

# Emmerich Bertagnolli

## List of Publications by Year in descending order

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79  
papers

1,211  
citations

394421

19  
h-index

434195

31  
g-index

80  
all docs

80  
docs citations

80  
times ranked

1619  
citing authors

#	ARTICLE	IF	CITATIONS
1	Germanium nanowire microbolometer. <i>Nanotechnology</i> , 2022, 33, 245201.	2.6	3
2	Highly Biaxially Strained Silicene on Au(111). <i>Journal of Physical Chemistry C</i> , 2021, 125, 9973-9980.	3.1	12
3	Optical Signatures of Dirac Electrodynamics for hBN-Passivated Silicene on Au(111). <i>Nano Letters</i> , 2021, 21, 5301-5307.	9.1	9
4	Silicene Passivation by Few-Layer Graphene. <i>ACS Applied Materials &amp; Interfaces</i> , 2019, 11, 12745-12751.	8.0	16
5	Monolithic Axial and Radial Metal-Semiconductor Nanowire Heterostructures. <i>Nano Letters</i> , 2018, 18, 7692-7697.	9.1	15
6	Ultrascaled Germanium Nanowires for Highly Sensitive Photodetection at the Quantum Ballistic Limit. <i>Nano Letters</i> , 2018, 18, 5030-5035.	9.1	25
7	All-oxide solar cells based on electrodeposited Cu <sub>2</sub> O absorber and atomic layer deposited ZnMgO on precious-metal-free electrode. <i>Solar Energy Materials and Solar Cells</i> , 2017, 161, 449-459.	6.2	43
8	Fabrication and characterization of a germanium nanowire light emitting diode. <i>Applied Physics Letters</i> , 2017, 111, 233103.	3.3	2
9	Direct writing of gold nanostructures with an electron beam: On the way to pure nanostructures by combining optimized deposition with oxygen-plasma treatment. <i>Beilstein Journal of Nanotechnology</i> , 2017, 8, 2530-2543.	2.8	14
10	Electroluminescence from NiSi <sub>2</sub> /Si/NiSi <sub>2</sub> nanowire heterostructures operated at high electric fields. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2016, 213, 2895-2900.	1.8	1
11	Platinum-assisted post deposition annealing of the n-Ge/Y <sub>2</sub> O <sub>3</sub> interface. <i>Semiconductor Science and Technology</i> , 2016, 31, 075009.	2.0	2
12	Linearity optimization of atomic layer deposited ZrO <sub>2</sub> metal-insulator-metal capacitors by inserting interfacial Zr-doped chromia layers. <i>Journal of Applied Physics</i> , 2016, 119, .	2.5	9
13	Synthesis, Morphological, and Electro-optical Characterizations of Metal/Semiconductor Nanowire Heterostructures. <i>Nano Letters</i> , 2016, 16, 3507-3513.	9.1	14
14	Highly conductive and pure gold nanostructures grown by electron beam induced deposition. <i>Scientific Reports</i> , 2016, 6, 34003.	3.3	77
15	Improving the ALD-grown Y <sub>2</sub> O <sub>3</sub> /Ge interface quality by surface and annealing treatments. <i>Applied Surface Science</i> , 2016, 369, 377-383.	6.1	14
16	Investigation of neurotrophic factor concentrations with a novel in vitro concept for peripheral nerve regeneration. <i>Journal of Neuroscience Research</i> , 2015, 93, 1631-1640.	2.9	8
17	Abrupt Schottky Junctions in Al/Ge Nanowire Heterostructures. <i>Nano Letters</i> , 2015, 15, 4783-4787.	9.1	47
18	Substituted triphenylamines as building blocks for star shaped organic electronic materials. <i>New Journal of Chemistry</i> , 2015, 39, 1840-1851.	2.8	21

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19	Gate-Tunable Electron Transport Phenomena in Al <sub>0.15</sub> Ge <sub>0.85</sub> Al Nanowire Heterostructures. Nano Letters, 2015, 15, 7514-7518.	9.1	11
20	Miniaturized Wide-Range Field-Emission Vacuum Gauge. Nanomaterials and Nanotechnology, 2014, 4, 29.	3.0	3
21	Nitrogen as a carrier gas for regime control in focused electron beam induced deposition. Nanofabrication, 2014, 1, .	1.1	8
22	Electric field modulation of thermovoltage in single-layer MoS <sub>2</sub> . Applied Physics Letters, 2014, 105, .	3.3	16
23	Effective reduction of trap density at the Y <sub>2</sub> O <sub>3</sub> /Ge interface by rigorous high-temperature oxygen annealing. Journal of Applied Physics, 2014, 116, .	2.5	19
24	Fixed interface charges between AlGa <sub>N</sub> barrier and gate stack composed of <i>in situ</i> grown SiN and Al <sub>2</sub> O <sub>3</sub> in AlGa <sub>N</sub> /Ga <sub>N</sub> high electron mobility transistors with normally off capability. Applied Physics Letters, 2014, 104, .	3.3	39
25	Nanowires enabling strained photovoltaics. Applied Physics Letters, 2014, 104, .	3.3	9
26	Mask-free prototyping of metal-oxide-semiconductor devices utilizing focused electron beam induced deposition. Physica Status Solidi (A) Applications and Materials Science, 2014, 211, 375-381.	1.8	11
27	Focused Electron Beam-induced CVD of Iron: a Practical Guide for Direct Writing. Chemical Vapor Deposition, 2014, 20, 243-250.	1.3	16
28	Electron Beam-induced CVD of Nanoalloys for Nanoelectronics. Chemical Vapor Deposition, 2014, 20, 251-257.	1.3	15
29	Mapping of local argon impingement on a virtual surface: an insight for gas injection during FEBID. Applied Physics A: Materials Science and Processing, 2014, 117, 1749-1756.	2.3	7
30	III-V semiconductor nanocrystal formation in silicon nanowires via liquid-phase epitaxy. Nano Research, 2014, 7, 1769-1776.	10.4	15
31	Magnetic force microscopy study of shape engineered <i>in situ</i> FEBID iron nanostructures. Physica Status Solidi (A) Applications and Materials Science, 2014, 211, 368-374.	1.8	26
32	Focused ion beam direct patterning of hardmask layers. Journal of Vacuum Science and Technology B: Nanotechnology and Microelectronics, 2014, 32, .	1.2	4
33	ALD grown bilayer junction of ZnO:Al and tunnel oxide barrier for SIS solar cell. Solar Energy Materials and Solar Cells, 2013, 117, 178-182.	6.2	21
34	<i>In situ</i> monitoring of Joule heating effects in germanium nanowires by <sup>78</sup> K <sub>R</sub> -Raman spectroscopy. Nanotechnology, 2013, 24, 065701.	2.6	13
35	Focused ion beam induced Ga-contamination: An obstacle for UV-nanoimprint stamp repair?. Journal of Vacuum Science and Technology B: Nanotechnology and Microelectronics, 2013, 31, 041602.	1.2	5
36	Atomic layer deposition-based interface engineering for high-k/metal gate stacks. , 2012, , .		1

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37	Stability of La <sub>2</sub> O <sub>3</sub> and GeO <sub>2</sub> passivated Ge surfaces during ALD of ZrO <sub>2</sub> high-k dielectric. Applied Surface Science, 2012, 258, 3444-3449.	6.1	29
38	Porous Silica-Based Mixed Oxides with Basic Organic Sites. European Journal of Inorganic Chemistry, 2012, 2012, 5207-5215.	2.0	1
39	Impact of oxidation and reduction annealing on the electrical properties of Ge/La <sub>2</sub> O <sub>3</sub> /ZrO <sub>2</sub> gate stacks. , 2011, , .		0
40	Iron silicide nanoparticles in a SiC/C matrix from organometallic polymers: characterization and magnetic properties. Journal of Materials Chemistry, 2011, 21, 12232.	6.7	15
41	Impact of growth temperature on the crystal habits, forms and structures of VO <sub>2</sub> nanocrystals. Applied Physics A: Materials Science and Processing, 2011, 102, 201-204.	2.3	5
42	Sputter-redeposition method for the fabrication of automatically sealed micro/nanochannel using FIBs. International Journal of Precision Engineering and Manufacturing, 2011, 12, 893-898.	2.2	5
43	Nanowire-metal heterostructures for high performance MOSFETs. Elektrotechnik Und Informationstechnik, 2010, 127, 171-175.	1.1	3
44	Ge p-MOSFETs With Scaled ALD $\text{La}_{2}\text{O}_{3}/\text{ZrO}_{2}$ Gate Dielectrics. IEEE Transactions on Electron Devices, 2010, 57, 3295-3302.	3.0	20
45	Stabilization of a very high-k crystalline ZrO <sub>2</sub> phase by post deposition annealing of atomic layer deposited ZrO <sub>2</sub> /La <sub>2</sub> O <sub>3</sub> dielectrics on germanium. Applied Surface Science, 2010, 256, 5031-5034.	6.1	19
46	In place growth of vertical Si nanowires for surround gated MOSFETs with self aligned contact formation. , 2010, , .		0
47	Pt-assisted oxidation of (100)-Ge/high-k interfaces and improvement of their electrical quality. Applied Physics Letters, 2010, 97, .	3.3	21
48	Process temperature dependent high frequency capacitance-voltage response of ZrO <sub>2</sub> /GeO <sub>2</sub> /germanium capacitors. Applied Physics Letters, 2010, 96, 052902.	3.3	17
49	Impact of fluence-rate related effects on the sputtering of silicon at elevated target temperatures. Journal of Applied Physics, 2009, 105, 044912.	2.5	7
50	Focused ion beam generated antimony nanowires for microscale pH sensors. Applied Physics Letters, 2009, 95, 223106.	3.3	9
51	Atomic layer deposition of ZrO <sub>2</sub> /La <sub>2</sub> O <sub>3</sub> high-k dielectrics on germanium reaching 0.5 nm equivalent oxide thickness. Applied Physics Letters, 2009, 94, .	3.3	36
52	Impact of sputter deposited TaN and TiN metal gates on ZrO <sub>2</sub> /Ge and ZrO <sub>2</sub> /Si high-k dielectric gate stacks. , 2009, , .		1
53	Electrical characteristics of atomic layer deposited aluminium oxide and lanthanum-zirconium oxide high-k Dielectric stacks. , 2009, , .		1
54	Technology and Performance of InAlN/AlN/GaN HEMTs With Gate Insulation and Current Collapse Suppression Using Zr <sub>m</sub> O <sub>2</sub> or Hf <sub>m</sub> O <sub>2</sub> . IEEE Transactions on Electron Devices, 2008, 55, 937-941.	3.0	86

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55	Electron beam induced deposition of iron nanostructures. Journal of Vacuum Science & Technology B, 2008, 26, 939-944.	1.3	25
56	Growth of GaAs whiskers by MBE on LPCVD Si(111) nanowire trunks. , 2008, , .		0
57	Comparative Study On The Impact Of TiN And Mo Metal Gates On MOCVD-Grown HfO <sub>2</sub> And ZrO <sub>2</sub> High- $\kappa$ Dielectrics For CMOS Technology. AIP Conference Proceedings, 2007, , .	0.4	0
58	A Nanowire Growth Technique Utilizing Focused Ion Beams. AIP Conference Proceedings, 2007, , .	0.4	0
59	Custom design of optical-grade thin films of silicon oxide by direct-write electron-beam-induced deposition. Journal of Vacuum Science & Technology B, 2006, 24, 2755.	1.3	14
60	Synthesis of nanowires in room temperature ambient: A focused ion beam approach. Applied Physics Letters, 2006, 88, 163114.	3.3	13
61	Slow trap response of zirconium dioxide thin films on silicon. Applied Physics Letters, 2003, 83, 1400-1402.	3.3	18
62	Combined scanning electrochemical atomic force microscopy for tapping mode imaging. Applied Physics Letters, 2003, 82, 1592-1594.	3.3	72
63	Method to characterize the three-dimensional distribution of focused ion beam induced damage in silicon after 50 keV Ga <sup>+</sup> irradiation. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2003, 21, 1644-1648.	2.1	13
64	Compositional and electrical properties of zirconium dioxide thin films chemically deposited on silicon. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2003, 21, 653-659.	2.1	19
65	Local Modification of Microstructure and of Properties by FIB-CVD. Materials Research Society Symposia Proceedings, 2003, 792, 63.	0.1	0
66	Focused ion beam induced surface amorphization and sputter processes. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 2003, 21, 927.	1.6	33
67	Focused ion beam prepared contacts of tungsten to silicon characterized by a cross-bridge Kelvin resistor approach. Journal of Applied Physics, 2003, 93, 5827-5829.	2.5	6
68	Current density profile extraction of focused ion beams based on atomic force microscopy contour profiling of nanodots. Journal of Applied Physics, 2002, 92, 4037-4042.	2.5	53
69	Evolution of tungsten film deposition induced by focused ion beam. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2002, 20, 1408-1415.	2.1	34
70	Study of focused ion beam response of GaAs in the nanoscale regime. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 2002, 20, 2238.	1.6	24
71	FIB-TEM Characterization of Locally Restricted Implantation Damage. Materials Research Society Symposia Proceedings, 2002, 738, 7141.	0.1	0
72	Time Resolved Studies of Focused Ion Beam Induced Tungsten Deposition. Materials Research Society Symposia Proceedings, 2002, 749, 1.	0.1	0

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73	Ultrathin Zirconium Dioxide Chemically Deposited at a Low Thermal Budget. Materials Research Society Symposia Proceedings, 2002, 745, 571.	0.1	0
74	Deposition Mechanism of Oxide Thin Films Manufactured by a Focused Energetic Beam Process. Materials Research Society Symposia Proceedings, 2002, 749, 1.	0.1	2
75	Versatile Nanodeposition of Dielectrics and Metals by Non-contact Direct-Write Technology. Materials Research Society Symposia Proceedings, 2002, 758, 451.	0.1	1
76	Vertical N-channel MOSFETs for extremely high density memories: the impact of interface orientation on device performance. IEEE Transactions on Electron Devices, 2001, 48, 897-906.	3.0	34
77	Ion Beam Induced Chemical Vapor Deposition of Dielectric Materials. Materials Research Society Symposia Proceedings, 2000, 624, 163.	0.1	1
78	Effects of Ga-Irradiation On Properties of Materials Processed by A Focused Ion Beam (FIB). Materials Research Society Symposia Proceedings, 2000, 647, 1.	0.1	1
79	Custom-tailored microfluidic devices and nanoscaled actuators - on the fast track. , 0, , .		2