Claudio E Bruschini

List of Publications by Year
in descending order

119 papers	2,021 citations	331670 21 h-index	289244 40 g-index
126 all docs	126 docs citations	126 times ranked	1568 citing authors

#	Article	IF	Citations
1	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
2	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
3	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
4	NIR fluorescence lifetime macroscopic imaging with a time-gated SPAD camera. , 2022, , .		0
5	In vitro and in vivo NIR fluorescence lifetime imaging with a time-gated SPAD camera. Optica, 2022, 9, 532.	9.3	15
6	Sub-10 ps Minimum Ionizing Particle Detection With Geiger-Mode APDs. Frontiers in Physics, 2022, 10, .	2.1	15
7	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
8	Characterization of a large Gated SPAD camera for in vivo Macroscopic Fluorescence Lifetime Imaging. , 2022, , .		0
9	Light Extraction Enhancement Techniques for Inorganic Scintillators. Crystals, 2021, 11, 362.	2.2	8
10	Megapixel time-gated SPAD image sensor for scientific imaging applications. , 2021, , .		4
11	Towards quantum 3D imaging devices. , 2021, , .		0
12	Towards Quantum 3D Imaging Devices. Applied Sciences (Switzerland), 2021, 11, 6414.	2.5	7
13	Heralded Spectroscopy Reveals Excitonâ€"Exciton Correlations in Single Colloidal Quantum Dots. Nano Letters, 2021, 21, 6756-6763.	9.1	19
14	Single-photon avalanche diode imaging sensor for subsurface fluorescence LiDAR. Optica, 2021, 8, 1126.	9.3	8
15	Random flip-flop: adding quantum randomness to digital circuits for improved cyber security, artificial intelligence and more. , 2021, , .		0
16	Theoretical minimum uncertainty of single-molecule localizations using a single-photon avalanche diode array. Optics Express, 2021, 29, 39920.	3.4	7
17	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
18	SPAD array technology enables fluctuation-contrast super-resolution in a confocal microscope. , 2021, , .		0

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19	Single-Photon, Time-Gated, Phasor-Based Fluorescence Lifetime Imaging through Highly Scattering Medium. ACS Photonics, 2020, 7, 68-79.	6.6	14
20	Fluorescence lifetime imaging with a megapixel SPAD camera and neural network lifetime estimation. Scientific Reports, 2020, 10, 20986.	3.3	44
21	Wide-field time-gated SPAD imager for phasor-based FLIM applications. Methods and Applications in Fluorescence, 2020, 8, 024002.	2.3	50
22	Quanta burst photography. ACM Transactions on Graphics, 2020, 39, .	7.2	38
23	Megapixel time-gated SPAD image sensor for 2D and 3D imaging applications. Optica, 2020, 7, 346.	9.3	200
24	Quantum imaging with SPAD arrays (Conference Presentation). , 2020, , .		0
25	Light Extraction Enhancement Techniques for Inorganic Scintillators. , 2020, , .		0
26	CMOS 3D-Stacked FSI Multi-Channel Digital SiPM for Time-of-Flight PET Applications. , 2020, , .		5
27	A Bit Too Much? High Speed Imaging from Sparse Photon Counts. , 2019, , .		10
28	Time Domain NIRS Optode based on Null/Small Source-Detector Distance for Wearable Applications. , 2019, , .		5
29	Single-photon avalanche diode imagers in biophotonics: review and outlook. Light: Science and Applications, 2019, 8, 87.	16.6	269
30	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
31	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
32	Phasor-based widefield FLIM using a gated 512Ã—512 single-photon SPAD imager. , 2019, 10882, .		5
33	Fluorescence lifetime imaging with a single-photon SPAD array using long overlapping gates: an experimental and theoretical study. , 2019, 10882, .		2
34	Optical-stack optimization for improved SPAD photon detection efficiency. , 2019, , .		8
35	Quantum correlation measurement with single photon avalanche diode arrays. Optics Express, 2019, 27, 32863.	3.4	42
36	High-dynamic-range imaging with photon-counting arrays (Conference Presentation). , 2019, , .		0

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37	3D-Stacked CMOS SPAD Image Sensors: Technology and Applications. , 2018, , .		17
38	Tradeoffs in Cherenkov Detection for Positron Emission Tomography. , 2018, , .		0
39	CMOS-Based Single-Photon Detectors: Technology and Applications. , 2018, , .		2
40	Light Extraction Enhancement in Scintillation Crystals Using Thin Film Coatings. , 2018, , .		3
41	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
42	Monolithic SPAD Arrays for High-Performance, Time-Resolved Single-Photon Imaging. , 2018, , .		5
43	Widefield High Frame Rate Single-Photon SPAD Imagers for SPIM-FCS. Biophysical Journal, 2018, 114, 2455-2464.	0.5	20
44	Automatic hand phantom map generation and detection using decomposition support vector machines. BioMedical Engineering OnLine, 2018, 17, 74.	2.7	2
45	Dynamic range extension for photon counting arrays. Optics Express, 2018, 26, 22234.	3.4	57
46	A time-gated large-array SPAD camera for picosecond resolution real-time FLIM (Conference) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 382 T		3
47	Applications of a reconfigurable SPAD line imager (Conference Presentation). , 2018, , .		0
48	Ten years of biophotonics single-photon SPAD imager applications: retrospective and outlook. Proceedings of SPIE, 2017, , .	0.8	21
49	Fluorescence lifetime imaging using a single photon avalanche diode array sensor (Conference) Tj ETQq1 1 0.784314 rgBT /Overlock 10		0
50	SPAD imagers for super resolution localization microscopy enable analysis of fast fluorophore blinking. Scientific Reports, 2017, 7, 44108.	3.3	29
51	Cryogenic characterization of 28 nm bulk CMOS technology for quantum computing. , 2017, , .		61
52	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
53	Total ionizing dose effects on analog performance of 28 nm bulk MOSFETs. , 2017, , .		11
54	Multi-modal Sensory Feedback System for Upper Limb Amputees. , 2017, , .		10

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55	Towards 10ps SPTR and Ultra-Low DCR in SiPMs Through the Combination of Microlenses and Photonic Crystals. , 2017, , .		1
56	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
57	Imaging free and bound NADH towards cancer tissue detection using FLIM system based on SPAD array. , 2017, , .		1
58	Photon-Counting Arrays for Time-Resolved Imaging. Sensors, 2016, 16, 1005.	3.8	22
59	GigaRad total ionizing dose and post-irradiation effects on 28 nm bulk MOSFETs. , 2016, , .		5
60	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
61	EMG pattern recognition using decomposition techniques for constructing multiclass classifiers. , 2016, , .		15
62	Impact of GigaRad Ionizing Dose on 28 nm bulk MOSFETs for future HL-LHC. , 2016, , .		11
63	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
64	Analyzing blinking effects in super resolution localization microscopy with single-photon SPAD imagers. , 2016, , .		3
65	Nonuniformity Analysis of a 65-kpixel CMOS SPAD Imager. IEEE Transactions on Electron Devices, 2016, 63, 57-64.	3.0	42
66	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
67	Fundamentals of a scalable network in SPADnet-based PET systems. , 2015, , .		6
68	Fluorescence lifetime imaging to differentiate bound from unbound ICG-cRGD both<i>in vitro</i>and<i>in vivo</i>. Proceedings of SPIE, 2015, , .	0.8	5
69	Automatic hand phantom map detection methods. , 2015, , .		1
70	SPADnet: a fully digital, scalable, and networked photonic component for time-of-flight PET applications. , 2014, , .		2
71	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
72	Time-resolved imaging system for fluorescence-guided surgery with lifetime imaging capability. Proceedings of SPIE, 2014, , .	0.8	1

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73	Distributed coincidence detection for multi-ring based PET systems. , 2014, , .		4
74	Architecture and applications of a high resolution gated SPAD image sensor. Optics Express, 2014, 22, 17573.	3.4	94
75	SPADs for quantum random number generators and beyond. , 2014, , .		5
76	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
77	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
78	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
79	EndoTOFPET-US: Multi-modal endoscope for Ultrasound and Time of Flight PET. , 2014, , .		2
80	SPADnet network modeling, simulation and emulation. , 2014, , .		2
81	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
82	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
83	First characterization of the SPADnet sensor: a digital silicon photomultiplier for PET applications. Journal of Instrumentation, 2013, 8, C12026-C12026.	1.2	7
84	SPADnet: A fully digital, networked approach to MRI compatible PET systems based on deep-submicron CMOS technology. , 2013, , .		2
85	EndoTOFPET-US: a novel multimodal tool for endoscopy and positron emission tomography. Journal of Instrumentation, 2013, 8, C04002-C04002.	1.2	25
86	Compact imaging system with single-photon sensitivity and picosecond time resolution for fluorescence-guided surgery with lifetime imaging capability. , 2013, , .		1
87	Sensor network architecture for a fully digital and scalable SPAD based PET system. , 2012, , .		14
88	EndoTOFPET-US a novel multimodal tool for endoscopy and Positron Emission Tomography. , 2012, , .		6
89	A Handheld Intra-Operative Î2+ Sensing System. Procedia Engineering, 2011, 25, 988-991.	1.2	1
90	A handheld probe for β⁺-emitting radiotracer detection in surgery, biopsy and medical diagnostics based on Silicon Photomultipliers. , 2011, , .		1

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91	A handheld Î² ⁺ probe for intra-operative detection of radiotracers. , 2011, , .		3
92	Characterization of large-scale non-uniformities in a 20k TDC/SPAD array integrated in a 130nm CMOS process. , 2011, , .		4
93	A Disdrometer based on ultra-fast SPAD Cameras. , 2011, , .		0
94	A Compact Probe for Î²+-Emitting Radiotracer Detection in Surgery, Biopsy and Medical Diagnostics based on Silicon Photomultipliers. , 2011, , .		1
95	Achievements and bottlenecks in humanitarian demining EU-funded research: final results from the EC DELVE project. , 2008, , .		0
96	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
97	EUDEM2: Overview and some early findings. , 2004, , 201-208.		0
98	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
99	Phase-angle-based EMI object discrimination and analysis of data from a commercial differential two-frequency system. , 2000, 4038, 1404.		4
100	Ground penetrating radar and imaging metal detector for antipersonnel mine detection. Journal of Applied Geophysics, 1998, 40, 59-71.	2.1	134
101	Measurement of the beauty production cross section in 350 GeV / c Ï€-Cu interactions. Nuclear Physics B, 1998, 519, 19-36.	2.5	8
102	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
103	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
104	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
105	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
106	Trigger for the WA92 fixed-target beauty experiment. Nuclear Physics, Section B, Proceedings Supplements, 1995, 44, 435-440.	0.4	0
107	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
108	Search for the decay D0 â†’ Î¼+Î¼âˆ’. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 1995, 353, 563-570.	4.1	8

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109	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
110	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
111	RESULTS FROM A NEURAL TRIGGER BASED ON THE MA16 MICROPROCESSOR. International Journal of Modern Physics C, 1995, 06, 567-572.	1.7	3
112	Application of neural microprocessors to high-energy physics experiments. , 1994, , .		0
113	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
114	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
115	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
116	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
117	First results from the parallelisation of CERN's NA48 simulation program. , 1994, , 371-376.		1
118	WA92: A fixed target experiment to study beauty in hadronic interactions. Nuclear Physics, Section B, Proceedings Supplements, 1992, 27, 251-256.	0.4	6
119	The Beauty Contiguity Trigger of the BEATRICE experiment. , 0, , .		0