

# Eduard Alarcon

## List of Publications by Year in descending order

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114  
papers

3,333  
citations

201674

27  
h-index

182427

51  
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115  
all docs

115  
docs citations

115  
times ranked

2515  
citing authors

#	ARTICLE	IF	CITATIONS
1	Multiwideband Terahertz Communications Via Tunable Graphene-Based Metasurfaces in 6G Networks: Graphene Enables Ultimate Multiwideband THz Wavefront Control. IEEE Vehicular Technology Magazine, 2022, 17, 16-25.	3.4	14
2	Dataflow-Architecture Co-Design for 2.5D DNN Accelerators using Wireless Network-on-Package. , 2021, , .		5
3	Radiation Pattern Prediction for Metasurfaces: A Neural Network-Based Approach. Sensors, 2021, 21, 2765.	3.8	15
4	Survey on Terahertz Nanocommunication and Networking: A Top-Down Perspective. IEEE Journal on Selected Areas in Communications, 2021, 39, 1506-1543.	14.0	58
5	Localization in power-constrained Terahertz-operating software-defined metamaterials. Nano Communication Networks, 2021, 30, 100365.	2.9	2
6	Scalability Analysis of Programmable Metasurfaces for Beam Steering. IEEE Access, 2020, 8, 105320-105334.	4.2	36
7	Engineer the Channel and Adapt to it: Enabling Wireless Intra-Chip Communication. IEEE Transactions on Communications, 2020, 68, 3247-3258.	7.8	25
8	Toward Intelligent Metasurfaces: The Progress from Globally Tunable Metasurfaces to Software-Defined Metasurfaces with an Embedded Network of Controllers. Advanced Optical Materials, 2020, 8, 2000783.	7.3	145
9	Digital Metasurface Based on Graphene: An Application to Beam Steering in Terahertz Plasmonic Antennas. IEEE Nanotechnology Magazine, 2019, 18, 734-746.	2.0	81
10	Workload Characterization of Programmable Metasurfaces. , 2019, , .		11
11	Exploration of Intercell Wireless Millimeter-Wave Communication in the Landscape of Intelligent Metasurfaces. IEEE Access, 2019, 7, 122931-122948.	4.2	41
12	Tunable Active Inductor-Based Second-Order All-Pass Filter as a Time Delay Cell for Multi-GHz Operation. Circuits, Systems, and Signal Processing, 2019, 38, 3644-3660.	2.0	15
13	Fault Tolerance in Programmable Metasurfaces: The Beam Steering Case. , 2019, , .		12
14	A Design-Oriented Characterization Framework for Decentralized, Distributed, Autonomous Systems: The Nano-Satellite Swarm Case. , 2019, , .		2
15	Reprogrammable Graphene-based Metasurface Mirror with Adaptive Focal Point for THz Imaging. Scientific Reports, 2019, 9, 2868.	3.3	68
16	Architecting Optimized Spaceborne Earth Observation Missions. , 2019, , .		0
17	Design Guidelines for General-Purpose Payload-Oriented Nanosatellite Software Architectures. Journal of Aerospace Information Systems, 2018, 15, 107-119.	1.4	7
18	OrthoNoC: A Broadcast-Oriented Dual-Plane Wireless Network-on-Chip Architecture. IEEE Transactions on Parallel and Distributed Systems, 2018, 29, 628-641.	5.6	39

#	ARTICLE	IF	CITATIONS
19	Applying autonomy to distributed satellite systems: Trends, challenges, and future prospects. <i>Systems Engineering</i> , 2018, 21, 401-416.	2.7	34
20	Millimeter-Wave Propagation within a Computer Chip Package. , 2018, , .		8
21	The Molecular Communications Markup Language (MolComML). <i>Nano Communication Networks</i> , 2018, 16, 12-25.	2.9	4
22	Channel Characterization for Chip-scale Wireless Communications within Computing Packages. , 2018, , .		11
23	Analysis of a Plasmonic Graphene Antenna for Microelectronic Applications. , 2018, , .		0
24	A General, Fault tolerant, Adaptive, Deadlock-free Routing Protocol for Network-on-chip. , 2018, , .		6
25	Design and Optimization of a Polar Satellite Mission to Complement the Copernicus System. <i>IEEE Access</i> , 2018, 6, 34777-34789.	4.2	18
26	Lifetime Improvement of a Multiple Transmitter Local Drug Delivery System Based on Diffusive Molecular Communication. <i>IEEE Transactions on Nanobioscience</i> , 2018, 17, 352-360.	3.3	21
27	Medium Access Control in Wireless Network-on-Chip: A Context Analysis. , 2018, 56, 172-178.		52
28	Reconfigurable THz Plasmonic Antenna Based on Few-Layer Graphene with High Radiation Efficiency. <i>Nanomaterials</i> , 2018, 8, 577.	4.1	30
29	A Comprehensive Method to Taxonomize Mechanical Energy Harvesting Technologies. , 2018, , .		7
30	Intercell Wireless Communication in Software-defined Metasurfaces. , 2018, , .		28
31	MAC-oriented programmable terahertz PHY via graphene-based Yagi-Uda antennas. , 2018, , .		8
32	Computing and Communications for the Software-Defined Metamaterial Paradigm: A Context Analysis. <i>IEEE Access</i> , 2017, 5, 6225-6235.	4.2	62
33	Influence of neighboring absorbing receivers upon the inter-symbol interference in a diffusion-based molecular communication system. <i>Nano Communication Networks</i> , 2017, 14, 40-47.	2.9	17
34	Study of hybrid and pure plasmonic terahertz antennas based on graphene guided-wave structures. <i>Nano Communication Networks</i> , 2017, 12, 34-42.	2.9	19
35	Fundamentals of Graphene-Enabled Wireless On-Chip Networking. <i>Modeling and Optimization in Science and Technologies</i> , 2017, , 293-317.	0.7	1
36	Steady-State Analysis of Isolated Class-E <sup>2</sup> Converter Outside Nominal Operation. <i>IEEE Transactions on Industrial Electronics</i> , 2017, 64, 3227-3238.	7.9	34

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37	Releasing rate optimization in a single and multiple transmitter local drug delivery system with limited resources. Nano Communication Networks, 2017, 11, 114-122.	2.9	21
38	Graphene-Based terahertz antennas for area-constrained applications. , 2017, , .		27
39	Enhanced Intrinsic Voltage Gain in Artificially Stacked Bilayer CVD Graphene Field Effect Transistors. Annalen Der Physik, 2017, 529, 1700106.	2.4	2
40	<sup>3</sup>Cat-1 project: a multi-payload CubeSat for scientific experiments and technology demonstrators. European Journal of Remote Sensing, 2017, 50, 125-136.	3.5	7
41	Material-Dependencies of the THz emission from plasmonic graphene-based photoconductive antenna structures. , 2017, , .		2
42	A PLL control for self-tuning of parallel wireless power transfer receivers utilizing switch-mode gyrator emulated inductors. , 2017, , .		2
43	Switch-mode gyrator-based emulated inductor enabling self-tunability in WPT receivers. , 2017, , .		2
44	A Graphene Based Plasmonic Antenna Design for Communication in the THz Regime. , 2017, , .		1
45	Doubleâ€frequency buck converter as a candidate topology for integrated envelope elimination and restoration applications in power supply of RFPAs. International Journal of Circuit Theory and Applications, 2016, 44, 1156-1172.	2.0	2
46	Outputâ€capacitorless segmented lowâ€dropout voltage regulator with controlled pass transistors. International Journal of Circuit Theory and Applications, 2016, 44, 460-475.	2.0	16
47	Tunable switch-mode emulated inductive elements for enhanced power converter miniaturization. , 2016, , .		2
48	On tunable switch-mode reactive networks: A gyrator-based resonator emulation. , 2016, , .		2
49	Multipath relaying effects in multiple-node resonant inductive coupling wireless power transfer. Wireless Power Transfer, 2016, 3, 83-92.	1.1	1
50	Improved voltage gain in mechanically stacked bilayer graphene field effect transistors. , 2016, , .		0
51	Optimal Deployment of Multiple Transmitter Drug Delivery System. , 2016, , .		2
52	Pulse interspersing in static multipath chip environments for Impulse Radio communications. Nano Communication Networks, 2016, 9, 1-6.	2.9	0
53	Surveying of Pure and Hybrid Plasmonic Structures Based on Graphene for Terahertz Antenna. , 2016, , .		3
54	A MAC protocol for Reliable Broadcast Communications in Wireless Network-on-Chip. , 2016, , .		13

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55	MolComML, 2016, , .		4
56	Characterization and modeling of multicast communication in cache-coherent manycore processors. Computers and Electrical Engineering, 2016, 51, 168-183.	4.8	15
57	Scalability of Broadcast Performance in Wireless Network-on-Chip. IEEE Transactions on Parallel and Distributed Systems, 2016, 27, 3631-3645.	5.6	38
58	Active inductor-based tunable impedance matching network for RF power amplifier application. The Integration VLSI Journal, 2016, 52, 301-308.	2.1	25
59	WiSync. Operating Systems Review (ACM), 2016, 50, 3-17.	1.9	0
60	Control of limit cycle oscillations in a multiple-sampled digitally controlled buck converter. International Journal of Circuit Theory and Applications, 2015, 43, 691-708.	2.0	9
61	Analytical design for resonant inductive coupling wireless power transfer system with class-E inverter and class-DE rectifier. , 2015, , .		7
62	Broadcast-Enabled Massive Multicore Architectures: A Wireless RF Approach. IEEE Micro, 2015, 35, 52-61.	1.8	33
63	Time-Domain Analysis of Graphene-Based Miniaturized Antennas for Ultra-Short-Range Impulse Radio Communications. IEEE Transactions on Communications, 2015, 63, 1470-1482.	7.8	51
64	Use of Terahertz Photoconductive Sources to Characterize Tunable Graphene RF Plasmonic Antennas. IEEE Nanotechnology Magazine, 2015, 14, 390-396.	2.0	56
65	Time- and Frequency-Domain Analysis of Molecular Absorption in Short-Range Terahertz Communications. IEEE Antennas and Wireless Propagation Letters, 2015, 14, 350-353.	4.0	18
66	A Vertical Methodology for the Design Space Exploration of Graphene-enabled Wireless Communications. , 2015, , .		1
67	Optimization of a Compact $S_{11}$ Model for Graphene FETs: Extending Parameter Scalability for Circuit Design Exploration. IEEE Transactions on Electron Devices, 2015, 62, 3870-3875.	3.0	11
68	Design exploration of graphene-FET based ring-oscillator circuits: A test-bench for large-signal compact models. , 2015, , .		6
69	Scalability Analysis of SIMO Non-Radiative Resonant Wireless Power Transfer Systems Based on Circuit Models. IEEE Transactions on Circuits and Systems I: Regular Papers, 2015, 62, 2574-2583.	5.4	25
70	Analysis and Design of Loosely Inductive Coupled Wireless Power Transfer System Based on Class-E <sup>2</sup> DC-DC Converter for Efficiency Enhancement. IEEE Transactions on Circuits and Systems I: Regular Papers, 2015, 62, 2781-2791.	5.4	53
71	On the Area and Energy Scalability of Wireless Network-on-Chip: A Model-Based Benchmarked Design Space Exploration. IEEE/ACM Transactions on Networking, 2015, 23, 1501-1513.	3.8	38
72	Optimization of WPT efficiency using a conjugate load in non-impedance matched systems. , 2014, , .		9

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73	High slew rate current mode transconductance error amplifier for low quiescent current output-capacitorless CMOS LDO regulator. The Integration VLSI Journal, 2014, 47, 204-212.	2.1	31
74	FPGA-based design of a step-up photovoltaic array emulator for the test of PV grid-connected inverters. , 2014, , .		12
75	Low cost photovoltaic array emulator design for the test of PV grid-connected inverters. , 2014, , .		14
76	Analytical design procedure for resonant inductively coupled wireless power transfer system with class-E&lt;sup>2&lt;/sup>&lt;/sup> DC-DC converter. , 2014, , .		7
77	Advances in non-radiative resonant inductive coupling wireless Power Transfer: A comparison of alternative circuit and system models driven by emergent applications. , 2014, , .		5
78	Class E2 resonant non-radiative Wireless Power Transfer link: A design-oriented joint circuit-system co-characterization approach. , 2014, , .		5
79	N3Sim: Simulation framework for diffusion-based molecular communication nanonetworks. Simulation Modelling Practice and Theory, 2014, 42, 210-222.	3.8	53
80	Output-capacitorless CMOS LDO regulator based on high slew-rate current-mode transconductance amplifier. , 2013, , .		19
81	Graphene-enabled wireless communication for massive multicore architectures. , 2013, 51, 137-143.		128
82	Survey and Benchmark of Fully Integrated Switching Power Converters: Switched-Capacitor Versus Inductive Approach. IEEE Transactions on Power Electronics, 2013, 28, 4156-4167.	7.9	127
83	A Study on Multi-Level PWM and Asynchronous $\sigma/\Delta$ Modulations for Enhanced Bandlimited Signal Tracking in Switching Power Amplifiers. IEEE Transactions on Circuits and Systems I: Regular Papers, 2013, 60, 1621-1634.	5.4	4
84	An asynchronous finite-state-machine-based buck-boost converter for on-chip adaptive power supply. Analog Integrated Circuits and Signal Processing, 2013, 74, 227-238.	1.4	4
85	Interference analysis on Resonant Inductive Coupled Wireless Power Transfer links. , 2013, , .		5
86	Maximizing efficiency through impedance matching from a circuit-centric model of non-radiative resonant wireless power transfer. , 2013, , .		20
87	DIRECT: A model for molecular communication nanonetworks based on discrete entities. Nano Communication Networks, 2013, 4, 181-188.	2.9	66
88	Detection Techniques for Diffusion-based Molecular Communication. IEEE Journal on Selected Areas in Communications, 2013, 31, 726-734.	14.0	147
89	Analysis of limit cycles in a PI digitally controlled buck converter. , 2012, , .		9
90	A receiver architecture for pulse-based electromagnetic nanonetworks in the Terahertz Band. , 2012, , .		30

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91	Networking challenges and principles in diffusion-based molecular communication. IEEE Wireless Communications, 2012, 19, 36-41.	9.0	37
92	Fast transient response CFA-based LDO regulator. , 2012, , .		9
93	Graphene-based nano-patch antenna for terahertz radiation. Photonics and Nanostructures - Fundamentals and Applications, 2012, 10, 353-358.	2.0	331
94	Data Conversion Pulse-Width Modulators for Switch-Mode Power Converter Digital Control. , 2012, , 283-303.		0
95	Diffusion-based channel characterization in molecular nanonetworks. , 2011, , .		42
96	Fundamental Modulation Limits for Minimum Switching Frequency Inband-Error-Free High-Efficiency Power Amplifiers. IEEE Transactions on Circuits and Systems I: Regular Papers, 2011, 58, 2543-2555.	5.4	10
97	Diffusion-based physical channel identification in molecular nanonetworks. Nano Communication Networks, 2011, 2, 196-204.	2.9	124
98	Exploring the Physical Channel of Diffusion-Based Molecular Communication by Simulation. , 2011, , .		26
99	CMOS Integrated Switching Power Converters. , 2011, , .		16
100	Physical channel characterization for medium-range nanonetworks using catalytic nanomotors. Nano Communication Networks, 2010, 1, 102-107.	2.9	12
101	Translayer optimized co-design of in-space microwave based wireless power transfer. , 2010, , .		5
102	Multi-Level asynchronous &#x03A3;&#x0394; modulators for wideband switching power amplifiers. , 2010, , .		4
103	Design-oriented characterisation of adaptive asynchronous &#x03A3;&#x0394; modulation switching power amplifiers for bandlimited signals. , 2009, , .		5
104	Dynamic modeling of tunable analog integrated filters for a stability study of on-chip automatic tuning loops. Analog Integrated Circuits and Signal Processing, 2009, 61, 231-246.	1.4	3
105	Design and Roadmap Methodology for Integrated Power Modules in High Switching Frequency Synchronous Buck Voltage Regulators. , 2009, , .		6
106	Monolithic integration of a 3-level DCM-operated low-floating-capacitor buck converter for DC-DC step-down donversion in standard CMOS. Power Electronics Specialist Conference (PESC), IEEE, 2008, , .	0.0	46
107	Proximate Time-Optimal Digital Control for Synchronous Buck DC&#x2013;DC Converters. IEEE Transactions on Power Electronics, 2008, 23, 2018-2026.	7.9	172
108	Automatic dead-time adjustment CMOS mixed-signal circuit for a DCM-operated 3-level switching power converter. , 2008, , .		0

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109	Quantization noise shaping in digital PWM converters. Power Electronics Specialist Conference (PESC), IEEE, 2008, , .	0.0	24
110	Inductor-current zero-crossing detection mixed-signal CMOS circuit for a DCM-operated 3-level switching power converter. , 2008, , .		1
111	An asynchronous finite state machine controller for integrated buck-boost power converters in wideband signal-tracking applications. , 2008, , .		6
112	Modeling of Quantization Effects in Digitally Controlled DCâ€“DC Converters. IEEE Transactions on Power Electronics, 2007, 22, 208-215.	7.9	269
113	Up-to-Date Bibliography of Current-Mode Design. Analog Integrated Circuits and Signal Processing, 2004, 38, 245-262.	1.4	7
114	Band Separation and Efficiency Optimization in Linear-Assisted Switching Power Amplifiers. , 0, , .		52