Muhammad Hajj

List of Publications by Citations

148 papers	2,935 citations	30 h-index	48 g-index
166 ext. papers	3,517 ext. citations	3.6 avg, IF	5.82 L-index

#	Paper	IF	Citations
148	Modeling and analysis of piezoaeroelastic energy harvesters. *Nonlinear Dynamics*, **2012**, 67, 925-939	5	139
147	Global nonlinear distributed-parameter model of parametrically excited piezoelectric energy harvesters. *Nonlinear Dynamics*, **2012**, 67, 1147-1160	5	120
146	Flight dynamics and control of flapping-wing MAVs: a review. *Nonlinear Dynamics*, **2012**, 70, 907-939	5	110
145	Modeling and nonlinear analysis of piezoelectric energy harvesting from transverse galloping. *Smart Materials and Structures*, **2013**, 22, 025016	3.4	102
144	Power harvesting from transverse galloping of square cylinder. *Nonlinear Dynamics*, **2012**, 70, 1355-1363	5	99
143	State-space representation of the unsteady aerodynamics of flapping flight. *Aerospace Science and Technology*, **2014**, 34, 1-11	4.9	97
142	Design and performance of variable-shaped piezoelectric energy harvesters. *Journal of Intelligent Material Systems and Structures*, **2014**, 25, 174-186	2.3	96
141	Phenomena and modeling of piezoelectric energy harvesting from freely oscillating cylinders. *Nonlinear Dynamics*, **2012**, 70, 1377-1388	5	89
140	Design of piezoaeroelastic energy harvesters. *Nonlinear Dynamics*, **2012**, 68, 519-530	5	89
139	Performance analysis of galloping-based piezoaeroelastic energy harvesters with different cross-section geometries. *Journal of Intelligent Material Systems and Structures*, **2014**, 25, 246-256	2.3	85
138	Effects of nonlinear piezoelectric coupling on energy harvesters under direct excitation. *Nonlinear Dynamics*, **2012**, 67, 1221-1232	5	69
137	Enhancement of power harvesting from piezoaeroelastic systems. *Nonlinear Dynamics*, **2012**, 68, 531-541	5	65
136	Modeling of thermochemical energy storage by salt hydrates. *International Journal of Heat and Mass Transfer*, **2010**, 53, 5700-5706	4.9	64
135	An analytical and experimental investigation into limit-cycle oscillations of an aeroelastic system. *Nonlinear Dynamics*, **2013**, 71, 159-173	5	63
134	Longitudinal Flight Dynamics of Hovering MAVs/Insects. *Journal of Guidance, Control, and Dynamics*, **2014**, 37, 970-979	2.1	54
133	Experimental analysis of energy harvesting from self-induced flutter of a composite beam. *Applied Physics Letters*, **2015**, 107, 023901	3.4	52
132	Global optimization of actively morphing flapping wings. *Journal of Fluids and Structures*, **2012**, 33, 210-228	3.8	51

131	Piezoelectric energy harvesting from hybrid vibrations. *Smart Materials and Structures*, **2014**, 23, 025026	3.4	47
130	Modeling, validation, and performance of low-frequency piezoelectric energy harvesters. *Journal of Intelligent Material Systems and Structures*, **2014**, 25, 1429-1444	2.3	46
129	Sensitivity analysis of piezoaeroelastic energy harvesters. *Journal of Intelligent Material Systems and Structures*, **2012**, 23, 1523-1531	2.3	46
128	Electromechanical decoupled model for cantilever-beam piezoelectric energy harvesters. *Applied Physics Letters*, **2016**, 109, 101908	3.4	44
127	The need for higher-order averaging in the stability analysis of hovering, flapping-wing flight. *Bioinspiration and Biomimetics*, **2015**, 10, 016002	2.6	42
126	Bio-inspired bi-stable piezoelectric harvester for broadband vibration energy harvesting. *Energy Conversion and Management*, **2020**, 222, 113174	10.6	42
125	Effectiveness of a nonlinear energy sink in the control of an aeroelastic system. *Nonlinear Dynamics* , **2016**, 86, 2161-2177	5	39
124	Wing Kinematics Optimization for Hovering Micro Air Vehicles Using Calculus of Variation. *Journal of Aircraft*, **2013**, 50, 610-614	1.6	38
123	Broadband and high-efficient L-shaped piezoelectric energy harvester based on internal resonance. *International Journal of Mechanical Sciences*, **2019**, 159, 287-305	5.5	35
122	Effect of the aerodynamic-induced parametric excitation on the longitudinal stability of hovering MAVs/insects. *Nonlinear Dynamics*, **2014**, 78, 2399-2408	5	35
121	Nonlinear analysis and enhancement of wing-based piezoaeroelastic energy harvesters. *Journal of Sound and Vibration*, **2014**, 333, 166-177	3.9	31
120	Passive control of transonic flutter with a nonlinear energy sink. *Nonlinear Dynamics*, **2018**, 91, 577-590	5	30
119	Performance enhancement of wing-based piezoaeroelastic energy harvesting through freeplay nonlinearity. *Theoretical and Applied Mechanics Letters*, **2013**, 3, 041001	1.8	30
118	Theoretically estimated peak wind loads. *Journal of Wind Engineering and Industrial Aerodynamics*, **2007**, 95, 113-132	3.7	30
117	Geometrically-exact unsteady model for airfoils undergoing large amplitude maneuvers. *Aerospace Science and Technology*, **2014**, 39, 293-306	4.9	29
116	Energy harvesting from an autoparametric vibration absorber. *Smart Materials and Structures*, **2015**, 24, 115012	3.4	29
115	Broadband bimorph piezoelectric energy harvesting by exploiting bending-torsion of L-shaped structure. *Energy Conversion and Management*, **2020**, 206, 112503	10.6	27
114	Temperature impact on the performance of galloping-based piezoaeroelastic energy harvesters. *Smart Materials and Structures*, **2013**, 22, 055026	3.4	27

113	Incident flow effects on the performance of piezoelectric energy harvesters from galloping vibrations. *Theoretical and Applied Mechanics Letters*, **2014**, 4, 022002	1.8	26
112	Uncertainty analysis near bifurcation of an aeroelastic system. *Journal of Sound and Vibration*, **2010**, 329, 3335-3347	3.9	26
111	Experimental investigation and performance modeling of centimeter-scale micro-wind turbine energy harvesters. *Journal of Wind Engineering and Industrial Aerodynamics*, **2015**, 147, 58-65	3.7	24
110	Nonlinear performances of an autoparametric vibration-based piezoelastic energy harvester. *Journal of Intelligent Material Systems and Structures*, **2017**, 28, 254-271	2.3	24
109	Bifurcation analysis of an aeroelastic system with concentrated nonlinearities. *Nonlinear Dynamics*, **2012**, 69, 57-70	5	24
108	Geometric Control Approach to Longitudinal Stability of Flapping Flight. *Journal of Guidance, Control, and Dynamics*, **2016**, 39, 214-226	2.1	22
107	Release of stored thermochemical energy from dehydrated salts. *International Journal of Heat and Mass Transfer*, **2011**, 54, 4856-4863	4.9	22
106	Nonlinear Flutter Aspects of the Flexible HIgh-Speed Civil Transport Semispan Model. *Journal of Aircraft*, **2004**, 41, 1202-1208	1.6	22
105	Extreme value distributions for peak pressure and load coefficients. *Journal of Wind Engineering and Industrial Aerodynamics*, **2008**, 96, 1111-1123	3.7	21
104	Thermal energy storage in porous materials with adsorption and desorption of moisture. *International Journal of Heat and Mass Transfer*, **2014**, 69, 285-292	4.9	20
103	Piezoelectric energy harvesting using L-shaped structures. *Journal of Intelligent Material Systems and Structures*, **2018**, 29, 1206-1215	2.3	19
102	A Model for the Coupled Lift and Drag on a Circular Cylinder **2003**, 1289		19
101	Acoustic holograms in contactless ultrasonic power transfer systems: Modeling and experiment. *Journal of Applied Physics*, **2018**, 124, 244901	2.5	19
100	Effects of combined hardening and free-play nonlinearities on the response of a typical aeroelastic section. *Aerospace Science and Technology*, **2016**, 50, 44-54	4.9	18
99	A multi-frequency piezoelectric vibration energy harvester with liquid filled container as the proof mass. *Applied Physics Letters*, **2019**, 114, 213902	3.4	17
98	Energy harvesting from iced-conductor inspired wake galloping. *Extreme Mechanics Letters*, **2020**, 35, 100633	3.9	17
97	Design Optimization of Flapping Ornithopters: The Pterosaur Replica in Forward Flight. *Journal of Aircraft*, **2016**, 53, 48-59	1.6	17
96	Reflection and Transmission of Waves over Submerged Breakwaters. *Journal of Engineering Mechanics - ASCE*, **2001**, 127, 99-105	2.4	17

95	Optimal transition of flapping wing micro-air vehicles from hovering to forward flight. *Aerospace Science and Technology*, **2019**, 90, 246-263	4.9	16
94	Effects of aerodynamic modeling on the optimal wing kinematics for hovering MAVs. *Aerospace Science and Technology*, **2015**, 45, 39-49	4.9	16
93	Aeroelastic analysis and nonlinear dynamics of an elastically mounted wing. *Journal of Sound and Vibration*, **2012**, 331, 5774-5787	3.9	16
92	Pressures on a surface-mounted rectangular prism under varying incident turbulence. *Journal of Wind Engineering and Industrial Aerodynamics*, **2003**, 91, 1095-1115	3.7	15
91	Normal form representation of the aeroelastic response of the Goland wing. *Nonlinear Dynamics*, **2012**, 67, 1847-1861	5	14
90	Unsteady Nonlinear Aerodynamics of Hovering MAVs/Insects **2013**,		14
89	Performance of hemi-cylindrical and rectangular submerged breakwaters. *Ocean Engineering*, **2003**, 30, 813-828	3.9	14
88	Nonlinear dynamics of galloping-based piezoaeroelastic energy harvesters. *European Physical Journal: Special Topics*, **2013**, 222, 1483-1501	2.3	13
87	Power extraction from stall-induced oscillations of an airfoil. *Journal of Intelligent Material Systems and Structures*, **2018**, 29, 1407-1417	2.3	12
86	Ultra-broadband piezoelectric energy harvesting via bistable multi-hardening and multi-softening. *Nonlinear Dynamics*, **2020**, 100, 1057-1077	5	11
85	Storage of energy harvested from a miniature turbine in a novel organic capacitor. *Journal of Energy Storage*, **2016**, 6, 232-238	7.8	11
84	Airfoil control surface discontinuous nonlinearity experimental assessment and numerical model validation. *JVC/Journal of Vibration and Control*, **2016**, 22, 1633-1644	2	11
83	Identification of nonlinear piezoelectric coefficients. *Journal of Applied Physics*, **2018**, 124, 065112	2.5	10
82	Peak Wind Load Comparison: Theoretical Estimates and ASCE 7. *Journal of Structural Engineering*, **2006**, 132, 1150-1157	3	10
81	Higher-Order Spectral Analysis of a Nonlinear Pitch and Plunge Apparatus **2005**,		10
80	Saturation-based actuation for flapping MAVs in hovering and forward flight. *Nonlinear Dynamics*, **2013**, 73, 1125-1138	5	9
79	Wavelet analysis of the relation between atmospheric wind and pressure fluctuations on a low-rise building. *Journal of Wind Engineering and Industrial Aerodynamics*, **1997**, 69-71, 647-655	3.7	9
78	Higher-Order Spectral Analysis of Limit Cycle Oscillations of Fighter Aircraft. *Journal of Aircraft*, **2008**, 45, 1917-1923	1.6	9

77	Analysis Tools for the Detection of Intermittent Nonlinear Aeroelastic Phenomena. *Journal of Aircraft*, **2006**, 43, 1082-1088	1.6	9
76	A low-dimensional tool for predicting force decomposition coefficients for varying inflow conditions. *Progress in Computational Fluid Dynamics*, **2013**, 13, 368	0.7	8
75	Wind tunnel simulation of time variations of turbulence and effects on pressure on surface-mounted prisms. *Journal of Wind Engineering and Industrial Aerodynamics*, **2000**, 88, 197-212	3.7	8
74	Parameter sensitivity of cantilever beam with tip mass to parametric excitation. *Nonlinear Dynamics* , **2019**, 95, 3375-3384	5	8
73	Autonomous self-powered water meter. *Applied Physics Letters*, **2018**, 113, 033902	3.4	7
72	Aerodynamic-Dynamic Interaction and Longitudinal Stability of Hovering MAVs/Insects **2013**,		7
71	Quantification of ejecta from shock loaded metal surfaces **2012**,		7
70	In memory of Professor Ali H. Nayfeh. *Nonlinear Dynamics*, **2020**, 99, 1-9	5	7
69	Modeling and identification of electro-elastic nonlinearities in ultrasonic power transfer systems. *Nonlinear Dynamics*, **2020**, 99, 249-268	5	7
68	A variational approach for the dynamics of unsteady point vortices. *Aerospace Science and Technology*, **2018**, 78, 559-568	4.9	7
67	Lift and Drag of Flapping Membrane Wings at High Angles of Attack **2016**,		6
66	Interrogative Testing for Nonlinear Identification of Aeroelastic Systems. *AIAA Journal*, **2008**, 46, 2657-2658	2.5	6
65	A time-resolved DPIV study of the unsteady character of the flow over a surface-mounted prism. *Journal of Wind Engineering and Industrial Aerodynamics*, **2002**, 90, 543-553	3.7	6
64	Intermittency of Energy-Containing Scales in Atmospheric Surface Layer. *Journal of Engineering Mechanics - ASCE*, **1999**, 125, 797-803	2.4	6
63	Nonlinear effects in high-intensity focused ultrasound power transfer systems. *Applied Physics Letters*, **2020**, 117, 064101	3.4	6
62	Experimental-Based Unified Unsteady Nonlinear Aerodynamic Modeling For Two-Dimensional Airfoils **2015**,		5
61	Acoustic-electroelastic interactions in ultrasound energy transfer systems: Reduced-order modeling and experiment. *Journal of Sound and Vibration*, **2020**, 475, 115255	3.9	5
60	Dynamics of acoustic impedance matching layers in contactless ultrasonic power transfer systems. *Smart Materials and Structures*, **2020**, 29, 035037	3.4	5

59	Role of wing morphing in thrust generation. *Theoretical and Applied Mechanics Letters*, **2014**, 4, 032003	1.8	5
58	Deterministic Global Optimization of Flapping Wing Motion for Micro Air Vehicles **2010**,		5
57	Stability characteristics of a periodically unsteady mixing layer. *Physics of Fluids*, **1997**, 9, 392-398	4.4	5
56	Flutter of High-Speed Civil Transport Flexible Semispan Model: Time Frequency Analysis. *Journal of Aircraft*, **2006**, 43, 743-748	1.6	5
55	Passive metamaterial-based acoustic holograms in ultrasound energy transfer systems **2018**,		5
54	Response variations of a cantilever beam□ip mass system with nonlinear and linearized boundary conditions. *JVC/Journal of Vibration and Control*, **2019**, 25, 485-496	2	5
53	Integrated Piezoelectric Energy Harvesting and Organic Storage System. *Energy Harvesting and Systems*, **2016**, 3, 113-119	4.4	4
52	Characterization of turbulence scales in the atmospheric surface layer with the continuous wavelet transform. *Journal of Wind Engineering and Industrial Aerodynamics*, **1997**, 69-71, 709-716	3.7	4
51	Characterization of the LCO Response Behaviors of the NATA model **2006**,		4
50	Review of robot-based damage assessment for offshore wind turbines. *Renewable and Sustainable Energy Reviews*, **2022**, 158, 112187	16.2	4
49	Holographic mirrors for spatial ultrasound modulation in contactless acoustic energy transfer systems. *Applied Physics Letters*, **2021**, 119, 144101	3.4	4
48	Hydrodynamic modeling and performance analysis of bio-inspired swimming. *Ocean Engineering*, **2020**, 197, 106897	3.9	4
47	A computational study of vortex shedding from a NACA-0012 airfoil at high angles of attack. *International Journal of Aerodynamics*, **2018**, 6, 1	0	4
46	Piezoelectric energy harvesting from flexible delta wings. *Theoretical and Applied Mechanics Letters* , **2018**, 8, 267-271	1.8	4
45	Characterization of CdS and AgPt nanofillers used in organic capacitors. *Synthetic Metals*, **2017**, 223, 26-33	3.6	3
44	Phenomenological model of piezoelectric energy harvesting from galloping oscillations. *Applied Physics Letters*, **2019**, 115, 193701	3.4	3
43	Calculus of Variations Approach for Optimum Maneuverability of Flapping Micro-Air-Vehicles Near Hover. *Journal of Guidance, Control, and Dynamics*, **2014**, 37, 1367-1373	2.1	3
42	Investigation on the Effectiveness of a Nonlinear Energy Sink on an Aeroelastic System **2014**,		3

41	Low-Frequency Variations of Force Coefficients on Square Cylinders with Sharp and Rounded Corners. *Journal of Structural Engineering*, **2009**, 135, 828-835	3	3
40	Analysis and prediction of shock formation in acoustic energy transfer systems. *Journal of Applied Physics*, **2020**, 128, 234902	2.5	3
39	On the onset of bifurcation and nonlinear characterization of vortex-induced vibrations under varying initial conditions. *Nonlinear Dynamics*, **2020**, 99, 575-592	5	3
38	PIV Measurements of a plunging Airfoil at High Angles of Attack **2016**,		3
37	Stable, Planar Self Propulsion Using a Hinged Flap. *IFAC-PapersOnLine*, **2018**, 51, 395-399	0.7	3
36	Experimnetal Investigations of the Lift Frequency Response at High Angels of Attack **2015**,		2
35	Nonlinear Dynamics Characterization of Piezoelectric Energy Harvesters from Hybrid Vibrations **2014**,		2
34	Uncertainty Quantification of Piezoelectric Energy Harvesters from Aeroelastic Vibrations. *MATEC Web of Conferences*, **2012**, 1, 03007	0.3	2
33	Power Generation from Galloping-based Piezoaeroelastic Energy Harvesters for Different Cross-Section Geometries **2013**,		2
32	Multi-physics modelling and sensitivity analysis of olympic rowing boat dynamics. *Sports Engineering*, **2011**, 14, 85-94	1.4	2
31	Velocity–pressure correlation in stagnation and separation regions on surface-mounted prisms. *Journal of Wind Engineering and Industrial Aerodynamics*, **1998**, 77-78, 567-578	3.7	2
30	Flow Control of Extreme Pressure Loads Associated with Flow Separation. *Journal of Engineering Mechanics - ASCE*, **2016**, 142, 04015068	2.4	2
29	Use of thermoelectric generator for water flow metering. *Applied Physics Letters*, **2016**, 109, 033903	3.4	2
28	Single-degree-of-freedom model of displacement in vortex-induced vibrations. *Nonlinear Dynamics*, **2021**, 103, 1305-1320	5	2
27	Integrated Thermoelectric Energy Generator and Organic Storage Device. *Energy Harvesting and Systems*, **2018**, 5, 73-79	4.4	2
26	Hybrid tail excitation for robotic fish: Modeling and performance analysis. *Ocean Engineering*, **2021**, 234, 109296	3.9	2
25	Spatial Variation in Sensitivity of Hurricane Surge Characteristics to Hurricane Parameters. *Journal of Engineering Mechanics - ASCE*, **2021**, 147, 04021070	2.4	2
24	Wirelessly controlled harvester/sensor of air speed. *Multiscale and Multidisciplinary Modeling, Experiments and Design*, **2018**, 1, 97-101	1.4	1

23	Nonlinear Passive Control Strategies for Suppression of Transonic Flutter **2016**,		1
22	A Variational Approach for the Dynamics of Unsteady Point Vortices with Application to Impulsively Started Aerofoil **2018**,		1
21	A geometric control approach for optimum maneuverability of flapping wing MAVs near hover **2013**,		1
20	Effect of embedding ZnO nanorods on nonlinear response of composite beams. *Nonlinear Dynamics* , **2017**, 90, 1179-1189	5	1
19	Piezoelectric energy harvesting from an oscillating wing **2012**,		1
18	Parameter sensitivities to damage progression. *Structural Control and Health Monitoring*, **2011**, 18, 481-491	4.3	1
17	Thermochemical Energy Storage Using Salt Hydrates **2010**,		1
16	Optimization of Wing Kinematics for Hovering MAVs Using Calculus of Variation **2012**,		1
15	Nonlinear Response Characteristics of the Flexible HSCT Semispan Model Over Different Flight Regimes **2008**,		1
14	Analysis Tools for the Detection of Intermittent Nonlinear Aeroelastic Phenomena **2005**,		1
13	Bio-inspired bistable piezoelectric energy harvester for powering animal telemetry tags: Conceptual design and preliminary experimental validation. *Renewable Energy*, **2022**, 187, 34-43	8.1	1
12	Lift enhancement by a flapped trailing edge at low Reynolds number: A frequency response approach. *Journal of Fluids and Structures*, **2022**, 110, 103518	3.1	1
11	Artificial intelligence for hurricane storm surge hazard assessment. *Ocean Engineering*, **2022**, 245, 110435	3.9	1
10	A novel imaging technique for measuring kinematics of light-weight flexible structures. *Review of Scientific Instruments*, **2016**, 87, 075108	1.7	1
9	Performance analysis of bio-inspired transformable robotic fish tail. *Ocean Engineering*, **2022**, 244, 110406	3.9	0
8	Control of Extreme Loads on Structures Using Membrane Vibrations. *Journal of Engineering Mechanics - ASCE*, **2015**, 141, 04014146	2.4	
7	Camber Effects on the Power Harvesting from Piezoaeroelastic Systems. *MATEC Web of Conferences*, **2012**, 1, 03008	0.3	
6	Hydrodynamic Stability of a Periodically Unsteady Swirling Jet. *Journal of Engineering Mechanics - ASCE*, **2009**, 135, 1000-1005	2.4	

5	Experimental Identification of Concentrated Nonlinearity in Aeroelastic System. *MATEC Web of Conferences*, **2012**, 1, 03001	0.3
4	Spatial Coherence in the Wake of a Flat Plate. *Applied Mechanics Reviews*, **1997**, 50, S36-S38	8.6
3	Effects of Flexible Propulsors on Hydrodynamic Forces. *IFAC-PapersOnLine*, **2019**, 52, 14-20	0.7
2	Hydrodynamic Performance of a Modular Biolocomotion Emulator. *IFAC-PapersOnLine*, **2019**, 52, 1-7	0.7
1	Modeling and identification of nonlinear piezoelectric material properties for energy harvesting **2021**, 147-185	