

# Shiv Govind Singh

## 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.

111  
papers

1,561  
citations

22  
h-index

34  
g-index

137  
ext. papers

2,017  
ext. citations

5.1  
avg, IF

5.49  
L-index

#	Paper	IF	Citations
111	2-D material enhanced ultrasensitive electrochemical sensing of Pro-BNP peptide towards the risk-assessment of human heart. <i>Sensors and Actuators B: Chemical</i> , <b>2022</b> , 357, 131382	8.5	1
110	Single-phase high-entropy oxide-based chemiresistor: Toward selective and sensitive detection of methane gas for real-time applications. <i>Sensors and Actuators B: Chemical</i> , <b>2022</b> , 357, 131426	8.5	3
109	Single-Phase High-Entropy Oxide Nanoparticles for Wide Dynamic Range Detection of CO <sub>2</sub> . <i>ACS Applied Nano Materials</i> , <b>2022</b> , 5, 4524-4536	5.6	3
108	Artificial Intelligence-Based Portable Bioelectronics Platform for SARS-CoV-2 Diagnosis with Multi-nucleotide Probe Assay for Clinical Decisions. <i>Analytical Chemistry</i> , <b>2021</b> , 93, 14955-14965	7.8	1
107	Electrospun MnO Nanofiber Networks as Bio-Transducers: Electrical Characterization, Modeling, and DNA Sensing. <i>IEEE Transactions on Electron Devices</i> , <b>2021</b> , 68, 1892-1898	2.9	2
106	Preparation and optimization of PVDF thin films for miniaturized sensor and actuator applications. <i>Smart Materials and Structures</i> , <b>2021</b> , 30, 075013	3.4	3
105	Cerium oxide nanofiber based electroanalytical sensor for TNF- $\alpha$ detection: Improved interfacial stability with Nafion. <i>Bioelectrochemistry</i> , <b>2021</b> , 138, 107725	5.6	8
104	Towards point-of-care diagnosis of Alzheimer's disease: Multi-analyte based portable chemiresistive platform for simultaneous detection of $\beta$ Amyloid (1-40) and (1-42) in plasma. <i>Biosensors and Bioelectronics</i> , <b>2021</b> , 186, 113294	11.8	3
103	Boron doped SiC thin film on Silicon synthesized from polycarbosilane: a new lead free material for applications in piezosensors. <i>Journal of Materials Science: Materials in Electronics</i> , <b>2021</b> , 32, 25108	2.1	
102	Cerium oxide nanofiber based electrochemical immunosensor for detection of sepsis in biological fluid. <i>Journal of Solid State Electrochemistry</i> , <b>2021</b> , 25, 2587	2.6	
101	Drift independent discrimination of H <sub>2</sub> S from other interfering gases with a metal oxide gas sensor using extracted adsorption-desorption noise. <i>Sensors and Actuators B: Chemical</i> , <b>2021</b> , 344, 130146	8.5	2
100	Neonatal sepsis at point of care. <i>Clinica Chimica Acta</i> , <b>2021</b> , 521, 45-58	6.2	4
99	Sweetcorn husk derived porous carbon with inherent silica for ultrasensitive detection of ovarian cancer in blood plasma. <i>Electrochimica Acta</i> , <b>2021</b> , 397, 139258	6.7	2
98	Label-free detection of $\beta$ Amyloid (1-42) in plasma using electrospun SnO <sub>2</sub> nanofiber based electro-analytical sensor. <i>Sensors and Actuators B: Chemical</i> , <b>2021</b> , 346, 130522	8.5	5
97	Discrimination of gases with a single chemiresistive multi-gas sensor using temperature sweeping and machine learning. <i>Sensors and Actuators B: Chemical</i> , <b>2021</b> , 348, 130725	8.5	3
96	Acute administration of diazepam or midazolam minimally alters long-term neuropathological effects in the rat brain following acute intoxication with diisopropylfluorophosphate. <i>European Journal of Pharmacology</i> , <b>2020</b> , 886, 173538	5.3	8
95	Ti/Si interface enabling complementary metal oxide semiconductor compatible, high reliable bonding for inter-die micro-fluidic cooling for future advanced 3D integrated circuit integration. <i>Journal of Micromechanics and Microengineering</i> , <b>2020</b> , 30, 105005	2	0

94	A facile, sensitive and rapid sensing platform based on CoZnO for detection of fipronil; an environmental toxin. <i>Electroanalysis</i> , <b>2020</b> , 32, 2056-2064	3	6
93	Electrospun CNT embedded ZnO nanofiber based biosensor for electrochemical detection of Atrazine: a step closure to single molecule detection. <i>Microsystems and Nanoengineering</i> , <b>2020</b> , 6, 3	7.7	33
92	Comparison of the toxicokinetics of the convulsants picrotoxinin and tetramethylenedisulfotetramine (TETS) in mice. <i>Archives of Toxicology</i> , <b>2020</b> , 94, 1995-2007	5.8	6
91	Kv1.3 modulates neuroinflammation and neurodegeneration in Parkinson's disease. <i>Journal of Clinical Investigation</i> , <b>2020</b> , 130, 4195-4212	15.9	26
90	Electrochemical Nanoengineered Sensors in Infectious Disease Diagnosis <b>2020</b> , 165-180		
89	Effect of ultrathin palladium layer in achieving a low temperature and pressure wafer level aluminum to aluminum bonding. <i>Surface Topography: Metrology and Properties</i> , <b>2020</b> , 8, 045008	1.5	0
88	New capsaicin analogs as molecular rulers to define the permissive conformation of the mouse TRPV1 ligand-binding pocket. <i>ELife</i> , <b>2020</b> , 9,	8.9	5
87	Label-Free Electrochemical Detection of DNA Hybridization: A Method for COVID-19 Diagnosis <b>2020</b> , 5, 205-209		31
86	Highly sensitive and ultra-fast responsive ammonia gas sensor based on 2D ZnO nanoflakes. <i>Materials Science for Energy Technologies</i> , <b>2020</b> , 3, 91-96	5.2	24
85	Susceptibility of larval zebrafish to the seizurogenic activity of GABA type A receptor antagonists. <i>NeuroToxicology</i> , <b>2020</b> , 76, 220-234	4.4	16
84	PREFACE on the Special Issue Technologies for Fighting COVID-19 <b>2020</b> , 5, 91-95		2
83	Diffusion Enhanced Drive Sub 100 °C Wafer Level Fine-Pitch Cu-Cu Thermocompression Bonding for 3D IC Integration <b>2019</b> ,		2
82	Label free, electrochemical detection of atrazine using electrospun Mn2O3 nanofibers: Towards ultrasensitive small molecule detection. <i>Sensors and Actuators B: Chemical</i> , <b>2019</b> , 285, 317-325	8.5	35
81	Chemiresistive Sensor Based on Zinc Oxide Nanoflakes for CO2 Detection. <i>ACS Applied Nano Materials</i> , <b>2019</b> , 2, 700-706	5.6	50
80	Label free electrochemical detection of cardiac biomarker troponin T using ZnSnO3 perovskite nanomaterials. <i>Analytical Methods</i> , <b>2019</b> , 11, 744-751	3.2	21
79	Solvent-free fabrication of a room temperature ammonia gas sensor by frictional deposition of a conducting polymer on paper. <i>Organic Electronics</i> , <b>2019</b> , 68, 108-112	3.5	21
78	Electrospun tin (IV) oxide nanofiber based electrochemical sensor for ultra-sensitive and selective detection of atrazine in water at trace levels. <i>Biosensors and Bioelectronics</i> , <b>2019</b> , 141, 111441	11.8	29
77	Interface and Reliability Analysis of Au-Passivated Cu/Cu Fine-Pitch Thermocompression Bonding for 3-D IC Applications. <i>IEEE Transactions on Components, Packaging and Manufacturing Technology</i> , <b>2019</b> , 9, 1227-1234	1.7	15

76	Chemiresistive DNA hybridization sensor with electrospun nanofibers: A method to minimize inter-device variability. <i>Biosensors and Bioelectronics</i> , <b>2019</b> , 133, 24-31	11.8	19
75	Simple and facile microfabrication of a flexible interdigitated capacitor for sensing applications. <i>Flexible and Printed Electronics</i> , <b>2019</b> , 4, 015005	3.1	4
74	The Trials and Tribulations of Structure Assisted Design of K Channel Activators. <i>Frontiers in Pharmacology</i> , <b>2019</b> , 10, 972	5.6	5
73	A miniaturized electrochemical platform with an integrated PDMS reservoir for label-free DNA hybridization detection using nanostructured Au electrodes. <i>Analyst, The</i> , <b>2019</b> , 144, 6953-6961	5	10
72	. <i>IEEE Transactions on Device and Materials Reliability</i> , <b>2019</b> , 19, 791-795	1.6	8
71	Amorphous-Carbon/Si Heterojunction Device for Room-Temperature NH <sub>3</sub> Sensing <b>2019</b> , 3, 1-4		
70	A Step Towards Miniaturized Milk Adulteration Detection System: Smartphone-Based Accurate pH Sensing Using Electrospun Halochromic Nanofibers. <i>Food Analytical Methods</i> , <b>2019</b> , 12, 612-624	3.4	21
69	Recent advances in biosensors for diagnosis and detection of sepsis: A comprehensive review. <i>Biosensors and Bioelectronics</i> , <b>2019</b> , 124-125, 205-215	11.8	70
68	Direct, CMOS In-Line Process Flow Compatible, Sub 100 °C Cu/Cu Thermocompression Bonding Using Stress Engineering. <i>Electronic Materials Letters</i> , <b>2018</b> , 14, 328-335	2.9	12
67	Kv1.3 inhibition as a potential microglia-targeted therapy for Alzheimer's disease: preclinical proof of concept. <i>Brain</i> , <b>2018</b> , 141, 596-612	11.2	46
66	Optimized ultra-thin manganin alloy passivated fine-pitch damascene compatible bump-less Cu/Cu bonding at sub 200 °C for three-dimensional Integration applications. <i>Japanese Journal of Applied Physics</i> , <b>2018</b> , 57, 02BC04	1.4	6
65	Piezoelectric Micromachined Ultrasonic Transducer Using Silk Piezoelectric Thin Film. <i>IEEE Electron Device Letters</i> , <b>2018</b> , 39, 749-752	4.4	16
64	Metal-Alloy Cu Surface Passivation Leads to High Quality Fine-Pitch Bump-Less Cu-Cu Bonding for 3D IC and Heterogeneous Integration Applications <b>2018</b> ,		6
63	Graphene Doped Mn <sub>2</sub> O <sub>3</sub> Nanofibers as a Facile Electroanalytical DNA Point Mutation Detection Platform for Early Diagnosis of Breast/Ovarian Cancer. <i>Electroanalysis</i> , <b>2018</b> , 30, 2110-2120	3	18
62	Fabrication and characterization of SU-8-based capacitive micromachined ultrasonic transducer for airborne applications. <i>Journal of Micro/Nanolithography, MEMS, and MOEMS</i> , <b>2018</b> , 17, 1	0.7	6
61	A Highly Flexible Tactile Sensor with Self-Poled Electrospun PVDF Nanofiber <b>2018</b> ,		2
60	Facile Synthesis of Electrospun Nickel (II) Oxide Nanofibers and Its Application for Hydrogen Peroxide Sensing. <i>ChemistrySelect</i> , <b>2018</b> , 3, 12263-12268	1.8	5
59	Flexible ITO Electrode With Gold Nanostructures for Femtomolar DNA Hybridization Detection <b>2018</b> , 2, 1-4		7

58	Single-Cell Profiling Identifies Key Pathways Expressed by iPSCs Cultured in Different Commercial Media. <i>IScience</i> , <b>2018</b> , 7, 30-39	6.1	12
57	Analytical design technique for real-to-real single- and dual-frequency impedance matching networks in lossy passive environment. <i>IET Microwaves, Antennas and Propagation</i> , <b>2018</b> , 12, 1013-1020	1.6	1
56	Kv1.3 activity perturbs the homeostatic properties of astrocytes in glioma. <i>Scientific Reports</i> , <b>2018</b> , 8, 7654	4.9	11
55	Ambient Temperature-Induced Device Self-Heating Effects on Multi-Fin Si n-FinFET Performance. <i>IEEE Transactions on Electron Devices</i> , <b>2018</b> , 65, 2721-2728	2.9	23
54	Oxidation Resistive, CMOS Compatible Copper-Based Alloy Ultrathin Films as a Superior Passivation Mechanism for Achieving 150 °C Cu-Cu Wafer on Wafer Thermocompression Bonding. <i>IEEE Transactions on Electron Devices</i> , <b>2017</b> , 64, 1239-1245	2.9	20
53	Demonstration of sub 150 °C Cu-Cu thermocompression bonding for 3D IC applications, utilizing an ultra-thin layer of Manganin alloy as an effective surface passivation layer. <i>Materials Letters</i> , <b>2017</b> , 194, 86-89	3.3	29
52	Structural Insights into the Atomistic Mechanisms of Action of Small Molecule Inhibitors Targeting the KCa3.1 Channel Pore. <i>Molecular Pharmacology</i> , <b>2017</b> , 91, 392-402	4.3	26
51	Rapid Throughput Analysis of GABA Receptor Subtype Modulators and Blockers Using DiSBAC(3) Membrane Potential Red Dye. <i>Molecular Pharmacology</i> , <b>2017</b> , 92, 88-99	4.3	15
50	A multi-walled carbon nanotube-zinc oxide nanofiber based flexible chemiresistive biosensor for malaria biomarker detection. <i>Analyst, The</i> , <b>2017</b> , 142, 2128-2135	5	39
49	Electrospun manganese (III) oxide nanofiber based electrochemical DNA-nanobiosensor for zeptomolar detection of dengue consensus primer. <i>Biosensors and Bioelectronics</i> , <b>2017</b> , 90, 378-387	11.8	81
48	A multi-tiered, in vivo, quantitative assay suite for environmental disruptors of thyroid hormone signaling. <i>Aquatic Toxicology</i> , <b>2017</b> , 190, 1-10	5.1	8
47	Generation of a human induced pluripotent stem cell line CERAi001-A-6 using episomal vectors. <i>Stem Cell Research</i> , <b>2017</b> , 22, 13-15	1.6	1
46	Ultra-smooth e-beam evaporated amorphous silicon thin films [A viable alternative for PECVD amorphous silicon thin films for MEMS applications. <i>Materials Letters</i> , <b>2017</b> , 197, 52-55	3.3	7
45	Nonlithographic Fabrication of Plastic-Based Nanofibers Integrated Microfluidic Biochip for Sensitive Detection of Infectious Biomarker. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2017</b> , 9, 39994-40005	8.5	15
44	Source localization via aermod-based simulation under mean squared error criterion: Demonstration using field data <b>2017</b> ,		2
43	<b>2017</b> ,		2
42	Electrochemical Detection of Cardiac Biomarkers Utilizing Electrospun Multiwalled Carbon Nanotubes Embedded SU-8 Nanofibers. <i>Electroanalysis</i> , <b>2017</b> , 29, 380-386	3	17
41	One step biofunctionalized electrospun multiwalled carbon nanotubes embedded zinc oxide nanowire interface for highly sensitive detection of carcinoma antigen-125. <i>Biosensors and Bioelectronics</i> , <b>2017</b> , 88, 144-152	11.8	70

40	A comprehensive approach for milk adulteration detection using inherent bio-physical properties as 'Universal Markers': Towards a miniaturized adulteration detection platform. <i>Food Chemistry</i> , <b>2017</b> , 217, 756-765	8.5	24
39	Leveraging Innate Piezoelectricity of Ultra-Smooth Silk Thin Films for Flexible and Wearable Sensor Applications. <i>IEEE Sensors Journal</i> , <b>2017</b> , 17, 8306-8313	4	16
38	Electrospun polyaniline nanofiber based chemiresistive nanobiosensor platform for DNA Hybridization detection <b>2017</b> ,		3
37	Optimal Don't Care Filling for Minimizing Peak Toggles During At-Speed Stuck-At Testing. <i>ACM Transactions on Design Automation of Electronic Systems</i> , <b>2017</b> , 23, 1-26	1.5	4
36	From the Cover: BDE-47 and BDE-49 Inhibit Axonal Growth in Primary Rat Hippocampal Neuron-Glia Co-Cultures via Ryanodine Receptor-Dependent Mechanisms. <i>Toxicological Sciences</i> , <b>2017</b> , 156, 375-386	4.4	15
35	High Quality Fine-Pitch Cu-Cu Wafer-on-Wafer Bonding with Optimized Ti Passivation at 160°C <b>2016</b> ,		6
34	A low-cost multi-phase 3A buck converter with improved ripple cancellation for wide supply range <b>2016</b> ,		1
33	A 1V, 26dBm sensitive auto configurable mixed converter mode RF energy harvesting with wide input range <b>2016</b> ,		3
32	An ultrasensitive label free nanobiosensor platform for the detection of cardiac biomarkers. <i>Biomedical Microdevices</i> , <b>2016</b> , 18, 111	3.7	22
31	Analysis of graphene and CNT based finned TTSV and spreaders for thermal management in 3D IC <b>2016</b> ,		5
30	Facile, low-cost, halochromic platform using electrospun nanofibers for milk adulteration detection <b>2016</b> ,		1
29	A highly sensitive self assembled monolayer modified copper doped zinc oxide nanofiber interface for detection of Plasmodium falciparum histidine-rich protein-2: Targeted towards rapid, early diagnosis of malaria. <i>Biosensors and Bioelectronics</i> , <b>2016</b> , 80, 39-46	11.8	57
28	Diisopropylfluorophosphate Impairs the Transport of Membrane-Bound Organelles in Rat Cortical Axons. <i>Journal of Pharmacology and Experimental Therapeutics</i> , <b>2016</b> , 356, 645-55	4.7	24
27	Ultra-thin Ti passivation mediated breakthrough in high quality Cu-Cu bonding at low temperature and pressure. <i>Materials Letters</i> , <b>2016</b> , 169, 269-272	3.3	29
26	Inhibition of soluble epoxide hydrolase as a novel approach to high dose diazepam induced hypotension <b>2016</b> , 6,		11
25	Ultrasensitive, Label Free, Chemiresistive Nanobiosensor Using Multiwalled Carbon Nanotubes Embedded Electrospun SU-8 Nanofibers. <i>Sensors</i> , <b>2016</b> , 16,	3.8	15
24	Silk piezoelectric thin films: Materials to devices <b>2016</b> ,		5
23	Zinc oxide nanowire modified flexible plastic platform for immunosensing <b>2016</b> ,		1

22	Realizing Area efficient Silicon Micro Structures Using Only Front End Bulk Micromachining. <i>International Journal of Advances in Engineering Sciences and Applied Mathematics</i> , <b>2015</b> , 7, 191-197	0.6	1
21	A 80 dBm sensitive ultra low power RF energy harvesting front end with an efficiency of 70.1% at 0.2 dBm <b>2015</b> ,		2
20	Facile non thermal plasma based desorption of self assembled monolayers for achieving low temperature and low pressure Cu-Cu thermo-compression bonding. <i>RSC Advances</i> , <b>2015</b> , 5, 103643-103648	2.7	20
19	Highly sensitive SAM modified electrospun zinc oxide nanofiber based label free biosensing platform <b>2015</b> ,		2
18	Low temperature, low pressure CMOS compatible Cu -Cu thermo-compression bonding with Ti passivation for 3D IC integration <b>2015</b> ,		12
17	Long term efficacy of ultra-thin Ti passivation layer for achieving low temperature, low pressure Cu-Cu Wafer-on-Wafer bonding <b>2015</b> ,		3
16	Ultra low power on-chip hybrid start-up for wireless sensor networks <b>2015</b> ,		1
15	TSV noise coupling in 3D IC using guard ring <b>2015</b> ,		8
14	Fabrication and characterization of zinc oxide nanowires for high-sensitivity sensing applications <b>2014</b> ,		1
13	New positive Ca <sup>2+</sup> -activated K <sup>+</sup> channel gating modulators with selectivity for KCa3.1. <i>Molecular Pharmacology</i> , <b>2014</b> , 86, 342-57	4.3	39
12	Hybrid structured buck converter with ripple cancellation and improved efficiency <b>2013</b> ,		1
11	Boiling flow through diverging microchannel. <i>Sadhana - Academy Proceedings in Engineering Sciences</i> , <b>2013</b> , 38, 1067-1082	1	5
10	Design of subthreshold wide band down conversion mixer <b>2013</b> ,		1
9	Liquid flow through a diverging microchannel. <i>Microfluidics and Nanofluidics</i> , <b>2013</b> , 14, 53-67	2.8	33
8	Noise-cancelled subthreshold UWB LNA for Wireless Sensor Network application <b>2012</b> ,		2
7	Design of highly efficient charge pump for energy harvesting RFID applications <b>2012</b> ,		3
6	Measurement and modeling of pulsatile flow in microchannel. <i>Microfluidics and Nanofluidics</i> , <b>2010</b> , 9, 1225-1240	2.8	12
5	Two-Phase Flow Pressure Drop Characteristics in Trapezoidal Silicon Microchannels. <i>IEEE Transactions on Components and Packaging Technologies</i> , <b>2009</b> , 32, 887-900		22

4	Achieving low temperature Cu to Cu diffusion bonding with self assembly monolayer (SAM) passivation <b>2009</b> ,		10
3	In Situ Impact Analysis of Very High Heat Flux Transients on Nonlinear p-n Diode Characteristics and Mitigation Using On-Chip Single- and Two-Phase Microfluidics. <i>Journal of Microelectromechanical Systems</i> , <b>2009</b> , 18, 1208-1219	2.5	21
2	Cu-Cu diffusion bonding enhancement at low temperature by surface passivation using self-assembled monolayer of alkane-thiol. <i>Applied Physics Letters</i> , <b>2009</b> , 95, 192108	3.4	101
1	MoS <sub>2</sub> Chemiresistive Sensor Array on Paper Patterned with Toner Lithography for Simultaneous Detection of NH <sub>3</sub> and H <sub>2</sub> S Gases. <i>ACS Sustainable Chemistry and Engineering</i> ,	8.3	3