Claudio E Bruschini

List of Publications by Year
in descending order

119	2,021	331670 21	289244 40
papers	citations	h-index	g-index

126	126	126	1568
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Single-photon avalanche diode imagers in biophotonics: review and outlook. Light: Science and Applications, 2019, 8, 87.	16.6	269
2	Megapixel time-gated SPAD image sensor for 2D and 3D imaging applications. Optica, 2020, 7, 346.	9.3	200
3	Ground penetrating radar and imaging metal detector for antipersonnel mine detection. Journal of Applied Geophysics, 1998, 40, 59-71.	2.1	134
4	A 512 Ã— 512 SPAD Image Sensor With Integrated Gating for Widefield FLIM. IEEE Journal of Selected Topics in Quantum Electronics, 2019, 25, 1-12.	2.9	109
5	Architecture and applications of a high resolution gated SPAD image sensor. Optics Express, 2014, 22, 17573.	3.4	94
6	Cryogenic characterization of 28 nm bulk CMOS technology for quantum computing. , 2017, , .		61
7	Dynamic range extension for photon counting arrays. Optics Express, 2018, 26, 22234.	3.4	57
8	Performance of an electromagnetic liquid krypton calorimeter based on a ribbon electrode tower structure. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 1996, 370, 413-424.	1.6	53
9	Wide-field time-gated SPAD imager for phasor-based FLIM applications. Methods and Applications in Fluorescence, 2020, 8, 024002.	2.3	50
10	Fluorescence lifetime imaging with a megapixel SPAD camera and neural network lifetime estimation. Scientific Reports, 2020, 10, 20986.	3.3	44
11	Nonuniformity Analysis of a 65-kpixel CMOS SPAD Imager. IEEE Transactions on Electron Devices, 2016, 63, 57-64.	3.0	42
12	Quantum correlation measurement with single photon avalanche diode arrays. Optics Express, 2019, 27, 32863.	3.4	42
13	Characterization of GigaRad Total Ionizing Dose and Annealing Effects on 28-nm Bulk MOSFETs. IEEE Transactions on Nuclear Science, 2017, 64, 2639-2647.	2.0	41
14	Quanta burst photography. ACM Transactions on Graphics, 2020, 39, .	7.2	38
15	A Low-Noise CMOS SPAD Pixel With 12.1 Ps SPTR and 3 Ns Dead Time. IEEE Journal of Selected Topics in Quantum Electronics, 2022, 28, 1-9.	2.9	33
16	Compact solid-state CMOS single-photon detector array for in vivo NIR fluorescence lifetime oncology measurements. Biomedical Optics Express, 2016, 7, 1797.	2.9	32
17	SPAD imagers for super resolution localization microscopy enable analysis of fast fluorophore blinking. Scientific Reports, 2017, 7, 44108.	3.3	29
18	Commercial Systems for the Direct Detection of Explosives for Explosive Ordnance Disposal Tasks. Subsurface Sensing Technologies and Applications, 2001, 2, 299-336.	0.9	26

#	Article	IF	Citations
19	Resolving the Controversy in Biexciton Binding Energy of Cesium Lead Halide Perovskite Nanocrystals through Heralded Single-Particle Spectroscopy. ACS Nano, 2021, 15, 19581-19587.	14.6	26
20	EndoTOFPET-US: a novel multimodal tool for endoscopy and positron emission tomography. Journal of Instrumentation, 2013, 8, C04002-C04002.	1.2	25
21	LinoSPAD: A Compact Linear SPAD Camera System with 64 FPGA-Based TDC Modules for Versatile 50 ps Resolution Time-Resolved Imaging. Instruments, 2017, 1, 6.	1.8	23
22	Combining endoscopic ultrasound with Time-Of-Flight PET: The EndoTOFPET-US Project. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2013, 732, 577-580.	1.6	22
23	Photon-Counting Arrays for Time-Resolved Imaging. Sensors, 2016, 16, 1005.	3.8	22
24	Ten years of biophotonics single-photon SPAD imager applications: retrospective and outlook. Proceedings of SPIE, 2017, , .	0.8	21
25	Engineering Breakdown Probability Profile for PDP and DCR Optimization in a SPAD Fabricated in a Standard 55 nm BCD Process. IEEE Journal of Selected Topics in Quantum Electronics, 2022, 28, 1-10.	2.9	21
26	Widefield High Frame Rate Single-Photon SPAD Imagers for SPIM-FCS. Biophysical Journal, 2018, 114, 2455-2464.	0.5	20
27	Heralded Spectroscopy Reveals Excitonâ€“Exciton Correlations in Single Colloidal Quantum Dots. Nano Letters, 2021, 21, 6756-6763.	9.1	19
28	SPADnet: Embedded coincidence in a smart sensor network for PET applications. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2014, 734, 122-126.	1.6	17
29	3D-Stacked CMOS SPAD Image Sensors: Technology and Applications. , 2018, , .		17
30	EMG pattern recognition using decomposition techniques for constructing multiclass classifiers. , 2016, , .		15
31	In vitro and in vivo NIR fluorescence lifetime imaging with a time-gated SPAD camera. Optica, 2022, 9, 532.	9.3	15
32	Sub-10 ps Minimum Ionizing Particle Detection With Geiger-Mode APDs. Frontiers in Physics, 2022, 10, .	2.1	15
33	On the low-frequency EMI response of coincident loops over a conductive and permeable soil and corresponding background reduction schemes. IEEE Transactions on Geoscience and Remote Sensing, 2004, 42, 1706-1719.	6.3	14
34	Sensor network architecture for a fully digital and scalable SPAD based PET system. , 2012, , .		14
35	Endo-TOFPET-US: A multimodal ultrasonic probe featuring time of flight PET in diagnostic and therapeutic endoscopy. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2013, 718, 121-125.	1.6	14
36	Single-Photon, Time-Gated, Phasor-Based Fluorescence Lifetime Imaging through Highly Scattering Medium. ACS Photonics, 2020, 7, 68-79.	6.6	14

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37	WA92: a fixed target experiment to trigger on and identify beauty particle decays. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 1996, 379, 252-270.	1.6	13
38	Study of charm correlations in Ï€âˆ’N interactions at GeV. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 1995, 348, 256-262.	4.1	12
39	LinoSPAD: a time-resolved 256Ã—1 CMOS SPAD line sensor system featuring 64 FPGA-based TDC channels running at up to 8.5 giga-events per second. Proceedings of SPIE, 2016, , .	0.8	12
40	Impact of GigaRad Ionizing Dose on 28 nm bulk MOSFETs for future HL-LHC. , 2016, , .		11
41	Total ionizing dose effects on analog performance of 28 nm bulk MOSFETs. , 2017, , .		11
42	First Near-Ultraviolet- and Blue-Enhanced Backside-Illuminated Single-Photon Avalanche Diode Based on Standard SOI CMOS Technology. IEEE Journal of Selected Topics in Quantum Electronics, 2019, 25, 1-6.	2.9	11
43	Multi-modal Sensory Feedback System for Upper Limb Amputees. , 2017, , .		10
44	A Bit Too Much? High Speed Imaging from Sparse Photon Counts. , 2019, , .		10
45	The beauty contiguity trigger of the BEATRICE experiment: detector, readout and processor overview. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 1994, 337, 280-294.	1.6	9
46	A study of kinematical correlations between charmed particles produced in Ï€-Cu interactions at GeV. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 1996, 385, 487-492.	4.1	9
47	Search for the decay D0 â†' Î¼+Î¼â^'. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 1995, 353, 563-570.	4.1	8
48	Results from an on-line non-leptonic neural trigger implemented in an experiment looking for beauty. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 1995, 361, 506-518.	1.6	8
49	Measurement of the beauty production cross section in 350 GeV / c Ï€-Cu interactions. Nuclear Physics B, 1998, 519, 19-36.	2.5	8
50	Light Extraction Enhancement Techniques for Inorganic Scintillators. Crystals, 2021, 11, 362.	2.2	8
51	Single-photon avalanche diode imaging sensor for subsurface fluorescence LiDAR. Optica, 2021, 8, 1126.	9.3	8
52	Optical-stack optimization for improved SPAD photon detection efficiency. , 2019, , .		8
53	First characterization of the SPADnet sensor: a digital silicon photomultiplier for PET applications. Journal of Instrumentation, 2013, 8, C12026-C12026.	1.2	7
54	Towards Quantum 3D Imaging Devices. Applied Sciences (Switzerland), 2021, 11, 6414.	2.5	7

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55	Theoretical minimum uncertainty of single-molecule localizations using a single-photon avalanche diode array. Optics Express, 2021, 29, 39920.	3.4	7
56	WA92: A fixed target experiment to study beauty in hadronic interactions. Nuclear Physics, Section B, Proceedings Supplements, 1992, 27, 251-256.	0.4	6
57	EndoTOFPET-US a novel multimodal tool for endoscopy and Positron Emission Tomography. , 2012, , .		6
58	A 65k pixel, 150k frames-per-second camera with global gating and micro-lenses suitable for fluorescence lifetime imaging. Proceedings of SPIE, 2014, 9141, .	0.8	6
59	Fundamentals of a scalable network in SPADnet-based PET systems. , 2015, , .		6
60	Guard-Ring-Free InGaAs/InP Single-Photon Avalanche Diode Based on a Novel One-Step Zn-Diffusion Technique. IEEE Journal of Selected Topics in Quantum Electronics, 2022, 28, 1-9.	2.9	6
61	A 500 Ã— 500 Dual-Gate SPAD Imager With 100% Temporal Aperture and 1 ns Minimum Gate Length for FLIM and Phasor Imaging Applications. IEEE Transactions on Electron Devices, 2022, 69, 2865-2872.	3.0	6
62	SPADs for quantum random number generators and beyond. , 2014, , .		5
63	Fluorescence lifetime imaging to differentiate bound from unbound ICG-cRGD bothin vitroandin vivo. Proceedings of SPIE, 2015, , .	0.8	5
64	GigaRad total ionizing dose and post-irradiation effects on 28 nm bulk MOSFETs. , 2016, , .		5
65	Monolithic SPAD Arrays for High-Performance, Time-Resolved Single-Photon Imaging. , 2018, , .		5
66	Time Domain NIRS Optode based on Null/Small Source-Detector Distance for Wearable Applications. , 2019, , .		5
67	Phasor-based widefield FLIM using a gated 512Ã—512 single-photon SPAD imager. , 2019, 10882, .		5
68	CMOS 3D-Stacked FSI Multi-Channel Digital SiPM for Time-of-Flight PET Applications. , 2020, , .		5
69	A secondary-vertex trigger for a beauty search: results from the WA92 experiment. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 1994, 351, 225-227.	1.6	4
70	The use of a decay detector in the search for beauty decays in the WA92 experiment. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 1994, 351, 222-224.	1.6	4
71	Results from the WA92 experiment. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 1995, 368, 185-191.	1.6	4
72	Results from a MA16-based neural trigger in an experiment looking for beauty. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 1996, 376, 411-419.	1.6	4

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73	Phase-angle-based EMI object discrimination and analysis of data from a commercial differential two-frequency system. , 2000, 4038, 1404.		4
74	Characterization of large-scale non-uniformities in a 20k TDC/SPAD array integrated in a 130nm CMOS process. , 2011, , .		4
75	Distributed coincidence detection for multi-ring based PET systems. , 2014, , .		4
76	Development of EndoTOFPET-US, a multi-modal endoscope for ultrasound and time of flight positron emission tomography. Journal of Instrumentation, 2014, 9, C02002-C02002.	1.2	4
77	EndoTOFPET-US â€“ A Miniaturised Calorimeter for Endoscopic Time-of-Flight Positron Emission Tomography. Journal of Physics: Conference Series, 2015, 587, 012068.	0.4	4
78	Megapixel time-gated SPAD image sensor for scientific imaging applications. , 2021, , .		4
79	RESULTS FROM A NEURAL TRIGGER BASED ON THE MA16 MICROPROCESSOR. International Journal of Modern Physics C, 1995, 06, 567-572.	1.7	3
80	A handheld Î²⁺ probe for intra-operative detection of radiotracers. , 2011, , .		3
81	Analyzing blinking effects in super resolution localization microscopy with single-photon SPAD imagers. , 2016, , .		3
82	Light Extraction Enhancement in Scintillation Crystals Using Thin Film Coatings. , 2018, , .		3
83	A time-gated large-array SPAD camera for picosecond resolution real-time FLIM (Conference) Tj ETQq1 1 0.784314 rgBT /Overlock 10		3
84	SPADnet: A fully digital, networked approach to MRI compatible PET systems based on deep-submicron CMOS technology. , 2013, , .		2
85	SPADnet: a fully digital, scalable, and networked photonic component for time-of-flight PET applications. , 2014, , .		2
86	EndoTOFPET-US: Multi-modal endoscope for Ultrasound and Time of Flight PET. , 2014, , .		2
87	SPADnet network modeling, simulation and emulation. , 2014, , .		2
88	CMOS-Based Single-Photon Detectors: Technology and Applications. , 2018, , .		2
89	A Sensor Network Architecture for Digital SiPM-Based PET Systems. IEEE Transactions on Radiation and Plasma Medical Sciences, 2018, 2, 574-587.	3.7	2
90	Automatic hand phantom map generation and detection using decomposition support vector machines. BioMedical Engineering OnLine, 2018, 17, 74.	2.7	2

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91	Fluorescence lifetime imaging with a single-photon SPAD array using long overlapping gates: an experimental and theoretical study. , 2019, 10882, .		2
92	First results from the parallelisation of CERN's NA48 simulation program. , 1994, , 371-376.		1
93	A Handheld Intra-Operative Î²+ Sensing System. Procedia Engineering, 2011, 25, 988-991.	1.2	1
94	A handheld probe for β⁺-emitting radiotracer detection in surgery, biopsy and medical diagnostics based on Silicon Photomultipliers. , 2011, , .		1
95	Compact imaging system with single-photon sensitivity and picosecond time resolution for fluorescence-guided surgery with lifetime imaging capability. , 2013, , .		1
96	Time-resolved imaging system for fluorescence-guided surgery with lifetime imaging capability. Proceedings of SPIE, 2014, , .	0.8	1
97	Automatic hand phantom map detection methods. , 2015, , .		1
98	Towards 10ps SPTR and Ultra-Low DCR in SiPMs Through the Combination of Microlenses and Photonic Crystals. , 2017, , .		1
99	Imaging free and bound NADH towards cancer tissue detection using FLIM system based on SPAD array. , 2017, , .		1
100	A Compact Probe for Î²+-Emitting Radiotracer Detection in Surgery, Biopsy and Medical Diagnostics based on Silicon Photomultipliers. , 2011, , .		1
101	The Beauty Contiguity Trigger of the BEATRICE experiment. , 0, , .		0
102	Application of neural microprocessors to high-energy physics experiments. , 1994, , .		0
103	AN ON-LINE NON-LEPTONIC NEURAL TRIGGER APPLIED TO AN EXPERIMENT LOOKING FOR BEAUTY. International Journal of Modern Physics C, 1994, 05, 863-870.	1.7	0
104	Trigger for the WA92 fixed-target beauty experiment. Nuclear Physics, Section B, Proceedings Supplements, 1995, 44, 435-440.	0.4	0
105	Achievements and bottlenecks in humanitarian demining EU-funded research: final results from the EC DELVE project. , 2008, , .		0
106	Updates from the SPADnet project (fully digital, scalable and networked photonic component for) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50	2.7	0
107	Fluorescence lifetime imaging using a single photon avalanche diode array sensor (Conference) Tj ETQq1 1 0.784314 rgBT /Overlock		0
108	Tradeoffs in Cherenkov Detection for Positron Emission Tomography. , 2018, , .		0

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109	Towards quantum 3D imaging devices. , 2021, , .		0
110	Random flip-flop: adding quantum randomness to digital circuits for improved cyber security, artificial intelligence and more. , 2021, , .		0
111	EUDEM2: Overview and some early findings. , 2004, , 201-208.		0
112	A Disdrometer based on ultra-fast SPAD Cameras. , 2011, , .		0
113	Applications of a reconfigurable SPAD line imager (Conference Presentation). , 2018, , .		0
114	High-dynamic-range imaging with photon-counting arrays (Conference Presentation). , 2019, , .		0
115	Quantum imaging with SPAD arrays (Conference Presentation). , 2020, , .		0
116	Light Extraction Enhancement Techniques for Inorganic Scintillators. , 2020, , .		0
117	NIR fluorescence lifetime macroscopic imaging with a time-gated SPAD camera. , 2022, , .		0
118	SPAD array technology enables fluctuation-contrast super-resolution in a confocal microscope. , 2021, , .		0
119	Characterization of a large Gated SPAD camera for in vivo Macroscopic Fluorescence Lifetime Imaging. , 2022, , .		0