

# Miguel Zabala

## List of Publications by Year in descending order

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Version: 2024-02-01

52  
papers

694  
citations

516710

16  
h-index

580821

25  
g-index

52  
all docs

52  
docs citations

52  
times ranked

961  
citing authors

#	ARTICLE	IF	CITATIONS
1	A novel biosensor based on hafnium oxide: Application for early stage detection of human interleukin-10. <i>Sensors and Actuators B: Chemical</i> , 2012, 175, 201-207.	7.8	85
2	Analysis of the Switching Variability in $\text{Ni}/\text{HfO}_2$ -Based RRAM Devices. <i>IEEE Transactions on Device and Materials Reliability</i> , 2014, 14, 769-771.	2.0	71
3	Deposition Temperature and Thermal Annealing Effects on the Electrical Characteristics of Atomic Layer Deposited $\text{Al}_2\text{O}_3$ Films on Silicon. <i>Journal of the Electrochemical Society</i> , 2011, 158, G108.	2.9	54
4	Electrical characteristics of metal-insulator-semiconductor structures with atomic layer deposited $\text{Al}_2\text{O}_3$ , $\text{HfO}_2$ , and nanolaminates on different silicon substrates. <i>Journal of Vacuum Science and Technology B: Nanotechnology and Microelectronics</i> , 2011, 29, 01AA07.	1.2	41
5	Hydrogen-selective microelectrodes based on silicon needles. <i>Sensors and Actuators B: Chemical</i> , 2003, 91, 76-82.	7.8	39
6	Development of a novel capacitance electrochemical biosensor based on silicon nitride for ochratoxin A detection. <i>Sensors and Actuators B: Chemical</i> , 2016, 234, 446-452.	7.8	38
7	Diazonium modified gold microelectrodes onto polyimide substrates for impedimetric cytokine detection with an integrated $\text{Ag}/\text{AgCl}$ reference electrode. <i>Sensors and Actuators B: Chemical</i> , 2013, 189, 165-172.	7.8	33
8	Electrical characterization of atomic-layer-deposited hafnium oxide films from hafnium tetrakis(dimethylamide) and water/ozone: Effects of growth temperature, oxygen source, and postdeposition annealing. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , 2013, 31, .	2.1	25
9	2 MeV electron irradiation effects on the electrical characteristics of metal-oxide-silicon capacitors with atomic layer deposited $\text{Al}_2\text{O}_3$ , $\text{HfO}_2$ and nanolaminated dielectrics. <i>Solid-State Electronics</i> , 2013, 79, 65-74.	1.4	23
10	Blistering of atomic layer deposition $\text{Al}_2\text{O}_3$ layers grown on silicon and its effect on metal-insulator-semiconductor structures. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , 2013, 31, .	2.1	23
11	Electrochemical Capacitive K <sup>+</sup> EMIS Chemical Sensor Based on the Dibromoaza[7]helicene as an Ionophore for Potassium Ions Detection. <i>Electroanalysis</i> , 2016, 28, 2892-2899.	2.9	23
12	Fabrication of PPF Electrodes by a Rapid Thermal Process. <i>Journal of the Electrochemical Society</i> , 2011, 158, H63.	2.9	21
13	Deposited Thin $\text{SiO}_2$ for Gate Oxide on n-Type and p-Type GaN. <i>Journal of the Electrochemical Society</i> , 2010, 157, H1008.	2.9	20
14	Capacitance Electrochemical pH Sensor Based on Different Hafnium Dioxide ( $\text{HfO}_2$ ) Thicknesses. <i>Chemosensors</i> , 2021, 9, 13.	3.6	19
15	Charge trapping analysis of $\text{Al}_2\text{O}_3$ films deposited by atomic layer deposition using $\text{H}_2\text{O}$ or $\text{O}_3$ as oxidant. <i>Journal of Vacuum Science and Technology B: Nanotechnology and Microelectronics</i> , 2013, 31, .	1.2	18
16	Methodology for the characterization and observation of filamentary spots in $\text{HfO}_x$ -based memristor devices. <i>Microelectronic Engineering</i> , 2020, 223, 111232.	2.4	17
17	Electrical characterization of high-k based metal-insulator-semiconductor structures with negative resistance effect when using $\text{Al}_2\text{O}_3$ and nanolaminated films deposited on p-Si. <i>Journal of Vacuum Science and Technology B: Nanotechnology and Microelectronics</i> , 2011, 29, 01A901.	1.2	14
18	Development of a capacitive chemical sensor based on $\text{Co(II)}$ -phthalocyanine acrylate-polymer/ $\text{HfO}_2/\text{SiO}_2$ for detection of perchlorate. <i>Journal of Sensors and Sensor Systems</i> , 2015, 4, 17-23.	1.9	12

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19	Effect of Processing Conditions on the Electrical Characteristics of Atomic Layer Deposited Al <sub>2</sub> O <sub>3</sub> and HfO <sub>2</sub> Films. ECS Transactions, 2010, 28, 213-221.	0.5	10
20	Charge trapping and electrical degradation in atomic layer deposited Al <sub>2</sub> O <sub>3</sub> films. Microelectronic Engineering, 2013, 109, 57-59.	2.4	10
21	A Novel Three-Dimensional Biosensor Based on Aluminum Oxide: Application for Early-Stage Detection of Human Interleukin-10. Methods in Molecular Biology, 2014, 1172, 49-64.	0.9	10
22	Integration of HfO <sub>2</sub> on Si/SiC heterojunctions for the gate architecture of SiC power devices. Applied Physics Letters, 2010, 97, 013506.	3.3	8
23	2 MeV electron irradiation effects on bulk and interface of atomic layer deposited high-k gate dielectrics on silicon. Thin Solid Films, 2013, 534, 482-487.	1.8	8
24	A Fully Integrated Electrochemical BioMEMS Fabrication Process for Cytokine Detection: Application for Heart Failure. Procedia Engineering, 2014, 87, 377-379.	1.2	8
25	Comparison between Al <sub>2</sub> O <sub>3</sub> thin films grown by ALD using H <sub>2</sub> O or O <sub>3</sub> as oxidant source. , 2011, , .		6
26	Cytokine Detection using Diazonium Modified Gold Microelectrodes Onto Polyimide Substrates with Integrated Ag/AgCl Reference Electrode. Procedia Engineering, 2012, 47, 1181-1184.	1.2	6
27	2MeV electron irradiation effects on the electrical characteristics of MOS capacitors with ALD Al <sub>2</sub> O <sub>3</sub> dielectrics of different thickness. Microelectronics Reliability, 2013, 53, 1333-1337.	1.7	6
28	Soft breakdown in irradiated high- $\epsilon$ nanolaminates. Microelectronic Engineering, 2011, 88, 1425-1427.	2.4	5
29	Bow Free 4" Diameter 3C-SiC Epilayers Formed upon Wafer-Bonded Si/SiC Substrates. ECS Solid State Letters, 2012, 1, P85-P88.	1.4	5
30	Impact of electrical stress on the electrical characteristics of 2MeV electron irradiated metal-oxide-silicon capacitors with atomic layer deposited Al <sub>2</sub> O <sub>3</sub> , HfO <sub>2</sub> and nanolaminated dielectrics. Solid-State Electronics, 2013, 89, 198-206.	1.4	5
31	Study of RTN signals in resistive switching devices based on neural networks. Solid-State Electronics, 2021, 183, 108034.	1.4	5
32	Impact of silicon substrate germanium doping on diode characteristics and on thermal donor formation. Physica B: Condensed Matter, 2009, 404, 4723-4726.	2.7	4
33	CMOS integrated pressure sensor optimization using electrical network simulator-FEM tool coupling. Journal of Micromechanics and Microengineering, 1999, 9, 109-112.	2.6	3
34	Thin high-k dielectric layers deposited by ALD. , 2009, , .		3
35	Novel Capacitance Biosensor Based on Hafnium Oxide for Interleukin-10 Protein Detection. Procedia Engineering, 2011, 25, 972-975.	1.2	3
36	Low-resistance strip sensors for beam-loss event protection. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2014, 765, 252-257.	1.6	2

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37	Investigation of the resistive switching behavior in Ni/HfO <sub>2</sub> -based RRAM devices. , 2015, , .		2
38	Effect of the blistering of ALD Al <sub>2</sub> O <sub>3</sub> films on the silicon surface in Al-Al <sub>2</sub> O <sub>3</sub> -Si structures. , 2015, , .		2
39	Synaptic devices based on HfO <sub>2</sub> memristors. , 2021, , 383-426.		2
40	Evaluation of Surface Passivation Layers for Bulk Lifetime Estimation of High Resistivity Silicon for Radiation Detectors. Solid State Phenomena, 2008, 131-133, 431-436.	0.3	1
41	Evaluation of surface passivation layers for bulk lifetime estimation of high resistivity silicon for radiation detectors. , 2007, , .		1
42	Comparative Analysis of MIS Capacitance Structures With High-k Dielectrics Under Gamma, $\gamma$ and p Radiation. IEEE Transactions on Nuclear Science, 2012, 59, 767-772.	2.0	1
43	Diode Characteristics and Thermal Donor Formation in Germanium-Doped Silicon Substrates. ECS Transactions, 2013, 50, 177-186.	0.5	1
44	Functional and performance evaluation of low-resistance strip sensors for beam-loss event protection. , 2014, , .		1
45	Comparative analysis of MIS capacitive structures with high-K dielectrics under gamma, $\gamma$ and p radiation. , 2011, , .		0
46	Negative-resistance effect in Al <sub>2</sub> O <sub>3</sub> based and nanolaminated MIS structures. , 2011, , .		0
47	Characterisation of HfO <sub>2</sub> /Si/SiC MOS Capacitors. Materials Science Forum, 0, 679-680, 674-677.	0.3	0
48	Electron Irradiation Effects on Atomic Layer Deposited High-k Gate Dielectrics. ECS Transactions, 2011, 41, 349-359.	0.5	0
49	Thin dielectric films grown by atomic layer deposition: Properties and applications. , 2013, , .		0
50	Defect assessment and leakage control in atomic layer deposited Al <sub>2</sub> O <sub>3</sub> and HfO <sub>2</sub> dielectrics. , 2013, , .		0
51	Optimization of low-resistance strip sensors process and studies of radiation resistance. , 2015, , .		0
52	Analysis of the Characteristic Current Fluctuations in the High Resistance State of HfO <sub>2</sub> -based Memristors. , 2021, , .		0