

# F Levent Degertekin

## List of Publications by Year in descending order

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89  
papers

1,167  
citations

471509

17  
h-index

454955

30  
g-index

89  
all docs

89  
docs citations

89  
times ranked

924  
citing authors

#	ARTICLE	IF	CITATIONS
1	Towards controlled drug delivery in brain tumors with microbubble-enhanced focused ultrasound. <i>Advanced Drug Delivery Reviews</i> , 2022, 180, 114043.	13.7	41
2	An Adaptive Element-Level Impedance-Matched ASIC With Improved Acoustic Reflectivity for Medical Ultrasound Imaging. <i>IEEE Transactions on Biomedical Circuits and Systems</i> , 2022, 16, 492-501.	4.0	2
3	Real-time device tracking under MRI using an acousto-optic active marker. <i>Magnetic Resonance in Medicine</i> , 2021, 85, 2904-2914.	3.0	11
4	Analysis of Negative Capacitance-Based Broadband Impedance Matching for CMUTs. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , 2021, 68, 3042-3052.	3.0	6
5	Passive Vibration Control and Tunable Damping of MEMS Resonators via Electrical Autoparametric Resonance. <i>Journal of Microelectromechanical Systems</i> , 2021, , 1-10.	2.5	1
6	Acousto-optic Modulator Based Magnetic Field Sensor Using $\pi$ -Phase Shifted Fiber Bragg Grating. , 2021, , .		0
7	Dual mode CMUT Array Operation for Skull Imaging and Passive Acoustic Monitoring in Transcranial Ultrasound. , 2021, , .		1
8	Optimization of High Frequency CMUT Array Geometry for Guidewire IVUS. , 2021, , .		1
9	An Ultrasound Imaging Front-End System-on-a-Chip with Element-Level Impedance Matching for Acoustic Reflectivity Reduction. , 2021, , .		3
10	Experimental Verification and Design Guidelines for Efficient Ultrasonic Power Transfer Using Capacitive Parametric Ultrasonic Transducers. , 2020, , .		0
11	Highly Integrated Guidewire Ultrasound Imaging System-on-a-Chip. <i>IEEE Journal of Solid-State Circuits</i> , 2020, 55, 1310-1323.	5.4	15
12	A Power-Efficient Bridge Readout Circuit for Implantable, Wearable, and IoT Applications. <i>IEEE Sensors Journal</i> , 2020, 20, 9955-9962.	4.7	12
13	Sensitivity and phase response of FBG based acousto-optic sensors for real-time MRI applications. <i>OSA Continuum</i> , 2020, 3, 447.	1.8	9
14	FBG Based Electric Field Sensor for MRI Safety. , 2020, , .		3
15	Supply-Inverted Bipolar Pulser and Tx/Rx Switch for CMUTs Above the Process Limit for High Pressure Pulse Generation. <i>IEEE Sensors Journal</i> , 2019, 19, 12050-12058.	4.7	2
16	An Analysis Method for Capacitive Micromachined Ultrasound Transducer (CMUT) Energy Conversion during Large Signal Operation. <i>Sensors</i> , 2019, 19, 876.	3.8	5
17	Acousto-Optic Catheter Tracking Sensor for Interventional MRI Procedures. <i>IEEE Transactions on Biomedical Engineering</i> , 2019, 66, 1148-1154.	4.2	13
18	Analysis and Design of High-Frequency 1-D CMUT Imaging Arrays in Noncollapsed Mode. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , 2019, 66, 382-393.	3.0	9

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19	Enhanced intracellular delivery via coordinated acoustically driven shear mechanoporation and electrophoretic insertion. <i>Scientific Reports</i> , 2018, 8, 3727.	3.3	32
20	Low temperature CMUT fabrication process with dielectric lift-off membrane support for improved reliability. <i>Journal of Micromechanics and Microengineering</i> , 2018, 28, 085006.	2.6	11
21	Supply-Doubled Pulse-Shaping High Voltage Pulser for CMUT Arrays. <i>IEEE Transactions on Circuits and Systems II: Express Briefs</i> , 2018, 65, 306-310.	3.0	13
22	Single-Chip Reduced-Wire CMUT-on-CMOS System for Intracardiac Echocardiography. , 2018, , .		8
23	A Reduced-Wire ICE Catheter ASIC With Tx Beamforming and Rx Time-Division Multiplexing. <i>IEEE Transactions on Biomedical Circuits and Systems</i> , 2018, 12, 1246-1255.	4.0	24
24	Toward an Energy-Efficient Bridge-to-Digital Intracranial Pressure Sensing Interface. , 2018, , .		2
25	Single-chip reduced-wire active catheter system with programmable transmit beamforming and receive time-division multiplexing for intracardiac echocardiography. , 2018, , .		8
26	Analysis and Design of Capacitive Parametric Ultrasonic Transducers for Efficient Ultrasonic Power Transfer Based on a 1-D Lumped Model. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , 2018, 65, 2103-2112.	3.0	14
27	A capacitive ultrasonic transducer based on parametric resonance. <i>Applied Physics Letters</i> , 2017, 111, 043503.	3.3	17
28	Microscale systems based on ultrasonic MEMS “ CMOS integration. , 2017, , .		3
29	Beyond supply-voltage bootstrapped pulser for driving CMUT arrays in ultrasound imaging. , 2017, , .		0
30	Notice of Removal: Supply-inverted bipolar pulser and Tx/Rx switch for CMUTs capable of tolerating voltage levels above process limit. , 2017, , .		0
31	Notice of Removal: A low temperature sacrificial layer based CMUT fabrication process for improved reliability. , 2017, , .		0
32	A feasibility study for MRI guided CMUT-based intracardiac echocardiography catheters. , 2017, , .		1
33	A feasibility study for MRI guided CMUT-based intracardiac echocardiography catheters. , 2017, , .		2
34	Embedded elastic wave mirrors for enhanced energy harvesting. , 2016, , .		2
35	Direct Digital Demultiplexing of Analog TDM Signals for Cable Reduction in Ultrasound Imaging Catheters. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , 2016, 63, 1078-1085.	3.0	25
36	Front-end electronics for cable reduction in Intracardiac Echocardiography (ICE) catheters. , 2016, , .		3

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37	Real-time imaging system using a 12-MHz forward-looking catheter with single chip CMUT-on-CMOS array. , 2015, , .		16
38	On-chip reduced wire transceiver for high frequency CMUT imaging system. , 2015, , .		2
39	Time-division multiplexing for cable reduction in ultrasound imaging catheters. , 2015, , .		8
40	A nonlinear lumped model for ultrasound systems using CMUT arrays. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2015, 62, 1865-1879.	3.0	17
41	Modal and transient analysis of membrane acoustic metasurfaces. Journal of Applied Physics, 2015, 117, .	2.5	14
42	Improved FL-IVUS imaging with low voltage single-chip CMUT-on-CMOS array using temporally coded excitation. , 2014, , .		0
43	Passive ultrasonics using sub-Nyquist sampling of high-frequency thermal-mechanical noise. Journal of the Acoustical Society of America, 2014, 135, EL364-EL370.	1.1	1
44	Capacitive micromachined ultrasonic transducer arrays as tunable acoustic metamaterials. Applied Physics Letters, 2014, 104, 051914.	3.3	12
45	Simulation of absolute backscattering coefficient in Field II. , 2014, , .		1
46	Lattice Boltzmann simulations of multiple-droplet interaction dynamics. Physical Review E, 2014, 89, 033311.	2.1	24
47	Design of frequency-division multiplexing front-end receiver electronics for CMUT-on-CMOS based intracardiac echocardiography. , 2014, , .		9
48	Characterization of improved Capacitive Micromachined Ultrasonic Transducers (CMUTS) using ALD high- $\epsilon_r$ dielectric isolation. , 2014, , .		1
49	Single-chip CMUT-on-CMOS front-end system for real-time volumetric IVUS and ICE imaging. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2014, 61, 239-250.	3.0	146
50	What controls dynamics of droplet shape evolution upon impingement on a solid surface?. AICHE Journal, 2013, 59, 3071-3082.	3.6	29
51	Design, modeling and characterization of a 35MHz 1-D CMUT phased array. , 2013, , .		9
52	A large-signal model for CMUT arrays with arbitrary membrane geometry operating in non-collapsed mode. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2013, 60, 2426-2439.	3.0	39
53	Model based drive signal optimization of CMUTs in non-collapse operation and its experimental validation. , 2013, , .		7
54	A biologically inspired silicon differential microphone with active Q control and optical sensing. Proceedings of Meetings on Acoustics, 2013, , .	0.3	5

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55	Droplet impingement dynamics in ink-jet deposition. <i>Virtual and Physical Prototyping</i> , 2012, 7, 49-64.	10.4	5
56	Analytical-Finite Element hybrid model for CMUT arrays with arbitrary membrane geometry. , 2012, , .		5
57	Investigation of dual mode side and forward looking IVUS using a dual ring CMUT-on-CMOS array. , 2012, , .		2
58	3-D real-time volumetric imaging using 20 MHz 1.5-mm diameter single-chip CMUT-on-CMOS array. , 2012, , .		2
59	Harmonic reduction in capacitive micromachined ultrasonic transducers by gap feedback linearization. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , 2012, 59, 50-59.	3.0	36
60	Thermal-mechanical-noise-based CMUT characterization and sensing. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , 2012, 59, 1267-1275.	3.0	18
61	An Analog Integrated Circuit Beamformer for High-Frequency Medical Ultrasound Imaging. <i>IEEE Transactions on Biomedical Circuits and Systems</i> , 2012, 6, 454-467.	4.0	37
62	Transmit optimization of CMUTs in non-collapse mode using a transient array model. , 2012, , .		7
63	An analog beamformer for integrated high-frequency medical ultrasound imaging. , 2011, , .		3
64	Monolithic CMUT-on-CMOS Integration for Intravascular Ultrasound Applications. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , 2011, 58, 2659-2667.	3.0	68
65	Gap feedback linearization of capacitive micromachined ultrasonic transducers for harmonic imaging. , 2011, , .		0
66	Modeling and characterization of thin film coatings for high frequency CMUT annular arrays. , 2011, , .		1
67	Experimental study of dual-ring CMUT array optimization for forward-looking IVUS. , 2011, , .		3
68	A 1.5-mm diameter single-chip CMOS front-end system with transmit-receive capability for CMUT-on-CMOS forward-looking IVUS. , 2011, , .		14
69	Integrated low voltage and low power CMOS circuits for optical sensing of diffraction based micromachined microphone. , 2010, , .		0
70	Micromachined Ultrasonic Print-Head for Deposition of High-Viscosity Materials. <i>Journal of Manufacturing Science and Engineering, Transactions of the ASME</i> , 2010, 132, .	2.2	9
71	Thermal mechanical noise based characterization of CMUTs using monolithically integrated low noise receiver electronics. , 2010, , .		6
72	Active Control of Microinterferometers for Low-Noise Parallel Operation. <i>IEEE/ASME Transactions on Mechatronics</i> , 2010, 15, 1-8.	5.8	7

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73	An annular CMUT array beamforming system for high-frequency side looking IVUS imaging. , 2010, , .		0
74	Simulated annealing based optimization of dual-ring arrays for forward-looking IVUS and ICE imaging. , 2010, , .		1
75	A resonant CMUT sensor for fluid applications. , 2009, , .		16
76	Co-array optimization of CMUT arrays for Forward-Looking IVUS. , 2009, , .		5
77	A tunable analog delay element for high-frequency dynamic beamforming. , 2009, , .		11
78	Sensing physical fluid properties with CMUT arrays. , 2009, , .		3
79	Integrated Optical Displacement Detection and Electrostatic Actuation for Directional Optical Microphones With Micromachined Biomimetic Diaphragms. IEEE Sensors Journal, 2009, 9, 1933-1941.	4.7	37
80	Front-end CMOS electronics for monolithic integration with CMUT arrays: Circuit design and initial experimental results. , 2008, , .		13
81	Accurate modeling of capacitive micromachined ultrasonic transducers in pulse-echo operation. , 2008, , .		2
82	Single chip CMUT arrays with integrated CMOS electronics: Fabrication process development and experimental results. , 2008, , .		14
83	Scanning micro-interferometer array with sub-picometer resolution for MEMS inspection. , 2008, , .		2
84	Novel Atomic Force Microscope Probes with Integrated Electrostatic Actuation and Optical Detection. Conference Proceedings - Lasers and Electro-Optics Society Annual Meeting-LEOS, 2007, , .	0.0	2
85	Annular-ring CMUT arrays for forward-looking IVUS: transducer characterization and imaging. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2006, 53, 474-482.	3.0	121
86	Integrated optical interferometric detection method for micromachined capacitive acoustic transducers. Applied Physics Letters, 2002, 80, 3859-3861.	3.3	71
87	A first experimental verification of micromachined capacitive Lamb wave transducers. , 0, , .		3
88	Actuation of atomic force microscope cantilevers by acoustic radiation pressure. , 0, , .		1
89	Micromachined capacitive transducer arrays for intravascular ultrasound imaging. , 0, , .		3