Muhammad Mustafa Hussain

List of Publications by Year
in descending order

278 papers	6,161 citations	66234 42 h-index	95083 68 g-index
298 all docs	298 docs citations	298 times ranked	6939 citing authors

#	Article	IF	Citations
1	Memristor-based memory: The sneak paths problem and solutions. Microelectronics Journal, 2013, 44, 176-183.	1.1	347
2	Soft Actuators for Soft Robotic Applications: A Review. Advanced Intelligent Systems, 2020, 2, 2000128.	3.3	244
3	CMOSâ€Technologyâ€Enabled Flexible and Stretchable Electronics for Internet of Everything Applications. Advanced Materials, 2016, 28, 4219-4249.	11.1	179
4	Dipole model explaining high-k/metal gate field effect transistor threshold voltage tuning. Applied Physics Letters, 2008, 92, .	1.5	161
5	Silicon Nanotube Field Effect Transistor with Coreâ€“Shell Gate Stacks for Enhanced High-Performance Operation and Area Scaling Benefits. Nano Letters, 2011, 11, 4393-4399.	4.5	142
6	Metal/Polymer Based Stretchable Antenna for Constant Frequency Farâ€Field Communication in Wearable Electronics. Advanced Functional Materials, 2015, 25, 6565-6575.	7.8	134
7	Flexible Nanoporous Template for the Design and Development of Reusable Anti-COVID-19 Hydrophobic Face Masks. ACS Nano, 2020, 14, 7659-7665.	7.3	133
8	Recent Progress on Flexible Capacitive Pressure Sensors: From Design and Materials to Applications. Advanced Materials Technologies, 2021, 6, 2001023.	3.0	131
9	Vertically Grown Multiwalled Carbon Nanotube Anode and Nickel Silicide Integrated High Performance Microsized (1.25 Î¼L) Microbial Fuel Cell. Nano Letters, 2012, 12, 791-795.	4.5	125
10	Paper-based origami flexible and foldable thermoelectric nanogenerator. Nano Energy, 2017, 31, 296-301.	8.2	125
11	Compliant plant wearables for localized microclimate and plant growth monitoring. Npj Flexible Electronics, 2018, 2, .	5.1	119
12	Review on Physically Flexible Nonvolatile Memory for Internet of Everything Electronics. Electronics (Switzerland), 2015, 4, 424-479.	1.8	118
13	High-Performance Silicon Nanotube Tunneling FET for Ultralow-Power Logic Applications. IEEE Transactions on Electron Devices, 2013, 60, 1034-1039.	1.6	102
14	The 2021 flexible and printed electronics roadmap. Flexible and Printed Electronics, 2021, 6, 023001.	1.5	100
15	Thin PZTâ€Based Ferroelectric Capacitors on Flexible Silicon for Nonvolatile Memory Applications. Advanced Electronic Materials, 2015, 1, 1500045.	2.6	99
16	Paper Skin Multisensory Platform for Simultaneous Environmental Monitoring. Advanced Materials Technologies, 2016, 1, 1600004.	3.0	93
17	Are Nanotube Architectures More Advantageous Than Nanowire Architectures For Field Effect Transistors?. Scientific Reports, 2012, 2, 475.	1.6	86
18	Large-scale graphitic thin films synthesized on Ni and transferred to insulators: Structural and electronic properties. Journal of Applied Physics, 2010, 107, .	1.1	83

#	Article	IF	Citations
19	Transformational Silicon Electronics. ACS Nano, 2014, 8, 1468-1474.	7.3	80
20	InAs/Si Hetero-Junction Nanotube Tunnel Transistors. Scientific Reports, 2015, 5, 9843.	1.6	78
21	Sustainable Design of High-Performance Microsized Microbial Fuel Cell with Carbon Nanotube Anode and Air Cathode. ACS Nano, 2013, 7, 6921-6927.	7.3	71
22	Flexible and Semiâ€Transparent Thermoelectric Energy Harvesters from Low Cost Bulk Silicon (100). Small, 2013, 9, 3916-3921.	5.2	70
23	Soft Actuators for Soft Robotic Applications: A Review. Advanced Intelligent Systems, 2020, 2, 2070102.	3.3	70
24	Energy harvesting from organic liquids in micro-sized microbial fuel cells. NPG Asia Materials, 2014, 6, e89-e89.	3.8	68
25	A Robust Wearable Pointâ€ofâ€Care CNTâ€Based Strain Sensor for Wirelessly Monitoring Throatâ€Related Illnesses. Advanced Functional Materials, 2021, 31, 2103375.	7.8	67
26	Ultrastretchable and Flexible Copper Interconnectâ€Based Smart Patch for Adaptive Thermotherapy. Advanced Healthcare Materials, 2015, 4, 665-673.	3.9	66
27	Flexible Nanoscale High-Performance FinFETs. ACS Nano, 2014, 8, 9850-9856.	7.3	65
28	Flexible and biocompatible high-performance solid-state micro-battery for implantable orthodontic system. Npj Flexible Electronics, 2017, 1, .	5.1	65
29	Recyclable Nonfunctionalized Paperâ€Based Ultralowâ€Cost Wearable Health Monitoring System. Advanced Materials Technologies, 2017, 2, 1600228.	3.0	63
30	Can We Build a Truly High Performance Computer Which is Flexible and Transparent?. Scientific Reports, 2013, 3, 2609.	1.6	60
31	Si/Ge hetero-structure nanotube tunnel field effect transistor. Journal of Applied Physics, 2015, 117, .	1.1	60
32	Design and characterization of ultra-stretchable monolithic silicon fabric. Applied Physics Letters, 2014, 105, .	1.5	56
33	Stretchable helical architecture inorganic-organic hetero thermoelectric generator. Nano Energy, 2016, 30, 691-699.	8.2	55
34	Reviewâ€"Micro and Nano-Engineering Enabled New Generation of Thermoelectric Generator Devices and Applications. ECS Journal of Solid State Science and Technology, 2017, 6, N3036-N3044.	0.9	54
35	From stretchable to reconfigurable inorganic electronics. Extreme Mechanics Letters, 2016, 9, 245-268.	2.0	52
36	Enhanced Performance of MoS₂ Photodetectors by Inserting an ALDâ€Processed TiO₂ Interlayer. Small, 2018, 14, 1703176.	5.2	51

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37	Flexible and Stretchable Electronics for Harshâ€Environmental Applications. Advanced Materials Technologies, 2019, 4, 1900145.	3.0	51
38	Compliant lightweight non-invasive standalone â€œMarine Skinâ€•tagging system. Npj Flexible Electronics, 2018, 2, .	5.1	50
39	Flexible and Transparent Siliconâ€onâ€Polymer Based Subâ€20 nm Nonâ€planar 3D FinFET for Brainâ€Architecture Inspired Computation. Advanced Materials, 2014, 26, 2794-2799.	11.1	49
40	Noninvasive Featherlight Wearable Compliant â€œMarine Skinâ€• Standalone Multisensory System for Deepâ€Sea Environmental Monitoring. Small, 2019, 15, e1804385.	5.2	49
41	Concentrator photovoltaic module architectures with capabilities for capture and conversion of full global solar radiation. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, E8210-E8218.	3.3	48
42	Paper as a Substrate and an Active Material in Paper Electronics. ACS Applied Electronic Materials, 2021, 3, 30-52.	2.0	48
43	CMOS Enabled Microfluidic Systems for Healthcare Based Applications. Advanced Materials, 2018, 30, e1705759.	11.1	46
44	Study of harsh environment operation of flexible ferroelectric memory integrated with PZT and silicon fabric. Applied Physics Letters, 2015, 107, .	1.5	40
45	Integration of Dual Metal Gate CMOS on High-k Dielectrics Utilizing a Metal Wet Etch Process. Electrochemical and Solid-State Letters, 2005, 8, G271.	2.2	39
46	Structural and electrical characteristics of high-k/metal gate metal oxide semiconductor capacitors fabricated on flexible, semi-transparent silicon (100) fabric. Applied Physics Letters, 2013, 102, .	1.5	37
47	Acceleration Sensors: Sensing Mechanisms, Emerging Fabrication Strategies, Materials, and Applications. ACS Applied Electronic Materials, 2021, 3, 504-531.	2.0	35
48	Flexible High-$kappa$/Metal Gate Metal/Insulator/Metal Capacitors on Silicon (100) Fabric. IEEE Transactions on Electron Devices, 2013, 60, 3305-3309.	1.6	33
49	Printed Organic and Inorganic Electronics: Devices To Systems. IEEE Journal on Emerging and Selected Topics in Circuits and Systems, 2017, 7, 147-160.	2.7	33
50	Design Analysis and Human Tests of Foil-Based Wheezing Monitoring System for Asthma Detection. IEEE Transactions on Electron Devices, 2020, 67, 249-257.	1.6	32
51	A thermoelectric generator using loop heat pipe and design match for maximum-power generation. Applied Thermal Engineering, 2015, 91, 1082-1091.	3.0	31
52	Simulation Study of a 3-D Device Integrating FinFET and UTBFET. IEEE Transactions on Electron Devices, 2015, 62, 83-87.	1.6	31
53	Corrugation Enabled Asymmetrically Ultrastretchable (95%) Monocrystalline Silicon Solar Cells with High Efficiency (19%). Advanced Energy Materials, 2019, 9, 1902883.	10.2	31
54	Nano-materials Enabled Thermoelectricity from Window Glasses. Scientific Reports, 2012, 2, 841.	1.6	30

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55	Simplistic graphene transfer process and its impact on contact resistance. Applied Physics Letters, 2013, 102, 183115.	1.5	30
56	(110) and (100) Sidewall-oriented FinFETs: A performance and reliability investigation. Solid-State Electronics, 2012, 78, 2-10.	0.8	29
57	Corrugation Architecture Enabled Ultraflexible Waferâ€Scale Highâ€Efficiency Monocrystalline Silicon Solar Cell. Advanced Energy Materials, 2018, 8, 1702221.	10.2	29
58	Mechanical anomaly impact on metal-oxide-semiconductor capacitors on flexible silicon fabric. Applied Physics Letters, 2014, 104, 234104.	1.5	27
59	Porous Nanomaterials for Ultrabroadband Omnidirectional Antiâ€Reflection Surfaces with Applications in High Concentration Photovoltaics. Advanced Energy Materials, 2017, 7, 1601992.	10.2	27
60	Diaphragm shape effect on the performance of foil-based capacitive pressure sensors. AIP Advances, 2020, 10, .	0.6	27
61	Nonplanar Nanoscale Fin Field Effect Transistors on Textile, Paper, Wood, Stone, and Vinyl via Soft Material-Enabled Double-Transfer Printing. ACS Nano, 2015, 9, 5255-5263.	7.3	26
62	Gate-First Integration of Tunable Work Function Metal Gates of Different Thicknesses Into High-k/Metal Gates CMOS FinFETs for Multi- $V_{m Th}$ Engineering. IEEE Transactions on Electron Devices, 2010, 57, 626-631.	1.6	25
63	Three-terminal nanoelectromechanical switch based on tungsten nitrideâ€”an amorphous metallic material. Nanotechnology, 2016, 27, 035202.	1.3	25
64	Mechanical response of spiral interconnect arrays for highly stretchable electronics. Applied Physics Letters, 2017, 111, 214102.	1.5	25
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73	Towards neuromorphic electronics: Memristors on foldable silicon fabric. Microelectronics Journal, 2014, 45, 1392-1395.	1.1	22
74	Room to High Temperature Measurements of Flexible SOI FinFETs With Sub-20-nm Fins. IEEE Transactions on Electron Devices, 2014, 61, 3978-3984.	1.6	21
75	Impact of scaling on the performance and reliability degradation of metal-contacts in NEMS devices. , 2011, , .		20
76	Wavy channel transistor for area efficient high performance operation. Applied Physics Letters, 2013, 102, 134109.	1.5	20
77	Stretchable and foldable silicon-based electronics. Applied Physics Letters, 2017, 110, .	1.5	20
78	Expandable Polymer Enabled Wirelessly Destructible Highâ€Performance Solid State Electronics. Advanced Materials Technologies, 2017, 2, 1600264.	3.0	20
79	Ultraflexible Corrugated Monocrystalline Silicon Solar Cells with High Efficiency (19%), Improved Thermal Performance, and Reliability Using Low-Cost Laser Patterning. ACS Applied Materials & Interfaces, 2020, 12, 2269-2275.	4.0	20
80	Hot carrier degradation in HfSiONâˆ•TiN fin shaped field effect transistor with different substrate orientations. Journal of Vacuum Science & Technology B, 2009, 27, 468.	1.3	19
81	A Review of the Real-Time Monitoring of Fluid-Properties in Tubular Architectures for Industrial Applications. Sensors, 2020, 20, 3907.	2.1	19
82	Plasma-Induced Damage in High-k/Metal Gate Stack Dry Etch. IEEE Electron Device Letters, 2006, 27, 972-974.	2.2	18
83	Effects of metal gate-induced strain on the performance of metal-oxide-semiconductor field effect transistors with titanium nitride gate electrode and hafnium oxide dielectric. Applied Physics Letters, 2007, 91, .	1.5	18
84	The progress and challenges of threshold voltage control of high-k/metal-gated devices for advanced technologies (Invited Paper). Microelectronic Engineering, 2009, 86, 1722-1727.	1.1	18
85	Functional integrity of flexible n-channel metalâ€“oxideâ€“semiconductor field-effect transistors on a reversibly bistable platform. Applied Physics Letters, 2015, 107, .	1.5	18
86	Flexible semiâ€transparent silicon (100) fabric with highâ€k/metal gate devices. Physica Status Solidi - Rapid Research Letters, 2013, 7, 187-191.	1.2	17
87	Deterministic Integration of Outâ€ofâ€Plane Sensor Arrays for Flexible Electronic Applications. Small, 2016, 12, 5141-5145.	5.2	17
88	Freeform Compliant CMOS Electronic Systems for Internet of Everything Applications. IEEE Transactions on Electron Devices, 2017, 64, 1894-1905.	1.6	17
89	Enhanced Photoresponse of WS₂ Photodetectors through Interfacial Defect Engineering Using a TiO₂ Interlayer. ACS Applied Electronic Materials, 2020, 2, 838-845.	2.0	17
90	Flexible and Stretchable Electronics â€“ Progress, Challenges, and Prospects. Electrochemical Society Interface, 2018, 27, 65-69.	0.3	16

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91	Flexible and stretchable inorganic solar cells: Progress, challenges, and opportunities. MRS Energy & Sustainability, 2020, 7, 1.	1.3	16
92	Electrical Analysis of High Dielectric Constant Insulator and Metal Gate Metal Oxide Semiconductor Capacitors on Flexible Bulk Mono-Crystalline Silicon. IEEE Transactions on Reliability, 2015, 64, 579-585.	3.5	15
93	High performance high-Î°/metal gate complementary metal oxide semiconductor circuit element on flexible silicon. Applied Physics Letters, 2016, 108, .	1.5	15
94	Water soluble nano-scale transient material germanium oxide for zero toxic waste based environmentally benign nano-manufacturing. Applied Physics Letters, 2017, 110, .	1.5	15
95	Wavy Architecture Thinâ€Film Transistor for Ultrahigh Resolution Flexible Displays. Small, 2018, 14, 1703200.	5.2	15
96	In-plane and out-of-plane structural response of spiral interconnects for highly stretchable electronics. Journal of Applied Physics, 2018, 124, .	1.1	15
97	Grapheneâ€Based Flexible Micrometerâ€Sized Microbial Fuel Cell. Energy Technology, 2013, 1, 648-652.	1.8	14
98	Low-Voltage Back-Gated Atmospheric Pressure Chemical Vapor Deposition Based Graphene-Striped Channel Transistor with High-Î° Dielectric Showing Room-Temperature Mobility > 11â€‰000 cm²/VÂ·s. ACS Nano, 2013, 7, 5818-5823.	7.3	14
99	Energy reversible switching from amorphous metal based nanoelectromechanical switch. , 2013, , .		14
100	Additive advantage in characteristics of MIMCAPs on flexible silicon (100) fabric with releaseâ€first process. Physica Status Solidi - Rapid Research Letters, 2014, 8, 163-166.	1.2	14
101	Stable MoS₂ Fieldâ€Effect Transistors Using TiO₂ Interfacial Layer at Metal/MoS₂ Contact. Physica Status Solidi (A) Applications and Materials Science, 2017, 214, 1700534.	0.8	14
102	Strainâ€Induced Rolled Thin Films for Lightweight Tubular Thermoelectric Generators. Advanced Materials Technologies, 2018, 3, 1700192.	3.0	14
103	Ultra-stretchable Archimedean interconnects for stretchable electronics. Extreme Mechanics Letters, 2018, 24, 6-13.	2.0	14
104	Toward nanotechnology-enabled face masks against SARS-CoV-2 and pandemic respiratory diseases. Nanotechnology, 2022, 33, 062006.	1.3	14
105	Metal Wet Etch Issues and Effects in Dual Metal Gate Stack Integration. Journal of the Electrochemical Society, 2006, 153, G389.	1.3	13
106	Nuclear Magnetic Resonance Study of Nanoscale Ionic Materials. Electrochemical and Solid-State Letters, 2010, 13, K87.	2.2	13
107	Out-of-Plane Strain Effects on Physically Flexible FinFET CMOS. IEEE Transactions on Electron Devices, 2016, 63, 2657-2664.	1.6	13
108	Impact of Physical Deformation on Electrical Performance of Paper-Based Sensors. IEEE Transactions on Electron Devices, 2017, 64, 2022-2029.	1.6	13

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109	2D materials show brain-like learning. Nature Electronics, 2018, 1, 436-437.	13.1	13
110	Solar Powered Small Unmanned Aerial Vehicles: A Review. Energy Technology, 2021, 9, 2100587.	1.8	13
111	High Performance pMOSFETs Using Si/Si<inf>1-x</inf>Ge<inf>x</inf>/Si Quantum Wells with High-k/Metal Gate Stacks and Additive Uniaxial Strain for 22 nm Technology Node. , 2007, , .		12
112	Measurement of high-k and metal film thickness on FinFET sidewalls using scatterometry. Proceedings of SPIE, 2008, , .	0.8	12
113	Highly Manufacturable Deep (Subâ€Millimeter) Etching Enabled High Aspect Ratio Complex Geometry Legoâ€Like Silicon Electronics. Small, 2017, 13, 1601801.	5.2	12
114	Pressureâ€Driven Twoâ€Input 3D Microfluidic Logic Gates. Advanced Science, 2020, 7, 1903027.	5.6	12
115	Low-cost foil/paper based touch mode pressure sensing element as artificial skin module for prosthetic hand. , 2020, , .		12
116	Design Criteria for Horseshoe and Spiralâ€Based Interconnects for Highly Stretchable Electronic Devices. Advanced Functional Materials, 2021, 31, 2007445.	7.8	12
117	Post-CMOS FinFET Integration of Bismuth Telluride and Antimony Telluride Thin-Film-Based Thermoelectric Devices on SoI Substrate. IEEE Electron Device Letters, 2013, 34, 1334-1336.	2.2	11
118	Silicon fabric for multi-functional applications. , 2013, , .		11
119	Exploring SiSn as a performance enhancing semiconductor: A theoretical and experimental approach. Journal of Applied Physics, 2014, 116, .	1.1	11
120	Tin â€“ an unlikely ally for silicon field effect transistors?. Physica Status Solidi - Rapid Research Letters, 2014, 8, 332-335.	1.2	11
121	In-Line Tunnel Field Effect Transistor: Drive Current Improvement. IEEE Journal of the Electron Devices Society, 2018, 6, 721-725.	1.2	11
122	Heterogeneous Cubic Multidimensional Integrated Circuit for Water and Food Security in Fish Farming Ponds. Small, 2020, 16, e1905399.	5.2	11
123	Metal coated polymer and paper-based cantilever design and analysis for acoustic pressure sensing. AIP Advances, 2020, 10, .	0.6	11
124	A new paradigm in the design of energy-efficient digital circuits using laterally-actuated double-gate NEMs. , 2010, , .		10
125	Acetic acid-confined synthesis of uniform three-dimensional (3D) bismuth telluride nanocrystals consisting of few-quintuple-layer nanoplatelets. Chemical Communications, 2011, 47, 12131.	2.2	10
126	Zinc oxide integrated area efficient high output low power wavy channel thin film transistor. Applied Physics Letters, 2013, 103, 224101.	1.5	10

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127	Low-cost high-quality crystalline germanium based flexible devices. Physica Status Solidi - Rapid Research Letters, 2014, 08, 794-800.	1.2	10
128	Enhanced cooling in mono-crystalline ultra-thin silicon by embedded micro-air channels. AIP Advances, 2015, 5, 127115.	0.6	10
129	Design criteria for XeF2 enabled deterministic transformation of bulk silicon (100) into flexible silicon layer. AIP Advances, 2016, 6, .	0.6	10
130	3D Printed Robotic Assembly Enabled Reconfigurable Display with Higher Resolution. Advanced Materials Technologies, 2018, 3, 1800344.	3.0	10
131	Flexible Lightweight CMOS-Enabled Multisensory Platform for Plant Microclimate Monitoring. IEEE Transactions on Electron Devices, 2018, , 1-7.	1.6	10
132	IoT enabled Plant Sensing Systems for Small and Large Scale Automated Horticultural Monitoring. , 2019, , .		10
133	Biâ€Facial Substrates Enabled Heterogeneous Multiâ€Dimensional Integrated Circuits (MDâ€IC) for Internet of Things (IoT) Applications. Advanced Engineering Materials, 2019, 21, 1900043.	1.6	10
134	Manufacturing of Thermoelectric Nanomaterials (Bi_{0.4}Sb_{1.6}Te₃/Bi_{1.75}Te_{3.25}) and Integration into Window Glasses for Thermoelectricity Generation. Energy Technology, 2014, 2, 292-299.	1.8	9
135	Modular Legoâ€Electronics. Advanced Materials Technologies, 2018, 3, 1700147.	3.0	9
136	Fully spherical stretchable silicon photodiodes array for simultaneous 360 imaging. Applied Physics Letters, 2018, 113, .	1.5	9
137	Marine IoT: non-invasive wearable multisensory platform for oceanic environment monitoring. , 2019, , .		9
138	An inclinometer using movable electrode in a parallel plate capacitive structure. AIP Advances, 2019, 9, .	0.6	9
139	Mechanically flexible optically transparent porous mono-crystalline silicon substrate. , 2012, , .		8
140	Thermoelectricity from wasted heat of integrated circuits. Applied Nanoscience (Switzerland), 2013, 3, 175-178.	1.6	8
141	Decal Electronics: Printable Packaged with 3D Printing Highâ€Performance Flexible CMOS Electronic Systems. Advanced Materials Technologies, 2017, 2, 1600175.	3.0	8
142	Design, mechanics, and operation of spiral-interconnect based networked sensor for stretchable electronics. Applied Physics Letters, 2019, 115, .	1.5	8
143	AI Powered Unmanned Aerial Vehicle for Payload Transport Application. , 2019, , .		8
144	Nature-inspired spherical silicon solar cell for three-dimensional light harvesting, improved dust and thermal management. MRS Communications, 2020, 10, 391-397.	0.8	8

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145	Deposition Method-Induced Stress Effect on Ultrathin Titanium Nitride Etch Characteristics. Electrochemical and Solid-State Letters, 2006, 9, G361.	2.2	7
146	Atomic force microscope study of three-dimensional nanostructure sidewalls. Nanotechnology, 2007, 18, 335303.	1.3	7
147	Deposition thickness based high-throughput nano-imprint template. Microelectronic Engineering, 2007, 84, 594-598.	1.1	7
148	Thermal recrystallization of physical vapor deposition based germanium thin films on bulk silicon (100). Physica Status Solidi - Rapid Research Letters, 2013, 7, 966-970.	1.2	7
149	Area and Energy Efficient High-Performance ZnO Wavy Channel Thin-Film Transistor. IEEE Transactions on Electron Devices, 2014, 61, 3223-3228.	1.6	7
150	SiSn diodes: Theoretical analysis and experimental verification. Applied Physics Letters, 2015, 107, .	1.5	7
151	Zinc Oxide Integrated Wavy Channel Thin-Film Transistor-Based High-Performance Digital Circuits. IEEE Electron Device Letters, 2016, 37, 193-196.	2.2	7
152	Wavy Channel TFT-Based Digital Circuits. IEEE Transactions on Electron Devices, 2016, 63, 1550-1556.	1.6	7
153	FDM 3D printed coffee glove embedded with flexible electronic. , 2017, , .		7
154	Contact resistance reduction of ZnO thin film transistors (TFTs) with saw-shaped electrode. Nanotechnology, 2018, 29, 325202.	1.3	7
155	Flexible tag design for semi-continuous wireless data acquisition from marine animals. Flexible and Printed Electronics, 2019, 4, 035006.	1.5	7
156	Honeycomb-serpentine silicon platform for reconfigurable electronics. Applied Physics Letters, 2019, 115, 112105.	1.5	7
157	Do-It-Yourself integration of a paper sensor in a smart lid for medication adherence. Flexible and Printed Electronics, 2019, 4, 025001.	1.5	7
158	Benchmarking Silicon FinFET With the Carbon Nanotube and 2D-FETs for Advanced Node CMOS Logic Application. IEEE Transactions on Electron Devices, 2021, 68, 3643-3648.	1.6	7
159	Effects of ALD TiN Metal Gate Thickness on Metal Gate /High-k Dielectric SOI FinFET Characteristics. SOI Conference, Proceedings of the IEEE International, 2006, , .	0.0	6
160	Enhanced Performance and SRAM Stability in FinFET with Reduced Process Steps for Source/Drain Doping. International Power Modulator Symposium and High-Voltage Workshop, 2008, , .	0.0	6
161	A novel damage-free high-k etch technique using neutral beam-assisted atomic layer etching (NBALE) for sub-32nm technology node low power metal gate/high-k dielectric CMOSFETs. , 2009, , .		6
162	Contact materials for nanowire devices and nanoelectromechanical switches. MRS Bulletin, 2011, 36, 106-111.	1.7	6

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163	Chemical vapor deposition based tungsten disulfide (WS<inf>2</inf>) thin film transistor. , 2013, , .		6
164	Wavy channel thin film transistor architecture for area efficient, high performance and low power displays. Physica Status Solidi - Rapid Research Letters, 2014, 8, 248-251.	1.2	6
165	High temperature study of flexible silicon-on-insulator fin field-effect transistors. Applied Physics Letters, 2014, 105, .	1.5	6
166	A CMOS-compatible large-scale monolithic integration of heterogeneous multi-sensors on flexible silicon for IoT applications. , 2016, , .		6
167	In-plane deformation mechanics of highly stretchable Archimedean interconnects. AIP Advances, 2019, 9, .	0.6	6
168	Expandable Polymer Assisted Wearable Personalized Medicinal Platform. Advanced Materials Technologies, 2020, 5, 2000411.	3.0	6
169	Mechanically flexible viscosity sensor for <scp>realâ€time</scp> monitoring of tubular architectures for industrial applications. Engineering Reports, 2021, 3, e12315.	0.9	6
170	Polymer/paper-based double touch mode capacitive pressure sensing element for wireless control of robotic arm. , 2020, , .		6
171	Role of metal/silicon semiconductor contact engineering for enhanced output current in microâ€sized microbial fuel cells. Physica Status Solidi (A) Applications and Materials Science, 2014, 211, 551-554.	0.8	5
172	Solid state MEMS devices on flexible and semi-transparent silicon (100) platform. , 2014, , .		5
173	Out-of-plane strain effect on silicon-based flexible FinFETs. , 2015, , .		5
174	(Invited) Wavy Channel TFT Architecture for High Performance Oxide Based Displays. ECS Transactions, 2015, 67, 191-198.	0.3	5
175	Transformational electronics are now reconfiguring. , 2015, , .		5
176	Nano-scale transistors for interfacing with brain: design criteria, progress and prospect. Nanotechnology, 2019, 30, 442001.	1.3	5
177	Contact engineering for nanoâ€scale CMOS. Physica Status Solidi (A) Applications and Materials Science, 2012, 209, 1954-1959.	0.8	4
178	Amorphous metal based nanoelectromechanical switch. , 2013, , .		4
179	CMOS compatible fabrication of flexible and semi-transparent FeRAM on ultra-thin bulk monocrystalline silicon (100) fabric. , 2014, , .		4
180	The Role of Microfabrication and Nanotechnology in the Development of Microbial Fuel Cells. Energy Technology, 2015, 3, 996-1006.	1.8	4

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181	Impact of Nickel Silicide Rear Metallization on the Series Resistance of Crystalline Silicon Solar Cells. Energy Technology, 2018, 6, 1627-1632.	1.8	4
182	Personalized Healthcare: CMOS Enabled Microfluidic Systems for Healthcare Based Applications (Adv.) Tj ETQq0 0 0 rgBT /Overlock 10 T	11.1	4
183	Solution processes for ultrabroadband and omnidirectional graded-index glass lenses with near-zero reflectivity in high concentration photovoltaics. Scientific Reports, 2018, 8, 14907.	1.6	4
184	Flexible Highâ€Efficiency Corrugated Monocrystalline Silicon Solar Cells for Application in Small Unmanned Aerial Vehicles for Payload Transportation. Energy Technology, 2020, 8, 2000670.	1.8	4
185	Mirror-symmetry controlled mechanical response of interconnects for stretchable electronics. Extreme Mechanics Letters, 2020, 35, 100639.	2.0	4
186	Mechanical reliability of self-similar serpentine interconnect for fracture-free stretchable electronic devices. Journal of Applied Physics, 2021, 130, .	1.1	4
187	Dual work function high-k/Metal Gate CMOS FinFETs. , 2007, , .		3
188	Understanding Strain Effects on Double-Gate FinFET Drive-Current Enhancement, Hot-Carrier Reliability and Ring-Oscillator Delay Performance via Uniaxial Wafer Bending Experiments. International Power Modulator Symposium and High-Voltage Workshop, 2008, , .	0.0	3
189	Power generation from thermoelectric system-embedded Plexiglas for green building technology. Applied Nanoscience (Switzerland), 2013, 3, 335-342.	1.6	3
190	Exploring SiSn as channel material for LSTP device applications. , 2013, , .		3
191	CMOS compatible route for GaAs based large scale flexible and transparent electronics. , 2014, , .		3
192	Atmospheric pressure chemical vapor deposition (APCVD) grown biâ€layer graphene transistor characteristics at high temperature. Physica Status Solidi - Rapid Research Letters, 2014, 8, 621-624.	1.2	3
193	Ultra-high density out-of-plane strain sensor 3D architecture based on sub-20 nm PMOS FinFET. , 2015, , .		3
194	The Potential of Bifacial Photovoltaics: A Global Perspective. , 2017, , .		3
195	Do-It-Yourself (DIY) based Flexible Paper Sensor Based Electronic System for Pill Health Monitoring. , 2018, , .		3
196	Stretchability of Archimedean-Spiral Interconnects Design. , 2018, , .		3
197	High-Efficiency Corrugated Monocrystalline Silicon Solar Cells with Multi-Directional Flexing Capabilities. , 2019, , .		3
198	Stress concentration analysis and fabrication of silicon (100) based ultra-stretchable structures with parylene coating. Extreme Mechanics Letters, 2020, 41, 101052.	2.0	3

#	Article	IF	Citations
199	Textile Electronicsâ€“Prospects, Advances, Challenges and Opportunities. MRS Advances, 2020, 5, 2359-2379.	0.5	3
200	3D Heterogeneous Integration Strategy for Physically Flexible CMOS Electronic Systems. , 2021, , .		3
201	Fabrication of Three-Dimensional MIS Nano-Capacitor Based on Nanoimprinted Single Crystal Silicon Nanowire Arrays. Micro and Nanosystems, 2012, 4, 333-338.	0.3	3
202	La-doped metal/high-K nMOSFET for sub-32nm HP and LSTP application. , 2009, , .		2
203	Advanced high-k/metal gate stack progress and challenges â€“ a materials and process integration perspective. International Journal of Materials Research, 2010, 101, 155-163.	0.1	2
204	A novel match-line selective charging scheme for high-speed, low-power and noise-tolerant content-addressable memory. , 2010, , .		2
205	Multi states electromechanical switch for energy efficient parallel data processing. , 2011, , .		2
206	Mechanically flexible optically transparent silicon fabric with high thermal budget devices from bulk silicon (100). , 2013, , .		2
207	Design Considerations for Optimized Lateral Spring Structures for Wearable Electronics. , 2015, , .		2
208	Wavy Channel architecture thin film transistor (TFT) using amorphous zinc oxide for high-performance and low-power semiconductor circuits. , 2015, , .		2
209	Affordable dual-sensing proximity sensor for touchless interactive systems. , 2016, , .		2
210	Photonics: Enhanced Performance of MoS₂ Photodetectors by Inserting an ALDâ€Processed TiO₂ Interlayer (Small 5/2018). Small, 2018, 14, 1870022.	5.2	2
211	Flexible Displays: Wavy Architecture Thinâ€Film Transistor for Ultrahigh Resolution Flexible Displays (Small 1/2018). Small, 2018, 14, 1870002.	5.2	2
212	Low-cost Foil based Wearable Sensory System for Respiratory Sound Analysis to Monitor Wheezing. , 2019, , .		2
213	Flexible Capacitive Pressure Sensors: Recent Progress on Flexible Capacitive Pressure Sensors: From Design and Materials to Applications (Adv. Mater. Technol. 4/2021). Advanced Materials Technologies, 2021, 6, 2170023.	3.0	2
214	Impact of Metal Wet Etch on Device Characteristics and Reliability for Dual Metal Gate/High-k CMOS. , 2006, , .		1
215	Highly selective isotropic dry etch based nanofabrication. Journal of Vacuum Science & Technology B, 2007, 25, 1416.	1.3	1
216	Self-powered integrated systems-on-chip (energy chip). Proceedings of SPIE, 2010, , .	0.8	1

#	Article	IF	Citations
217	Design and Finite Element Method Analysis of Laterally Actuated Multi-Value Nano Electromechanical Switches. Japanese Journal of Applied Physics, 2011, 50, 094301.	0.8	1
218	Excellent endurance of MWCNT anode in micro-sized Microbial Fuel Cell. , 2012, , .		1
219	Tin (Sn) for enhancing performance in silicon CMOS. , 2013, , .		1
220	Back Cover: Flexible semiâ€transparent silicon (100) fabric with highâ€k/metal gate devices (Phys. Status) Tj ETQq0 0 0 rgBT /Overlock	1.2	1
221	CMOS compatible generic batch process towards flexible memory on bulk monocrystalline silicon (100). , 2014, , .		1
222	Rapid Evaluation of Power Degradation in Series Connection of Single Feeding Microsized Microbial Fuel Cells. Energy Technology, 2014, 2, 673-676.	1.8	1
223	Transformational electronics: a powerful way to revolutionize our information world. , 2014, , .		1
224	Free form CMOS electronics: Physically flexible and stretchable. , 2015, , .		1
225	Thermal Patches: Ultrastretchable and Flexible Copper Interconnect-Based Smart Patch for Adaptive Thermotherapy (Adv. Healthcare Mater. 5/2015). Advanced Healthcare Materials, 2015, 4, 664-664.	3.9	1
226	Flexible lithium-ion planer thin-film battery. , 2015, , .		1
227	Nano-watt fueling from a micro-scale microbial fuel cell using black tea waste. , 2015, , .		1
228	Artificial Skin: Paper Skin Multisensory Platform for Simultaneous Environmental Monitoring (Adv.) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50	3.0	1
229	Manufacturable Heterogeneous Integration for Flexible CMOS Electronics. , 2018, , .		1
230	Corrugation Architecture Enabled Ultra-Flexible Mono-Crystalline Silicon Solar Cells via Plasma Etching and Laser Ablation. , 2018, , .		1
231	Multi-Dimensional Integration and Packaging of Devices for Internet-of-Things Applications. , 2020, , .		1
232	Symmetrical orientation of spiral-interconnects for high mechanical stability of stretchable electronics. , 2020, , .		1
233	(Invited) Paper Based Wearable Standalone Wheezing Sensor - Not a Low Dimensional System. ECS Meeting Abstracts, 2018, , .	0.0	1
234	Folding and stretching a thermoelectric generator. , 2018, , .		1

#	Article	IF	Citations
235	Heterogeneous Multi-Dimensional Integrated Circuit for Internet-of-Things Application. , 2019, , .		1
236	Crystalline solar cells with atypical architecture for wide ranging deployment (Conference) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 702 Td		1
237	3D Coin Integration for Realizing Next-Generation Flexible Electronic Systems. , 2020, , .		1
238	Challenges in Dual Workfunction Metal Gate CMOS Integration. ECS Transactions, 2006, 3, 263-274.	0.3	0
239	Dipole Model Explaining High-k/Metal Gate Threshold Voltage Tuning. ECS Transactions, 2009, 19, 269-276.	0.3	0
240	Sub-15 nm nano-pattern generation by spacer width control for high density precisely positioned self-assembled device nanomanufacturing. , 2012, , .		0
241	Time variant layer control in atmospheric pressure chemical vapor deposition based growth of graphene. , 2013, , .		0
242	Energy Harvesters: Flexible and Semiâ€Transparent Thermoelectric Energy Harvesters from Low Cost Bulk Silicon (100) (Small 23/2013). Small, 2013, 9, 3915-3915.	5.2	0
243	Direct measurement of graphene contact resistivity to pre-deposited metal in buried contact test structure. , 2013, , .		0
244	Back Cover: Thermal recrystallization of physical vapor deposition based germanium thin films on bulk silicon (100) (Phys. Status Solidi RRL 11/2013). Physica Status Solidi - Rapid Research Letters, 2013, 7, .	1.2	0
245	Group IV nanotube transistors for next generation ubiquitous computing. Proceedings of SPIE, 2014, , .	0.8	0
246	High temperature performance of flexible SOI FinFETs with sub-20 nm fins. , 2014, , .		0
247	Transfer-less flexible and transparent high-к/metal gate Germanium devices on bulk silicon (100). , 2014, , .		0
248	Foldable neuromorphic memristive electronics. , 2014, , .		0
249	Role of metal/silicon semiconductor contact engineering for enhanced output current in microâ€sized microbial fuel cells (Phys. Status Solidi A 3â•2014). Physica Status Solidi (A) Applications and Materials Science, 2014, 211, 550-550.	0.8	0
250	Back Cover: Wavy channel thin film transistor architecture for area efficient, high performance and low power displays (Phys. Status Solidi RRL 3/2014). Physica Status Solidi - Rapid Research Letters, 2014, 8, .	1.2	0
251	Wavy channel thin film transistor for area efficient, high performance and low power applications. , 2014, , .		0
252	Back Cover: Tin â€“ an unlikely ally for silicon field effect transistors? (Phys. Status Solidi RRL 4/2014). Physica Status Solidi - Rapid Research Letters, 2014, 8, .	1.2	0

#	Article	IF	Citations
253	Brain inspired high performance electronics on flexible silicon. , 2014, , .		0
254	High performance flexible CMOS SOI FinFETs. , 2014, , .		0
255	Freeform electronics for advanced healthcare. , 2016, , .		0
256	Live, free, democratized electronics: Bridging catalyst of multi-disciplinary research. , 2016, , .		0
257	Flexible Electronics: Deterministic Integration of Outâ€ofâ€Plane Sensor Arrays for Flexible Electronic Applications (Small 37/2016). Small, 2016, 12, 5140-5140.	5.2	0
258	CMOS technology: a critical enabler for free-form electronics-based killer applications. , 2016, , .		0
259	3D Printing: Decal Electronics: Printable Packaged with 3D Printing Highâ€Performance Flexible CMOS Electronic Systems (Adv. Mater. Technol. 1/2017). Advanced Materials Technologies, 2017, 2, .	3.0	0
260	Wearable Sensors: Recyclable Nonfunctionalized Paperâ€Based Ultralowâ€Cost Wearable Health Monitoring System (Adv. Mater. Technol. 4/2017). Advanced Materials Technologies, 2017, 2, .	3.0	0
261	Thermoelectric Generators: Strainâ€Induced Rolled Thin Films for Lightweight Tubular Thermoelectric Generators (Adv. Mater. Technol. 1/2018). Advanced Materials Technologies, 2018, 3, 1870002.	3.0	0
262	Solar Cells: Corrugation Architecture Enabled Ultraflexible Waferâ€Scale Highâ€Efficiency Monocrystalline Silicon Solar Cell (Adv. Energy Mater. 12/2018). Advanced Energy Materials, 2018, 8, 1870055.	10.2	0
263	Understanding the Stretching Mechanism of Spiral-Island Configurations for Highly Stretchable Elecronics. , 2018, , .		0
264	Integration Strategy for Heterogeneously Integrated Wearable and Implantable Electronics. , 2018, , .		0
265	Integration Strategy for Standalone Compliant Interactive Systems for Add-on IoT based Electronics. , 2019, , .		0
266	Flexible Electronics: Flexible and Stretchable Electronics for Harshâ€Environmental Applications (Adv.) Tj ETQq0 0 0 rgBT /Overlock 10 Tf	3.0	0
267	Personalized Healthcare: Expandable Polymer Assisted Wearable Personalized Medicinal Platform (Adv. Mater. Technol. 10/2020). Advanced Materials Technologies, 2020, 5, 2070064.	3.0	0
268	Ultrastretchable Corrugated Monocrystalline Silicon Solar Cells with Interdigitated Back Contacts. , 2020, , .		0
269	Water Quality Monitoring: Heterogeneous Cubic Multidimensional Integrated Circuit for Water and Food Security in Fish Farming Ponds (Small 4/2020). Small, 2020, 16, 2070023.	5.2	0
270	Stretchable Electronic Devices: Design Criteria for Horseshoe and Spiralâ€Based Interconnects for Highly Stretchable Electronic Devices (Adv. Funct. Mater. 7/2021). Advanced Functional Materials, 2021, 31, 2170048.	7.8	0

#	Article	IF	Citations
271	Wrinkeld Polydimethylsiloxane for Enahnced Light Trapping and Anti-Reflection in Flexible Corrugated Silicon Solar Cells. , 2021, , .		0
272	(Invited) Tubular Thermoelectric Generator for Enhanced Power Generation. ECS Meeting Abstracts, 2018, , .	0.0	0
273	(Invited) Homogeneous and Heterogeneous Material Based Nanotube Tunnel Field Effect Transistor with Core-Shell Gate Stacks. ECS Meeting Abstracts, 2018, , .	0.0	0
274	Design enabled stretchable electronics: gap mitigation, mirroring and reconfiguration. , 2019, , .		0
275	Large-Scale Spherical Silicon Solar Cell for Advanced Light Management. , 2020, , .		0
276	Ultra-stretchable Silicon Solar Cells for Standalone Wearable and Foldable Electronics Application. , 2020, , .		0
277	Corrugation Enabled Ultraflexible Monocrystalline Silicon Solar Cells with Interdigitated Back Contacts. , 2020, , .		0
278	Mechanically Flexible Fluid Flow Sensor for Macro-Tubular Architectures. , 2021, 10, .		0