

# Margaret Lucas

## 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.

93  
papers

1,211  
citations

18  
h-index

30  
g-index

112  
ext. papers

1,411  
ext. citations

2.8  
avg, IF

4.33  
L-index

#	Paper	IF	Citations
93	A longitudinal-torsional mode ultrasonic needle for deep penetration into bone. <i>Ultrasonics</i> , <b>2022</b> , 106756	3.5	2
92	Limits and Opportunities for Miniaturizing Ultrasonic Surgical Devices Based on a Langevin Transducer. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , <b>2021</b> , 68, 2543-2553	3.2	2
91	Incorporating direct metal laser sintered complex shaped Ti-6Al-4V components in ultrasonic surgical devices. <i>Journal of the Acoustical Society of America</i> , <b>2021</b> , 150, 2163	2.2	1
90	A Comparison of Two Configurations for a Dual-Resonance Cymbal Transducer. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , <b>2018</b> , 65, 489-496	3.2	3
89	Comparison of Longitudinal-Mode and Longitudinal- Torsional Mode Ultrasonic Bone Biopsy Devices <b>2018</b> ,		2
88	Full and Half-Wavelength Ultrasonic Percussive Drills. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , <b>2018</b> , 65, 2150-2159	3.2	2
87	Ultrasonic compaction of granular geological materials. <i>Ultrasonics</i> , <b>2017</b> , 76, 136-144	3.5	3
86	A Parametric Study for the Design of an Optimized Ultrasonic Percussive Planetary Drill Tool. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , <b>2017</b> , 64, 577-589	3.2	14
85	Ultrasonic Needles for Bone Biopsy. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , <b>2017</b> , 64, 433-440	3.2	8
84	The effect of Ti-6Al-4V microstructure on the performance of ultrasonic soft tissue cutting tips <b>2017</b> ,		6
83	Differential scanning calorimetry of superelastic Nitinol for tunable cymbal transducers. <i>Journal of Intelligent Material Systems and Structures</i> , <b>2016</b> , 27, 1376-1387	2.3	2
82	Dynamics Characterisation of Cymbal Transducers for Power Ultrasonics Applications. <i>Physics Procedia</i> , <b>2016</b> , 87, 29-34		2
81	A Miniaturized Class IV Flexensional Ultrasonic Transducer. <i>Physics Procedia</i> , <b>2016</b> , 87, 10-15		2
80	An ultrasonic orthopaedic surgical device based on a cymbal transducer. <i>Ultrasonics</i> , <b>2016</b> , 72, 24-33	3.5	16
79	Understanding nonlinear vibration behaviours in high-power ultrasonic surgical devices. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , <b>2015</b> , 471, 20140906	2.4	14
78	Design of a Slender Tuned Ultrasonic Needle for Bone Penetration. <i>Physics Procedia</i> , <b>2015</b> , 70, 10-13		1
77	A Motion Control System Design for an Ultrasonic Percussive Coring/Drilling Unit <b>2015</b> ,		1

76	The Development of the European Ultrasonic Planetary Core Drill (UPCD) <b>2015</b> ,		5
75	An ultrasonically assisted sagittal saw for large bone surgeries <b>2015</b> ,		1
74	A Comparison of Past, Present and Future Bone Surgery Tools. <i>International Journal of Orthopaedics (Hong Kong)</i> , <b>2015</b> , 2, 266-269	0.7	4
73	A cymbal transducer for power ultrasonics applications. <i>Sensors and Actuators A: Physical</i> , <b>2014</b> , 210, 182-189	3.9	18
72	Smart cymbal transducers with nitinol end caps tunable to multiple operating frequencies. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , <b>2014</b> , 61, 1709-19	3.2	6
71	The influence of piezoceramic stack location on nonlinear behavior of Langevin transducers. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , <b>2013</b> , 60, 1126-33	3.2	27
70	A design approach for longitudinal-torsional ultrasonic transducers. <i>Sensors and Actuators A: Physical</i> , <b>2013</b> , 198, 99-106	3.9	73
69	Characterising the Strain and Temperature Fields in a Surrogate Bone Material Subject to Power Ultrasonic Excitation. <i>Strain</i> , <b>2013</b> , 49, n/a-n/a	1.7	4
68	Coupling and degenerating modes in longitudinal-torsional step horns. <i>Ultrasonics</i> , <b>2012</b> , 52, 980-8	3.5	20
67	A brief overview of space applications for ultrasonics. <i>Ultrasonics</i> , <b>2012</b> , 52, 975-9	3.5	11
66	Characterising the acoustoplastic effect in an ultrasonically assisted metal forming process. <i>IOP Conference Series: Materials Science and Engineering</i> , <b>2012</b> , 42, 012017	0.4	3
65	A study of weld quality in ultrasonic spot welding of similar and dissimilar metals. <i>Journal of Physics: Conference Series</i> , <b>2012</b> , 382, 012013	0.3	10
64	An analytical model of a longitudinal-torsional ultrasonic transducer. <i>Journal of Physics: Conference Series</i> , <b>2012</b> , 382, 012061	0.3	3
63	Finite Element Modelling in Ultrasonic Sheet Metal Forming. <i>Advanced Materials Research</i> , <b>2012</b> , 445, 3-8	0.5	2
62	Vibration characterisation of cymbal transducers for power ultrasonic applications. <i>Journal of Physics: Conference Series</i> , <b>2012</b> , 382, 012063	0.3	2
61	The effects of ultrasonics in fragmentation of saturated porous rock samples <b>2012</b> ,		3
60	A numerical and experimental study of ultrasonic metal welding. <i>IOP Conference Series: Materials Science and Engineering</i> , <b>2012</b> , 42, 012015	0.4	3
59	Inspiration from Victorian times in Ultrasonic Surgical Tool Design. <i>Journal of Physics: Conference Series</i> , <b>2012</b> , 382, 012044	0.3	

58	Maximization of the effective impulse delivered by a high-frequency/low-frequency planetary drill tool. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , <b>2011</b> , 58, 2387-96	3.2	14
57	Optimization of Ultrasonic Horns for Momentum Transfer and Survivability in High-Frequency/Low Frequency Planetary Drill Tools <b>2011</b> ,		1
56	Architectures for ultrasonic planetary sample retrieval tools. <i>Ultrasonics</i> , <b>2011</b> , 51, 1026-35	3.5	10
55	A Study Of An Ultrasonically Assisted Metal Forming Test <b>2011</b> ,		1
54	A Strategy for Delivering High Torsionality in Longitudinal-Torsional Ultrasonic Devices. <i>Applied Mechanics and Materials</i> , <b>2011</b> , 70, 339-344	0.3	12
53	An analytical model of cymbal transducer dynamics. Radial vibration of a piezoelectric disc. <i>Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science</i> , <b>2011</b> , 225, 1077-1086	1.3	2
52	Designing a Hollow Langevin Transducer for Ultrasonic Coring. <i>Applied Mechanics and Materials</i> , <b>2010</b> , 24-25, 65-70	0.3	7
51	Optimization of the Horn, Free-Mass, and Support Architecture of a Solid Ultrasonic Rock Coring System <b>2010</b> ,		3
50	The Effect of Ultrasonic Excitation in Metal Forming Tests. <i>Applied Mechanics and Materials</i> , <b>2010</b> , 24-25, 311-316	0.3	13
49	Ultrasonic rock sampling using longitudinal-torsional vibrations. <i>Ultrasonics</i> , <b>2010</b> , 50, 447-52	3.5	36
48	Ultrasonic rock sampling using longitudinal-torsional vibrations. <i>Physics Procedia</i> , <b>2010</b> , 3, 125-134		15
47	Ultrasonic rock drilling devices using longitudinal-torsional compound vibration <b>2009</b> ,		7
46	Research applications and opportunities in power ultrasonics. <i>Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science</i> , <b>2009</b> , 223, 2949-2965	1.3	20
45	A finite element model of ultrasonic extrusion. <i>Journal of Physics: Conference Series</i> , <b>2009</b> , 181, 012027	0.3	5
44	A Simple, Lightweight And Low-Reaction Deployable Architecture for Subsurface Sample Retrieval <b>2009</b> ,		2
43	An ultrasonic corer for planetary rock sample retrieval. <i>Journal of Physics: Conference Series</i> , <b>2009</b> , 181, 012048	0.3	4
42	Applications of Power Ultrasonics in Engineering. <i>Applied Mechanics and Materials</i> , <b>2008</b> , 13-14, 11-20	0.3	1
41	A radial mode ultrasonic horn for the inactivation of Escherichia coli K12. <i>Ultrasonics Sonochemistry</i> , <b>2008</b> , 15, 101-9	8.9	26

40	Modelling the effects of superimposed ultrasonic vibrations on tension and compression tests of aluminium. <i>Journal of Materials Processing Technology</i> , <b>2007</b> , 186, 179-190	5.3	143
39	A finite element model for ultrasonic cutting. <i>Ultrasonics</i> , <b>2006</b> , 44 Suppl 1, e503-9	3.5	30
38	Superimposed ultrasonic oscillations in compression tests of aluminium. <i>Ultrasonics</i> , <b>2006</b> , 44 Suppl 1, e511-5	3.5	57
37	Design of an Ultrasonic Blade for Cutting Bone. <i>Applied Mechanics and Materials</i> , <b>2006</b> , 3-4, 79-84	0.3	
36	Ultrasonic Compression Tests on Aluminium. <i>Applied Mechanics and Materials</i> , <b>2006</b> , 3-4, 99-104	0.3	8
35	A Finite Element Model for Ultrasonic Cutting of Toffee. <i>Applied Mechanics and Materials</i> , <b>2006</b> , 5-6, 519-526	0.3	2
34	Methods for reducing cutting temperature in ultrasonic cutting of bone. <i>Ultrasonics</i> , <b>2006</b> , 44 Suppl 1, e37-42	3.5	41
33	Temperature Effects in Ultrasonic Cutting of Natural Materials. <i>CIRP Annals - Manufacturing Technology</i> , <b>2005</b> , 54, 195-198	4.9	18
32	Strategies for Reducing Stress in Ultrasonic Cutting Systems. <i>Strain</i> , <b>2005</b> , 41, 11-18	1.7	8
31	Automatic wheeze detection based on auditory modelling. <i>Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine</i> , <b>2005</b> , 219, 219-27	1.7	16
30	Optimisation of the vibrational response of ultrasonic cutting systems. <i>IMA Journal of Applied Mathematics</i> , <b>2005</b> , 70, 645-656	1	4
29	Ultrasonic Cutting with High-Gain Blades. <i>Applied Mechanics and Materials</i> , <b>2004</b> , 1-2, 45-50	0.3	1
28	A novel multiple blade ultrasonic cutting device. <i>Ultrasonics</i> , <b>2004</b> , 42, 69-74	3.5	17
27	A preliminary investigation into optimising the response of vibrating systems used for ultrasonic cutting. <i>Journal of Sound and Vibration</i> , <b>2004</b> , 272, 1047-1069	3.9	23
26	Effects of Modal Interactions on Vibration Performance in Ultrasonic Cutting. <i>CIRP Annals - Manufacturing Technology</i> , <b>2003</b> , 52, 193-196	4.9	5
25	Nonlinear and Parametric Vibrations in Ultrasonic Cutting Systems. <i>Materials Science Forum</i> , <b>2003</b> , 440-441, 397-406	0.4	4
24	Study of Ultrasonic Upsetting under Radial and Longitudinal Die Vibration. <i>Materials Science Forum</i> , <b>2003</b> , 440-441, 389-396	0.4	5
23	Enhanced vibration performance of ultrasonic block horns. <i>Ultrasonics</i> , <b>2002</b> , 40, 365-9	3.5	56

22	Influence of ultrasonics on upsetting of a model paste. <i>Ultrasonics</i> , <b>2002</b> , 40, 43-8	3.5	57
21	A numerical and experimental study of the indentation mechanics of plasticine. <i>Journal of Strain Analysis for Engineering Design</i> , <b>2002</b> , 37, 141-150	1.3	14
20	Effect of ultrasonic vibration on wedge indentation of a model elastoviscoplastic material <b>2002</b> ,		4
19	Design and Characterisation of Ultrasonic Cutting Tools. <i>CIRP Annals - Manufacturing Technology</i> , <b>2001</b> , 50, 149-152	4.9	25
18	Segmental mandibular reconstruction by microincremental automatic distraction osteogenesis: an animal study. <i>British Journal of Oral and Maxillofacial Surgery</i> , <b>2001</b> , 39, 356-64	1.4	30
17	Breath sounds, asthma, and the mobile phone. <i>Lancet, The</i> , <b>2001</b> , 358, 1343-4	4.0	25
16	Modelling wall boundary conditions in an elasto-viscoplastic material forming process. <i>Journal of Materials Processing Technology</i> , <b>2000</b> , 107, 267-275	5.3	16
15	Limitations in the use of median frequency for lung sound analysis. <i>Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine</i> , <b>2000</b> , 214, 265-75	1.7	3
14	Modal analysis of ultrasonic block horns by ESPI. <i>Ultrasonics</i> , <b>1999</b> , 37, 149-157	3.5	12
13	Extracting modal parameters of ultrasonic bar horns from ESPI FRF data. <i>Ultrasonics</i> , <b>1999</b> , 37, 231-238	3.5	1
12	Quantitative modal analysis using electronic speckle pattern interferometry. <i>Optics and Lasers in Engineering</i> , <b>1999</b> , 31, 147-161	4.6	9
11	TORSIONAL AND BENDING VIBRATION MEASUREMENT ON ROTORS USING LASER TECHNOLOGY. <i>Journal of Sound and Vibration</i> , <b>1999</b> , 226, 441-467	3.9	36
10	A study of the natural vibratory response of stator structures to improve condition monitoring strategies for induction motors. <i>Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science</i> , <b>1998</b> , 212, 57-68	1.3	3
9	Redesign of Ultrasonic Block Horns for Improved Vibration Performance. <i>Journal of Vibration and Acoustics, Transactions of the ASME</i> , <b>1997</b> , 119, 410-414	1.6	8
8	An electronic speckle pattern interferometer for two-dimensional strain measurement. <i>Measurement Science and Technology</i> , <b>1996</b> , 7, 1740-1747	2	5
7	Bending vibration measurement on rotors by laser vibrometry. <i>Optics Letters</i> , <b>1996</b> , 21, 296-8	3	7
6	Whole-field modal analysis using electronic speckle pattern interferometry <b>1996</b> , 2868, 352		4
5	Enhanced vibration control of an ultrasonic cutting process. <i>Ultrasonics</i> , <b>1996</b> , 34, 205-211	3.5	13

4	Vibration sensitivity in the design of ultrasonic forming dies. <i>Ultrasonics</i> , <b>1996</b> , 34, 35-41	3.5	15
3	Ultrasonic cutting & fracture mechanics model. <i>Ultrasonics</i> , <b>1996</b> , 34, 197-203	3.5	17
2	Frequency analysis of an ultrasonically excited thick cylinder. <i>International Journal of Mechanical Sciences</i> , <b>1990</b> , 32, 205-214	5.5	9
1	A Parametric Study for the Design of an Optimized Ultrasonic Percussive Planetary Drill Tool		0