i> , <b>2022</b> , 12, 6806	4.9	2
132	Fish-Inspired Task Allocation Algorithm for Multiple Unmanned Aerial Vehicles in Search and Rescue Missions. <i>Remote Sensing</i> , <b>2021</b> , 13, 27	5	9
131	A modular low-cost atomic force microscope for precision mechatronics education. <i>Mechatronics</i> , <b>2021</b> , 76, 102550	3	3
130	Modeling and Control of Piezoelectric Hysteresis: A Polynomial-Based Fractional Order Disturbance Compensation Approach. <i>IEEE Transactions on Industrial Electronics</i> , <b>2021</b> , 68, 3348-3358	8.9	9
129	A balanced evacuation algorithm for facilities with multiple exits. <i>European Journal of Operational Research</i> , <b>2021</b> , 289, 285-296	5.6	7
128	Quantification and reduction of Poisson-Gaussian mixed noise induced errors in ellipsometry. <i>Optics Express</i> , <b>2021</b> , 29, 27057-27070	3.3	0
127	Statically Stable Charge Sensing Method for Precise Displacement Estimation of Piezoelectric Stack-Based Nanopositioning. <i>IEEE Transactions on Industrial Electronics</i> , <b>2021</b> , 68, 8550-8560	8.9	1
126	Feedback-Assisted Feedforward Hysteresis Compensation: A Unified Approach and Applications to Piezoactuated Nanopositioners. <i>IEEE Transactions on Industrial Electronics</i> , <b>2021</b> , 68, 11245-11254	8.9	1
125	Why simple quadrature is just as good as Monte Carlo. <i>Monte Carlo Methods and Applications</i> , <b>2020</b> , 26, 1-16	0.4	2
124	A general model validation and testing tool. <i>Reliability Engineering and System Safety</i> , <b>2020</b> , 195, 1066846.3	6.3	4
123	Smart recovery decision-making for end-of-life products in the context of ubiquitous information and computational intelligence. <i>Journal of Cleaner Production</i> , <b>2020</b> , 272, 122804	10.3	9
122	A generalized Bayesian approach to model calibration. <i>Reliability Engineering and System Safety</i> , <b>2020</b> , 204, 107141	6.3	3
121	Guest Editors Introduction to the Special Issue on RGB-D Vision: Methods and Applications. <i>IEEE Transactions on Pattern Analysis and Machine Intelligence</i> , <b>2020</b> , 42, 2329-2332	13.3	

120	Confidence-Based Hybrid Tracking to Overcome Visual Tracking Failures in Calibration-Less Vision-Guided Micromanipulation. <i>IEEE Transactions on Automation Science and Engineering</i> , <b>2020</b> , 17, 524-536	4.9	4
119	Lights Out! Nano-Scale Topography Imaging of Sample Surface in Opaque Liquid Environments with Coated Active Cantilever Probes. <i>Nanomaterials</i> , <b>2019</b> , 9,	5.4	5
118	Adaptive task allocation for multi-UAV systems based on bacteria foraging behaviour. <i>Applied Soft Computing Journal</i> , <b>2019</b> , 83, 105643	7.5	20
117	Unevenly spaced continuous measurement approach for dual rotating-retarder Mueller matrix ellipsometry. <i>Optics Express</i> , <b>2019</b> , 27, 14736-14753	3.3	2
116	A Practical Minimalism Approach to In-pipe Robot Localization <b>2019</b> ,		4
115	Design and Control of a Multi-Actuated Nanopositioning Stage with Stacked Structure <b>2019</b> ,		1
114	Multifunctional "Hydrogel Skins" on Diverse Polymers with Arbitrary Shapes. <i>Advanced Materials</i> , <b>2019</b> , 31, e1807101	24	146
113	Dynamic task allocation in an uncertain environment with heterogeneous multi-agents. <i>Autonomous Robots</i> , <b>2019</b> , 43, 1639-1664	3	8
112	Charge Controller With Decoupled and Self-Compensating Configurations for Linear Operation of Piezoelectric Actuators in a Wide Bandwidth. <i>IEEE Transactions on Industrial Electronics</i> , <b>2019</b> , 66, 5392-5402	8.9	18
111	Control for Dynamic Positioning and Way-point Tracking of Underactuated Autonomous Underwater Vehicles Using Sliding Mode Control. <i>Journal of Intelligent and Robotic Systems: Theory and Applications</i> , <b>2019</b> , 95, 1113-1132	2.9	15
110	Automatic Vision-Guided Micromanipulation for Versatile Deployment and Portable Setup. <i>IEEE Transactions on Automation Science and Engineering</i> , <b>2018</b> , 15, 1609-1620	4.9	7
109	Context-Aware Gossip-Based Protocol for Internet of Things Applications. <i>Sensors</i> , <b>2018</b> , 18,	3.8	3
108	Ultra-Wideband Radar for Robust Inspection Drone in Underground Coal Mines <b>2018</b> ,		6
107	. <i>IEEE Access</i> , <b>2018</b> , 6, 56737-56749	3.5	17
106	Image-Based Lateral Position, Steering Behavior Estimation, and Road Curvature Prediction for Motorcycles. <i>IEEE Robotics and Automation Letters</i> , <b>2018</b> , 3, 2694-2701	4.2	2
105	Demand side management in power grid enterprise control: A comparison of industrial & social welfare approaches. <i>Applied Energy</i> , <b>2017</b> , 187, 833-846	10.7	17
104	Review Article: Active scanning probes: A versatile toolkit for fast imaging and emerging nanofabrication. <i>Journal of Vacuum Science and Technology B: Nanotechnology and Microelectronics</i> , <b>2017</b> , 35, 06G101	1.3	24
103	Terminal sliding mode control for the trajectory tracking of underactuated Autonomous Underwater Vehicles. <i>Ocean Engineering</i> , <b>2017</b> , 129, 613-625	3.9	138

102	An a priori analytical method for the determination of operating reserve requirements. <i>International Journal of Electrical Power and Energy Systems</i> , <b>2017</b> , 86, 1-17	5.1	7
101	Design of a leak sensor for operating water pipe systems <b>2017</b> ,		2
100	Self-initialization and recovery for uninterrupted tracking in vision-guided micromanipulation <b>2017</b> ,		2
99	. <i>IEEE Transactions on Industrial Informatics</i> , <b>2016</b> , 12, 809-819	11.9	65
98	Design and control of multi-actuated atomic force microscope for large-range and high-speed imaging. <i>Ultramicroscopy</i> , <b>2016</b> , 160, 213-224	3.1	17
97	Trajectory tracking sliding mode control of underactuated AUVs. <i>Nonlinear Dynamics</i> , <b>2016</b> , 84, 1079-1091	3.1	107
96	The need for holistic enterprise control assessment methods for the future electricity grid. <i>Renewable and Sustainable Energy Reviews</i> , <b>2016</b> , 56, 669-685	16.2	14
95	Relative merits of load following reserves & energy storage market integration towards power system imbalances. <i>International Journal of Electrical Power and Energy Systems</i> , <b>2016</b> , 74, 222-229	5.1	16
94	Characterization of Environmental Dust in the Dammam Area and Mud After-Effects on Bisphenol-A Polycarbonate Sheets. <i>Scientific Reports</i> , <b>2016</b> , 6, 24308	4.9	37
93	Towards automatic robot-assisted microscopy: An uncalibrated approach for robotic vision-guided micromanipulation <b>2016</b> ,		6
92	. <i>IEEE Transactions on Industrial Electronics</i> , <b>2015</b> , 62, 2448-2458	8.9	21
91	Demand side management in a day-ahead wholesale market: A comparison of industrial & social welfare approaches. <i>Applied Energy</i> , <b>2015</b> , 156, 642-654	10.7	24
90	. <i>IEEE Transactions on Industrial Electronics</i> , <b>2015</b> , 62, 2459-2467	8.9	20
89	A Multi-Agent System Coordination Approach for Resilient Self-Healing Operations in Multiple Microgrids <b>2015</b> , 269-285		8
88	Aggreca nanoscale solid-fluid interactions are a primary determinant of cartilage dynamic mechanical properties. <i>ACS Nano</i> , <b>2015</b> , 9, 2614-25	16.7	48
87	Towards Continuous Authentication in Internet of Things Based on Secret Sharing Scheme <b>2015</b> ,		14
86	An enhanced method for the determination of the regulation reserves <b>2015</b> ,		7
85	Modeling and parameter estimation for in-pipe swimming robots <b>2015</b> ,		2

84	A comparison of day-ahead wholesale market: Social welfare vs industrial demand side management <b>2015</b> ,		7
83	An enhanced method for the determination of the ramping reserves <b>2015</b> ,		5
82	Event triggered state estimation techniques for power systems with integrated variable energy resources. <i>ISA Transactions</i> , <b>2015</b> , 56, 165-72	5.5	14
81	Selection of Important Parameters Using Uncertainty and Sensitivity Analysis. <i>IEEE/ASME Transactions on Mechatronics</i> , <b>2015</b> , 20, 13-23	5.5	4
80	Limitations of Underactuated Modal Damping for Multistage Vibration Isolation Systems. <i>IEEE/ASME Transactions on Mechatronics</i> , <b>2015</b> , 20, 393-404	5.5	4
79	Design of a Novel In-Pipe Reliable Leak Detector. <i>IEEE/ASME Transactions on Mechatronics</i> , <b>2015</b> , 20, 824-833	5.5	36
78	Design of a maneuverable swimming robot for in-pipe missions <b>2015</b> ,		4
77	Impacts of industrial baseline errors in demand side management enabled enterprise control <b>2015</b> ,		5
76	Impacts of Industrial Baseline Errors on Costs and Social Welfare in the Demand Side Management of Day-Ahead Wholesale Markets <b>2015</b> ,		2
75	Soft-Body Robot Fish. <i>Springer Tracts in Mechanical Engineering</i> , <b>2015</b> , 161-191	0.3	3
74	Multi-eigenmode control for high material contrast in bimodal and higher harmonic atomic force microscopy. <i>Nanotechnology</i> , <b>2015</b> , 26, 235706	3.4	12
73	. <i>IEEE/ASME Transactions on Mechatronics</i> , <b>2015</b> , 20, 2391-2402	5.5	9
72	Real-time economic dispatch for the supply side of the energy-water nexus. <i>Applied Energy</i> , <b>2014</b> , 122, 42-52	10.7	93
71	The impact of storage facility capacity and ramping capabilities on the supply side economic dispatch of the energy-water nexus. <i>Energy</i> , <b>2014</b> , 66, 363-377	7.9	33
70	Analysis and control of a thermal management system for robots in temperature-restricted environments <b>2014</b> ,		1
69	A multi-agent system transient stability platform for resilient self-healing operation of multiple microgrids <b>2014</b> ,		12
68	. <i>IEEE Transactions on Wireless Communications</i> , <b>2014</b> , 13, 3510-3523	9.6	31
67	Detection & estimation algorithms for in-pipe leak detection <b>2014</b> ,		3

66	An enhanced method for the determination of load following reserves <b>2014</b> ,		12
65	Controlling stochastic growth processes on lattices: Wildfire management with robotic fire extinguishers <b>2014</b> ,		3
64	RIM Propeller for Micro Autonomous Underwater Vehicles <b>2014</b> ,		3
63	An Integrated Energy and Water Market for the Supply Side of the Energy-Water Nexus in the Engineered Infrastructure <b>2014</b> ,		4
62	A power grid enterprise control method for energy storage system integration <b>2014</b> ,		5
61	MIT Leak Detector: An in-pipe leak detection robot <b>2014</b> ,		1
60	Modeling and analysis of an in-pipe robotic leak detector <b>2014</b> ,		5
59	Relay node placement in wireless sensor networks for pipeline inspection <b>2013</b> ,		1
58	Optimal coverage of an infrastructure network using sensors with distance-decaying sensing quality. <i>Automatica</i> , <b>2013</b> , 49, 3351-3358	5:7	11
57	High-bandwidth AFM-based rheology reveals that cartilage is most sensitive to high loading rates at early stages of impairment. <i>Biophysical Journal</i> , <b>2013</b> , 104, 1529-37	2.9	66
56	Reliable Sensing of Leaks in Pipelines <b>2013</b> ,		12
55	Optimal network flow for the supply side of the energy-water nexus <b>2013</b> ,		20
54	Variable energy resource induced power system imbalances: A generalized assessment approach <b>2013</b> ,		10
53	Variable energy resource induced power system imbalances: Mitigation by increased system flexibility, spinning reserves and regulation <b>2013</b> ,		12
52	Modal damping of a quadruple pendulum for advanced gravitational wave detectors <b>2012</b> ,		1
51	Design and analysis of novel friction controlling mechanism with minimal energy for in-pipe robot applications <b>2012</b> ,		6
50	Computational fluid dynamic simulation of small leaks in water pipelines for direct leak pressure transduction. <i>Computers and Fluids</i> , <b>2012</b> , 57, 110-123	2.8	51
49	Design and Evaluation of an In-Pipe Leak Detection Sensing Technique Based on Force Transduction <b>2012</b> ,		5

48	An In-Pipe Leak Detection Sensor: Sensing Capabilities and Evaluation <b>2011</b> ,		5
47	Integrated Design and Control of Flexure-Based Nanopositioning Systems [Part I: Methodology. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , <b>2011</b> , 44, 9406-9412		
46	Integrated Design and Control of Flexure-Based Nanopositioning Systems [Part II: Application Case Study. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , <b>2011</b> , 44, 9397-9405		
45	Characterization of In-Pipe Acoustic Wave for Water Leak Detection <b>2011</b> ,		4
44	Compensator design for improved counterbalancing in high speed atomic force microscopy. <i>Review of Scientific Instruments</i> , <b>2011</b> , 82, 113712	1.7	18
43	Actuator sizing of a quadruple pendulum for advanced gravitational wave detectors <b>2011</b> ,		1
42	Analysis and Design of an In-Pipe System for Water Leak Detection <b>2011</b> ,		16
41	Quantifying Acoustic and Pressure Sensing for In-Pipe Leak Detection <b>2010</b> ,		5
40	A soft body under-actuated approach to multi degree of freedom biomimetic robots: A stingray example <b>2010</b> ,		14
39	DMCMN: In Depth Characterization and Control of AFM Cantilevers With Integrated Sensing and Actuation. <i>Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME</i> , <b>2009</b> , 131,	1.6	27
38	Use of self-actuating and self-sensing cantilevers for imaging biological samples in fluid. <i>Nanotechnology</i> , <b>2009</b> , 20, 434003	3-4	32
37	Swimming performance of a biomimetic compliant fish-like robot. <i>Experiments in Fluids</i> , <b>2009</b> , 47, 927-939	5	69
36	Three-dimensional profile stitching based on the fiducial markers for microfluidic devices. <i>Optics Communications</i> , <b>2009</b> , 282, 493-499	2	11
35	Extracting cancer cell line electrochemical parameters at the single cell level using a microfabricated device. <i>Biotechnology Journal</i> , <b>2009</b> , 4, 216-23	5.6	4
34	White-light scanning interferometer for absolute nano-scale gap thickness measurement. <i>Optics Express</i> , <b>2009</b> , 17, 15104-17	3-3	16
33	Large-area and high-resolution distortion measurement based on Moiré fringe method for hot embossing process. <i>Optics Express</i> , <b>2009</b> , 17, 18394-407	3-3	2
32	Maneuverability of a robotic tuna with compliant body <b>2008</b> ,		6
31	Cell motion model for moving dielectrophoresis. <i>Analytical Chemistry</i> , <b>2008</b> , 80, 5454-61	7.8	35

30	Robust adaptive control of a class of switched systems <b>2008</b> ,		2
29	Characterization of dynamic behavior of flexure-based mechanisms for precision angular alignment <b>2008</b> ,		3
28	Modeling of dielectrophoretic force for moving dielectrophoresis electrodes. <i>Journal of Electrostatics</i> , <b>2008</b> , 66, 514-525	1.7	28
27	Dynamic cell fractionation and transportation using moving dielectrophoresis. <i>Analytical Chemistry</i> , <b>2007</b> , 79, 6975-87	7.8	45
26	Dimensional variation in production of high-aspect-ratio micro-pillars array by micro powder injection molding. <i>Applied Physics A: Materials Science and Processing</i> , <b>2007</b> , 89, 721-728	2.6	18
25	On automating atomic force microscopes: An adaptive control approach. <i>Control Engineering Practice</i> , <b>2007</b> , 15, 349-361	3.9	13
24	Design of Machines With Compliant Bodies for Biomimetic Locomotion in Liquid Environments. <i>Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME</i> , <b>2006</b> , 128, 3-13	1.6	102
23	SINGLE-MOLECULE DNA SEQUENCING WITH FUNCTIONALIZED CARBON NANOTUBE PROBES. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , <b>2006</b> , 39, 825-830		1
22	Measurements and quality assessments of near-infrared plasma glucose spectra in the combination band region using a scanning filter spectrometer. <i>Journal of Biomedical Optics</i> , <b>2005</b> , 10, 064039	3.5	1
21	NIR measurements of glucose in synthetic biological solutions using high-throughput angle-tuned filter spectrometer <b>2004</b> ,		2
20	Trade-offs and performance limitations in mechatronic systems: a case study. <i>Annual Reviews in Control</i> , <b>2004</b> , 28, 181-192	10.3	10
19	Design of a mechanical-tunable filter spectrometer for noninvasive glucose measurement. <i>Applied Optics</i> , <b>2004</b> , 43, 2680-8	1.7	15
18	Robust Adaptive Control of Atomic Force Microscopes. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , <b>2004</b> , 37, 669-674		
17	High-precision metrology by means of a novel stereo imaging technique based on atomic force microscopy <b>2001</b> ,		2
16	Non-Linear Analysis of Vehicle Dynamics (NAVDyn): A Reduced Order Model for Vehicle Handling Analysis <b>2000</b> ,		11
15	Experimental study of interactions in the nanostructured Ni pillar arrays. <i>Journal of Applied Physics</i> , <b>2000</b> , 87, 5123-5125	2.5	8
14	Sensitivity analysis of near-infrared glucose absorption signals: toward noninvasive blood glucose sensing <b>2000</b> ,		4
13	Explicit Energy Storage Fields and Their Application to Structural Property Inspection of Physical Systems. <i>Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME</i> , <b>1999</b> , 121, 402-409	1.6	1



12	Fabrication of large area nanostructured magnets by interferometric lithography. <i>IEEE Transactions on Magnetics</i> , <b>1998</b> , 34, 1087-1089	2	61
11	Angle Sensor with STM. (2nd Report). Atom Tracking and Yaw Measurement.. <i>Journal of the Japan Society for Precision Engineering</i> , <b>1997</b> , 63, 807-811	0.1	1
10	Modeling, design, and control integration: a necessary step in mechatronics. <i>IEEE/ASME Transactions on Mechatronics</i> , <b>1996</b> , 1, 29-38	5.5	43
9	. <i>IEEE Transactions on Automation Science and Engineering</i> , <b>1993</b> , 9, 102-108		22
8	A Time Delay Controller for Systems With Unknown Dynamics. <i>Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME</i> , <b>1990</b> , 112, 133-142	1.6	418
7	Automated setup and reconfiguration for modular fixturing. <i>Robotics and Computer-Integrated Manufacturing</i> , <b>1989</b> , 5, 357-370	9.2	8
6	Flexible fixturing and automatic drilling of sheet metal parts using a robot manipulator. <i>Robotics and Computer-Integrated Manufacturing</i> , <b>1989</b> , 5, 371-380	9.2	13
5	Computer-aided analysis of reconfigurable fixtures and sheet metal parts for robotic drilling. <i>Robotics and Computer-Integrated Manufacturing</i> , <b>1988</b> , 4, 387-393	9.2	18
4	A Time Delay Controller for Systems with Unknown Dynamics <b>1988</b> ,		31
3	The Design of Open-Loop Manipulator Arms With Decoupled and Configuration-Invariant Inertia Tensors. <i>Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME</i> , <b>1987</b> , 109, 268-275	1.6	28
2	Analysis and Design of a Direct-Drive Arm With a Five-Bar-Link Parallel Drive Mechanism. <i>Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME</i> , <b>1984</b> , 106, 225-230	1.6	117
1	<b>1983</b> ,		7