Juan José Vaquero

List of Publications by Year in descending order

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201674 223800 2,995 166 27 46 citations g-index h-index papers 168 168 168 3870 docs citations citing authors all docs times ranked

#	Article	IF	CITATIONS
1	Applying watershed algorithms to the segmentation of clustered nuclei., 1998, 28, 289-297.		370
2	Positron Emission Tomography: Current Challenges and Opportunities for Technological Advances in Clinical and Preclinical Imaging Systems. Annual Review of Biomedical Engineering, 2015, 17, 385-414.	12.3	230
3	Depth identification accuracy of a three layer phoswich PET detector module. IEEE Transactions on Nuclear Science, 1999, 46, 485-490.	2.0	229
4	NEMA NU 4-2008 Comparison of Preclinical PET Imaging Systems. Journal of Nuclear Medicine, 2012, 53, 1300-1309.	5.0	191
5	Monte Carlo study of the effects of system geometry and antiscatter grids on coneâ€beam CT scatter distributions. Medical Physics, 2013, 40, 051915.	3.0	98
6	Augmented Acquisition of Cocaine Self-Administration and Altered Brain Glucose Metabolism in Adult Female but not Male Rats Exposed to a Cannabinoid Agonist during Adolescence. Neuropsychopharmacology, 2008, 33, 806-813.	5.4	82
7	Applications of Light-Sheet Microscopy in Microdevices. Frontiers in Neuroanatomy, 2019, 13, 1.	1.7	81
8	High resolution PET, SPECT and projection imaging in small animals. Computerized Medical Imaging and Graphics, 2001, 25, 79-86.	5.8	80
9	The Chemokine Receptor CXCR4 and the Metalloproteinase MT1-MMP Are Mutually Required during Melanoma Metastasis to Lungs. American Journal of Pathology, 2009, 174, 602-612.	3.8	74
10	Method for bias field correction of brain T1-weighted magnetic resonance images minimizing segmentation error. Human Brain Mapping, 2004, 22, 133-144.	3.6	65
11	Fluorescence diffuse optical tomography using the split Bregman method. Medical Physics, 2011, 38, 6275-6284.	3.0	57
12	Performance evaluation of SiPM photodetectors for PET imaging in the presence of magnetic fields. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2010, 613, 308-316.	1.6	56
13	Positron range estimations with PeneloPET. Physics in Medicine and Biology, 2013, 58, 5127-5152.	3.0	56
14	Design and performance evaluation of a coplanar multimodality scanner for rodent imaging. Physics in Medicine and Biology, 2009, 54, 5427-5441.	3.0	49
15	Assessment of a New High-Performance Small-Animal X-Ray Tomograph. IEEE Transactions on Nuclear Science, 2008, 55, 898-905.	2.0	48
16	Accuracy of CT-based attenuation correction in PET/CT bone imaging. Physics in Medicine and Biology, 2012, 57, 2477-2490.	3.0	40
17	Split operator method for fluorescence diffuse optical tomography using anisotropic diffusion regularisation with prior anatomical information. Biomedical Optics Express, 2011, 2, 2632.	2.9	38
18	Software architecture for multi-bed FDK-based reconstruction in X-ray CT scanners. Computer Methods and Programs in Biomedicine, 2012, 107, 218-232.	4.7	37

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19	PET, CT, and MR image registration of the rat brain and skull. IEEE Transactions on Nuclear Science, 2001, 48, 1440-1445.	2.0	36
20	Optimized CUBIC protocol for 3D imaging of chicken embryos at single-cell resolution. Development (Cambridge), 2017, 144, 2092-2097.	2.5	35
21	3D imaging in CUBIC-cleared mouse heart tissue: going deeper. Biomedical Optics Express, 2016, 7, 3716.	2.9	33
22	Feasibility of U-curve method to select the regularization parameter for fluorescence diffuse optical tomography in phantom and small animal studies. Optics Express, 2011, 19, 11490.	3.4	32
23	NEMA NU 4-2008 Performance Measurements of Two Commercial Small-Animal PET Scanners: ClearPET and rPET-1. IEEE Transactions on Nuclear Science, 2011, 58, 58-65.	2.0	31
24	Waking-like Brain Function in Embryos. Current Biology, 2012, 22, 852-861.	3.9	30
25	Automated Method for Small-Animal PET Image Registration with Intrinsic Validation. Molecular Imaging and Biology, 2009, 11, 107-113.	2.6	29
26	GPU-Based Fast Iterative Reconstruction of Fully 3-D PET Sinograms. IEEE Transactions on Nuclear Science, 2011, 58, 2257-2263.	2.0	29
27	Unsupervised CT Lung Image Segmentation of a Mycobacterium Tuberculosis Infection Model. Scientific Reports, 2018, 8, 9802.	3.3	29
28	Chemoenzymatic radiosynthesis of 2-deoxy-2-[18F]fluoro-d-trehalose ([18F]-2-FDTre): A PET radioprobe for in vivo tracing of trehalose metabolism. Carbohydrate Research, 2019, 472, 16-22.	2.3	29
29	Application of the compressed sensing technique to selfâ€gated cardiac cine sequences in small animals. Magnetic Resonance in Medicine, 2014, 72, 369-380.	3.0	28
30	Use of Split Bregman denoising for iterative reconstruction in fluorescence diffuse optical tomography. Journal of Biomedical Optics, 2013, 18, 076016.	2.6	27
31	Tissue-Dependent and Spatially-Variant Positron Range Correction in 3D PET. IEEE Transactions on Medical Imaging, 2015, 34, 2394-2403.	8.9	27
32	Recovery and normalization of triple coincidences in PET. Medical Physics, 2015, 42, 1398-1410.	3.0	26
33	rPET Detectors Design and Data Processing. , 0, , .		24
34	Automatic tuning and matching of a small multifrequency saddle coil at 4.7 T. Magnetic Resonance in Medicine, 2004, 51, 869-873.	3.0	22
35	Detection of Visual Activation in the Rat Brain Using 2-deoxy-2-[18F]fluoro-d-glucose and Statistical Parametric Mapping (SPM). Molecular Imaging and Biology, 2009, 11, 94-99.	2.6	22
36	Real-Time Digital Timing in Positron Emission Tomography. IEEE Transactions on Nuclear Science, 2008, 55, 2531-2540.	2.0	21

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37	Effects of MDMA on blood glucose levels and brain glucose metabolism. European Journal of Nuclear Medicine and Molecular Imaging, 2007, 34, 916-925.	6.4	20
38	Improving PET Quantification of Small Animal [68Ga]DOTA-Labeled PET/CT Studies by Using a CT-Based Positron Range Correction. Molecular Imaging and Biology, 2018, 20, 584-593.	2.6	20
39	New embedded digital front-end for high resolution PET scanner. IEEE Transactions on Nuclear Science, 2006, 53, 770-775.	2.0	18
40	Study of CT-based positron range correction in high resolution 3D PET imaging. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2011, 648, S172-S175.	1.6	18
41	MRI Visualization of Small Structures Using Improved Surface Coils. Magnetic Resonance Imaging, 1998, 16, 157-166.	1.8	17
42	A Novel Approach Using Transcomplementing Adenoviral Vectors for Gene Therapy of Adrenocortical Cancer. Hormone and Metabolic Research, 2002, 34, 279-287.	1.5	17
43	Positron range effects in high resolution 3D PET imaging. , 2009, , .		17
44	Features of the NIH atlas small animal PET scanner and its use with a coaxial small animal volume CT scanner. , 0 , , .		15
45	Measurement of Myocardial Wall Thickening from PET/SPECT Images: Comparison of Two Methods. Journal of Computer Assisted Tomography, 1996, 20, 473-481.	0.9	15
46	Potential use of the undersampling technique in the acquisition of nuclear magnetic resonance signals. Magnetic Resonance Materials in Physics, Biology, and Medicine, 2001, 13, 109-117.	2.0	14
47	Performance evaluation of SiPM detectors for PET imaging in the presence of magnetic fields. , 2008, , .		13
48	Monitoring the correction of glycogen storage disease type 1a in a mouse model using [18F]FDG and a dedicated animal scanner. Life Sciences, 2002, 71, 1293-1301.	4.3	12
49	Evaluation of PeneloPET Simulations of Biograph PET/CT Scanners. IEEE Transactions on Nuclear Science, 2016, 63, 1367-1374.	2.0	12
50	Sinogram bowâ€tie filtering in FBP PET reconstruction. Medical Physics, 2009, 36, 1663-1671.	3.0	11
51	Chronic Cannabinoid Administration to Periadolescent Rats Modulates the Metabolic Response to Acute Cocaine in the Adult Brain. Molecular Imaging and Biology, 2011, 13, 411-415.	2.6	11
52	Comparison of Methods to Reduce Myocardial 18F-FDG Uptake in Mice: Calcium Channel Blockers versus High-Fat Diets. PLoS ONE, 2014, 9, e107999.	2.5	11
53	Subsurface Laser Engraving Techniques for Scintillator Crystals: Methods, Applications, and Advantages. IEEE Transactions on Radiation and Plasma Medical Sciences, 2017, 1, 377-384.	3.7	11
54	Modeling the acquisition front-end in high resolution gamma-ray imaging. IEEE Transactions on Nuclear Science, 2006, 53, 1150-1155.	2.0	9

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55	A method for small-animal PET/CT alignment calibration. Physics in Medicine and Biology, 2012, 57, N199-N207.	3.0	9
56	Modification of the TASMIP x-ray spectral model for the simulation of microfocus x-ray sources. Medical Physics, 2013, 41, 011902.	3.0	9
57	Dual-exposure technique for extending the dynamic range of x-ray flat panel detectors. Physics in Medicine and Biology, 2014, 59, 421-439.	3.0	9
58	Improved quantification for local regions of interest in preclinical PET imaging. Physics in Medicine and Biology, 2015, 60, 7127-7149.	3.0	9
59	Simplified Statistical Image Reconstruction for X-ray CT With Beam-Hardening Artifact Compensation. IEEE Transactions on Medical Imaging, 2020, 39, 111-118.	8.9	9
60	PeneloPET, a Monte Carlo PET simulation toolkit based on PENELOPE: Features and Validation. , 2006, , .		8
61	Frequency selective signal extrapolation for compensation of missing data in sinograms. , 2008, , .		8
62	GPU acceleration of a fully 3D Iterative Reconstruction Software for PET using CUDA., 2009,,.		8
63	Fully 3D GPU PET reconstruction. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2011, 648, S169-S171.	1.6	8
64	Experimental validation of gallium production and isotope-dependent positron range correction in PET. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2016, 814, 110-116.	1.6	8
65	Innovations in exÂvivo Light Sheet Fluorescence Microscopy. Progress in Biophysics and Molecular Biology, 2022, 168, 37-51.	2.9	8
66	Investigation of Different Sparsity Transforms for the PICCS Algorithm in Small-Animal Respiratory Gated CT. PLoS ONE, 2015, 10, e0120140.	2.5	8
67	Improved image reconstruction in small animal PET using a priori estimates of single-pixel events. , 2007, , .		7
68	Improved dead-time correction for PET scanners: application to small-animal PET. Physics in Medicine and Biology, 2013, 58, 2059-2072.	3.0	7
69	Computed Tomography-Based Biomarker for Longitudinal Assessment of Disease Burden in Pulmonary Tuberculosis. Molecular Imaging and Biology, 2019, 21, 19-24.	2.6	7
70	Assessment of Airway Distribution of Transnasal Solutions in Mice by PET/CT Imaging. Molecular Imaging and Biology, 2009, 11, 263-268.	2.6	6
71	Massively parallelizable listâ€mode reconstruction using a Monte Carloâ€based elliptical Gaussian model. Medical Physics, 2013, 40, 012504.	3.0	6
72	MRI compatibility of position-sensitive photomultiplier depth-of-interaction PET detectors modules for in-line multimodality preclinical studies. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2013, 702, 83-87.	1.6	6

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73	Real-Time 3D PET Image with Pseudoinverse Reconstruction. Applied Sciences (Switzerland), 2020, 10, 2829.	2.5	6
74	Co-Planar PET/CT for Small Animal Imaging. , 0, , .		5
75	Statistical Reconstruction Methods in PET: Resolution Limit, Noise, Edge Artifacts and considerations for the design of better scanners. , 0, , .		5
76	ROC evaluation of statistical wavelet-based analysis of brain activation in [150]-H2O PET scans. Neurolmage, 2005, 24, 763-770.	4.2	5
77	Simulation of mechanical misalignments in a cone-beam micro-CT system. , 2008, , .		5
78	Effects of the Super Bialkali Photocathode on the Performance Characteristics of a Position-Sensitive Depth-of-Interaction PET Detector Module. IEEE Transactions on Nuclear Science, 2010, 57, 2437-2441.	2.0	5
79	Automatic Monte-Carlo Based Scatter Correction For X-ray cone-beam CT using general purpose graphic processing units (GP-GPU): A feasibility study. , 2011, , .		5
80	Approach to Assessing Myocardial Perfusion in Rats Using Static [13N]-Ammonia Images and a Small-Animal PET. Molecular Imaging and Biology, 2012, 14, 541-545.	2.6	5
81	Automatic Cardiac Self-Gating of Small-Animal PET Data. Molecular Imaging and Biology, 2016, 18, 109-116.	2.6	5
82	Surface scanning for 3D dose calculation in intraoperative electron radiation therapy. Radiation Oncology, 2018, 13, 243.	2.7	5
83	SiPM-based PE1 detector module for a		

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91	Misalignments calibration in small-animal PET scanners based on rotating planar detectors and parallel-beam geometry. Physics in Medicine and Biology, 2012, 57, 7493-7518.	3.0	4
92	Dose and scatter characteristics of a novel cone beam CT system for musculoskeletal extremities. Proceedings of SPIE, 2012, , .	0.8	4
93	X-ray-based virtual slicing of TB-infected lungs. Scientific Reports, 2019, 9, 19404.	3.3	4
94	Development of an Inverted Epifluorescence Microscope for Long-Term Monitoring of Bacteria in Multiplexed Microfluidic Devices. Sensors, 2020, 20, 4140.	3.8	4
95	Super-Iterative Image Reconstruction in PET. IEEE Transactions on Computational Imaging, 2021, 7, 248-257.	4.4	4
96	In Vivo 18F-FDG-PET Imaging in Mouse Atherosclerosis. Methods in Molecular Biology, 2015, 1339, 377-386.	0.9	4
97	High resolution image in bone biology II. Review of the literature. Medicina Oral, Patologia Oral Y Cirugia Bucal, 2008, 13, E31-5.	1.7	4
98	Performance evaluation of a new gamma imager for small animal SPECT applications. , 2007, , .		3
99	PETonCHIP: architecture of a on-chip high-resolution, fully digital positron emission tomography scanner for small Animal Imaging. , 2007, , .		3
100	Performance comparison of two commercial small animal PET scanners: ClearPETT and rPET-1T. , 2008, , .		3
101	Validation of a retrospective respiratory gating method for small-animal CT scanners. , 2008, , .		3
102	Data acquisition electronics for gamma ray emission tomography using width-modulated leading-edge discriminators. Physics in Medicine and Biology, 2010, 55, 4291-4308.	3.0	3
103	Leader-follower clustering algorithm for automatic segmentation of cardiac PET studies. , $2011, , .$		3
104	Assessment of new photosensors for fast timing applications with large scintillator detectors. , 2011, , .		3
105	PeneloPET simulations of the Biograph ToF clinical PET scanner. , 2011, , .		3
106	High-resolution dynamic cardiac MRI on small animals using reconstruction based on Split Bregman methodology. , $2011,\ldots$		3
107	Investigation of different Compressed Sensing approaches for respiratory gating in small animal CT., 2012,,.		3
108	Automatic TAC extraction from dynamic cardiac PET imaging using iterative correlation from a population template. Computer Methods and Programs in Biomedicine, 2013, 111, 308-314.	4.7	3

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109	jClustering, an Open Framework for the Development of 4D Clustering Algorithms. PLoS ONE, 2013, 8, e70797.	2.5	3
110	Simulation, development and testing of a PET detector prototype using monolithic scintillator crystals treated with the sub-surface engraving technique. , 2015 , , .		3
111	Development and validation of an open source quantification tool for DSC-MRI studies. Computers in Biology and Medicine, 2015, 58, 56-62.	7.0	3
112	Towards an informational model for tuberculosis lesion discrimination on X-ray CT images. , 2018, , .		3
113	The contribution of microfluidics to the fight against tuberculosis. Nanotechnology Reviews, 2021, 11, 40-54.	5.8	3
114	Towards high performance small animal positron emission tomography. , 0, , .		2
115	Resolution recovery in Turbo Spin Echo using segmented Half Fourier acquisition. Magnetic Resonance Imaging, 2004, 22, 369-378.	1.8	2
116	Digital timing in positron emission tomography., 2006,,.		2
117	Field of view alignment on a multimodal PET/CT scanner for small animals. , 2007, , .		2
118	PET/CT alignment for small animal scanners based on capillary detection. , 2008, , .		2
119	Use of IBASPM atlas-based automatic segmentation toolbox in pathological brains: Effect of template selection. , 2008, , .		2
120	Comparative study of two flat-panel X-ray detectors applied to small-animal imaging cone-beam micro-CT., 2008,,.		2
121	Effects of the Super Bialkali photocathode on the performance characteristics of a position-sensitive depth-of-interaction PET detector module. , 2008, , .		2
122	Design and development of a co-planar fluorescence and X-ray tomograph. , 2008, , .		2
123	Automatic quantification of histological studies in allergic asthma. Cytometry Part A: the Journal of the International Society for Analytical Cytology, 2009, 75A, 271-277.	1.5	2
124	Complete scheme for beam hardening correction in small animal computed tomography. , 2012, , .		2
125	Simulations, testing and results for the pixelation of LYSO crystals for gamma detectors using SSLE techniques. , 2014, , .		2
126	Personal dosimetry geolocalized system for radiation monitoring. , 2016, , .		2

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127	Tuberculosis Histopathology on X Ray CT. Lecture Notes in Computer Science, 2018, , 169-179.	1.3	2
128	High resolution image in bone biology I. Review of the literature. Medicina Oral, Patologia Oral Y Cirugia Bucal, 2007, 12, E454-8.	1.7	2
129	Quasi Pseudo-Inverse Reconstruction Technique for Rotating PET Scanners. , 0, , .		1
130	Normalization in 3D PET: Dependence on the Activity Distribution of the Source. , 2006, , .		1
131	Revised consistency conditions for PET data. , 2007, , .		1
132	Small-animal PET registration method with intrinsic validation designed for large datasets. , 2007, , .		1
133	Accuracy of CT-Based attenuation correction in bone imaging with PET/CT., 2007,,.		1
134	Efficient methodology for 3D statistical reconstruction of high resolution coplanar PET/CT scanner. , 2008, , .		1
135	FDOT reconstruction and setting optimization using singular value analysis with automatic thresholding. , 2009, , .		1
136	Quantification limits of iterative PET reconstruction algorithms and improved estimation of kinetic constants. , 2011 , , .		1
137	Deadtime and pile-up correction method based on the singles to coincidences ratio for PET., 2011,,.		1
138	Measurement of activity produced by low energy proton beam in metals using off-line PET imaging. , 2011, , .		1
139	Functional segmentation of dynamic PET studies: Open source implementation and validation of a leader-follower-based algorithm. Computers in Biology and Medicine, 2016, 69, 181-188.	7.0	1
140	A radiological score for the assessment of tuberculosis progression: Validation in mouse models. Tuberculosis, 2020, 121, 101918.	1.9	1
141	Awake preclinical brain PET imaging based on point sources. , 2019, , .		1
142	Correction to "Performance Characteristics Of A Compact Position-sensitive LSO Detector Module". IEEE Transactions on Medical Imaging, 1999, 18, 184-184.	8.9	0
143	Effects of Sinogram Filtering in the Quality of PET Reconstructions: Preliminary Results., 2006,,.		0
144	Influence of random, pile-up and scatter corrections in the quantification properties of small-animal PET scanners. , 2007, , .		0

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145	Fully 4D reconstruction of dynamic SPECT images based on the estimation of spatiotemporal basis coefficients directly from projection measurements. , 2008, , .		O
146	Nonlinear effect of pile-up in the quantification of a small animal PET scanner. , 2008, , .		0
147	rSPECT: A compact gamma camera based SPECT system for small-animal imaging. , 2009, , .		0
148	Automated dual-exposure technique to extend the dynamic range of flat-panel detectors used in small-animal cone-beam micro-CT., 2009, , .		0
149	Multipurpose Monte Carlo simulator for photon transport in turbid media., 2009,,.		0
150	Performance Evaluation of SiPM Photosensors in the Presence of Magnetic Fields. AIP Conference Proceedings, 2010, , .	0.4	0
151	Iterative automatic segmentation in cardiac PET based on TAC correlation: Preliminary results. , 2010, ,		0
152	Production of positron-gamma emitters for multiplexed PET (mPET) imaging. , 2013, , .		0
153	PeneloPET study of the biograph PET scanner. , 2013, , .		0
154	Novel 4D image reconstruction for dynamic X-ray computed tomography in slow rotating scanners. , 2014, , .		0
155	Development of a mouse lung phantom of infectious diseases for Micro-CT. , 2015, , .		0
156	Geometric calibration workflow for high resolution cone beam micro-computed tomography. , 2015, , .		0
157	Highly multiplexed DOI PET detector based on SiPM sensors. , 2015, , .		0
158	Fluorescence multi-scale endoscopy and its applications in the study and diagnosis of gastro-intestinal diseases: set-up design and software implementation. Proceedings of SPIE, 2015, , .	0.8	0
159	Investigation of factors affecting a potential worldwide network of medical PET scanners to monitor the decay rate of Lu-176 and detect global radiation events. , 2016, , .		0
160	Dynamic PET reconstruction using the split bregman formulation. , 2016, , .		0
161	Design and development of a wireless infrared EEG recorder for chicken embryos., 2016,,.		0
162	Applications of sub-surface laser engraving on monolithic scintillator crystals: Novel pixel geometries and depth of interaction. , 2016 , , .		0

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163	3D imaging of the cleared intact murine colon with light sheet microscopy. , 2016, , .		O
164	Design and Performance Study of a Quasi-spherical PET Scanner and Hexagonal SiPM., 2018,,.		0
165	Tuberculosis Lesions in CT Images Inferred using 3D-CNN and Multi-Task Learning. , 2019, , .		O
166	Projection tomography in the NIR-IIa window: challenges, advantages, and comparison with classical optical approach. , 2018 , , .		O