Juan José Vaquero

List of Publications by Year
in descending order

166 papers	2,995 citations	201575 27 h-index	223716 46 g-index
168 all docs	168 docs citations	168 times ranked	3870 citing authors

#	Article	IF	Citations
1	Innovations in exÂvivo Light Sheet Fluorescence Microscopy. Progress in Biophysics and Molecular Biology, 2022, 168, 37-51.	1.4	8
2	Super-Iterative Image Reconstruction in PET. IEEE Transactions on Computational Imaging, 2021, 7, 248-257.	2.6	4
3	The contribution of microfluidics to the fight against tuberculosis. Nanotechnology Reviews, 2021, 11, 40-54.	2.6	3
4	Simplified Statistical Image Reconstruction for X-ray CT With Beam-Hardening Artifact Compensation. IEEE Transactions on Medical Imaging, 2020, 39, 111-118.	5.4	9
5	Development of an Inverted Epifluorescence Microscope for Long-Term Monitoring of Bacteria in Multiplexed Microfluidic Devices. Sensors, 2020, 20, 4140.	2.1	4
6	A radiological score for the assessment of tuberculosis progression: Validation in mouse models. Tuberculosis, 2020, 121, 101918.	0.8	1
7	Real-Time 3D PET Image with Pseudoinverse Reconstruction. Applied Sciences (Switzerland), 2020, 10, 2829.	1.3	6
8	Computed Tomography-Based Biomarker for Longitudinal Assessment of Disease Burden in Pulmonary Tuberculosis. Molecular Imaging and Biology, 2019, 21, 19-24.	1.3	7
9	Tuberculosis Lesions in CT Images Inferred using 3D-CNN and Multi-Task Learning. , 2019, , .		0
10	Applications of Light-Sheet Microscopy in Microdevices. Frontiers in Neuroanatomy, 2019, 13, 1.	0.9	81
11	X-ray-based virtual slicing of TB-infected lungs. Scientific Reports, 2019, 9, 19404.	1.6	4
12	SiPM-based PET detector module for a <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline" overflow="scroll" id="d1e188" altimg="si3.gif"><mml:mn>4</mml:mn><mml:mi>Ï€</mml:mi></mml:math> span scanner. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2019, 936, 18-21.	0.7	5
13	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.	1.1	29
14	Awake preclinical brain PET imaging based on point sources. , 2019, , .		1
15	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.	1.3	20
16	Design and Performance Study of a Quasi-spherical PET Scanner and Hexagonal SiPM. , 2018, , .		0
17	Surface scanning for 3D dose calculation in intraoperative electron radiation therapy. Radiation Oncology, 2018, 13, 243.	1.2	5
18	Tuberculosis Histopathology on X Ray CT. Lecture Notes in Computer Science, 2018, , 169-179.	1.0	2

#	Article	IF	Citations
19	Towards an informational model for tuberculosis lesion discrimination on X-ray CT images. , 2018, , .		3
20	Unsupervised CT Lung Image Segmentation of a Mycobacterium Tuberculosis Infection Model. Scientific Reports, 2018, 8, 9802.	1.6	29
21	Projection tomography in the NIR-IIa window: challenges, advantages, and comparison with classical optical approach. , 2018, , .		0
22	Optimized CUBIC protocol for 3D imaging of chicken embryos at single-cell resolution. Development (Cambridge), 2017, 144, 2092-2097.	1.2	35
23	Subsurface Laser Engraving Techniques for Scintillator Crystals: Methods, Applications, and Advantages. IEEE Transactions on Radiation and Plasma Medical Sciences, 2017, 1, 377-384.	2.7	11
24	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
25	Dynamic PET reconstruction using the split bregman formulation. , 2016, , .		0
26	3D imaging in CUBIC-cleared mouse heart tissue: going deeper. Biomedical Optics Express, 2016, 7, 3716.	1.5	33
27	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.	0.7	8
28	Design and development of a wireless infrared EEG recorder for chicken embryos. , 2016, , .		0
29	Evaluation of PeneloPET Simulations of Biograph PET/CT Scanners. IEEE Transactions on Nuclear Science, 2016, 63, 1367-1374.	1.2	12
30	Personal dosimetry geolocalized system for radiation monitoring. , 2016, , .		2
31	Applications of sub-surface laser engraving on monolithic scintillator crystals: Novel pixel geometries and depth of interaction. , 2016, , .		0
32	3D imaging of the cleared intact murine colon with light sheet microscopy. , 2016, , .		0
33	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.	3.9	1
34	Automatic Cardiac Self-Gating of Small-Animal PET Data. Molecular Imaging and Biology, 2016, 18, 109-116.	1.3	5
35	Development of a mouse lung phantom of infectious diseases for Micro-CT. , 2015, , .		0
36	Geometric calibration workflow for high resolution cone beam micro-computed tomography. , 2015, , .		0

#	Article	IF	Citations
37	Simulation, development and testing of a PET detector prototype using monolithic scintillator crystals treated with the sub-surface engraving technique. , 2015, , .		3
38	Improved quantification for local regions of interest in preclinical PET imaging. Physics in Medicine and Biology, 2015, 60, 7127-7149.	1.6	9
39	Highly multiplexed DOI PET detector based on SiPM sensors. , 2015, , .		0
40	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.	5.7	230
41	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
42	Development and validation of an open source quantification tool for DSC-MRI studies. Computers in Biology and Medicine, 2015, 58, 56-62.	3.9	3
43	Tissue-Dependent and Spatially-Variant Positron Range Correction in 3D PET. IEEE Transactions on Medical Imaging, 2015, 34, 2394-2403.	5.4	27
44	Recovery and normalization of triple coincidences in PET. Medical Physics, 2015, 42, 1398-1410.	1.6	26
45	In Vivo 18F-FDG-PET Imaging in Mouse Atherosclerosis. Methods in Molecular Biology, 2015, 1339, 377-386.	0.4	4
46	Investigation of Different Sparsity Transforms for the PICCS Algorithm in Small-Animal Respiratory Gated CT. PLoS ONE, 2015, 10, e0120140.	1.1	8
47	Comparison of Methods to Reduce Myocardial 18F-FDG Uptake in Mice: Calcium Channel Blockers versus High-Fat Diets. PLoS ONE, 2014, 9, e107999.	1.1	11
48	Application of the compressed sensing technique to self-gated cardiac cine sequences in small animals. Magnetic Resonance in Medicine, 2014, 72, 369-380.	1.9	28
49	Dual-exposure technique for extending the dynamic range of x-ray flat panel detectors. Physics in Medicine and Biology, 2014, 59, 421-439.	1.6	9
50	Novel 4D image reconstruction for dynamic X-ray computed tomography in slow rotating scanners. , 2014, , .		0
51	Simulations, testing and results for the pixelation of LYSO crystals for gamma detectors using SSLE techniques. , 2014, , .		2
52	Massively parallelizable list-mode reconstruction using a Monte Carlo-based elliptical Gaussian model. Medical Physics, 2013, 40, 012504.	1.6	6
53	Positron range estimations with PeneloPET. Physics in Medicine and Biology, 2013, 58, 5127-5152.	1.6	56
54	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.	2.6	3

#	Article	IF	Citations
55	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.	0.7	6
56	Monte Carlo study of the effects of system geometry and antiscatter grids on cone‑beam CT scatter distributions. Medical Physics, 2013, 40, 051915.	1.6	98
57	Use of Split Bregman denoising for iterative reconstruction in fluorescence diffuse optical tomography. Journal of Biomedical Optics, 2013, 18, 076016.	1.4	27
58	Improved dead-time correction for PET scanners: application to small-animal PET. Physics in Medicine and Biology, 2013, 58, 2059-2072.	1.6	7
59	Modification of the TASMIP x-ray spectral model for the simulation of microfocus x-ray sources. Medical Physics, 2013, 41, 011902.	1.6	9
60	Production of positron-gamma emitters for multiplexed PET (mPET) imaging. , 2013, , .		0
61	jClustering, an Open Framework for the Development of 4D Clustering Algorithms. PLoS ONE, 2013, 8, e70797.	1.1	3
62	PeneloPET study of the biograph PET scanner. , 2013, , .		0
63	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.	1.6	4
64	Complete scheme for beam hardening correction in small animal computed tomography. , 2012, , .		2
65	NEMA NU 4-2008 Comparison of Preclinical PET Imaging Systems. Journal of Nuclear Medicine, 2012, 53, 1300-1309.	2.8	191
66	A method for small-animal PET/CT alignment calibration. Physics in Medicine and Biology, 2012, 57, N199-N207.	1.6	9
67	Investigation of different Compressed Sensing approaches for respiratory gating in small animal CT. , 2012, , .		3
68	Dose and scatter characteristics of a novel cone beam CT system for musculoskeletal extremities. Proceedings of SPIE, 2012, , .	0.8	4
69	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.	1.3	5
70	Accuracy of CT-based attenuation correction in PET/CT bone imaging. Physics in Medicine and Biology, 2012, 57, 2477-2490.	1.6	40
71	Software architecture for multi-bed FDK-based reconstruction in X-ray CT scanners. Computer Methods and Programs in Biomedicine, 2012, 107, 218-232.	2.6	37
72	Waking-like Brain Function in Embryos. Current Biology, 2012, 22, 852-861.	1.8	30

#	Article	IF	Citations
73	Quantification limits of iterative PET reconstruction algorithms and improved estimation of kinetic constants. , 2011, , .		1
74	GPU-Based Fast Iterative Reconstruction of Fully 3-D PET Sinograms. IEEE Transactions on Nuclear Science, 2011, 58, 2257-2263.	1.2	29
75	Deadtime and pile-up correction method based on the singles to coincidences ratio for PET. , 2011, , .		1
76	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
77	Leader-follower clustering algorithm for automatic segmentation of cardiac PET studies. , 2011, , .		3
78	Split operator method for fluorescence diffuse optical tomography using anisotropic diffusion regularisation with prior anatomical information. Biomedical Optics Express, 2011, 2, 2632.	1.5	38
79	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.	1.7	32
80	Fluorescence diffuse optical tomography using the split Bregman method. Medical Physics, 2011, 38, 6275-6284.	1.6	57
81	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.	0.7	18
82	Fully 3D GPU PET reconstruction. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2011, 648, S169-S171.	0.7	8
83	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.	1.3	11
84	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.	1.2	31
85	Assessment of new photosensors for fast timing applications with large scintillator detectors. , 2011, , .		3
86	PeneloPET simulations of the Biograph ToF clinical PET scanner. , 2011, , .		3
87	Design of DOI PET detector modules using phoswich and SiPMs: First results. , 2011, , .		4
88	Measurement of activity produced by low energy proton beam in metals using off-line PET imaging. , 2011, , .		1
89	High-resolution dynamic cardiac MRI on small animals using reconstruction based on Split Bregman methodology. , 2011, , .		3
90	Performance Evaluation of SiPM Photosensors in the Presence of Magnetic Fields. AIP Conference Proceedings, 2010, , .	0.3	0

#	Article	IF	Citations
91	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.	0.7	56
92	Iterative automatic segmentation in cardiac PET based on TAC correlation: Preliminary results. , 2010, , .		0
93	Validation of PeneloPET positron range estimations. , 2010, , .		4
94	Data acquisition electronics for gamma ray emission tomography using width-modulated leading-edge discriminators. Physics in Medicine and Biology, 2010, 55, 4291-4308.	1.6	3
95	A SPECT Scanner for Rodent Imaging Based on Small-Area Gamma Cameras. IEEE Transactions on Nuclear Science, 2010, 57, 2524-2531.	1.2	4
96	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.	1.2	5
97	GPU acceleration of a fully 3D Iterative Reconstruction Software for PET using CUDA. , 2009, , .		8
98	FDOT reconstruction and setting optimization using singular value analysis with automatic thresholding. , 2009, , .		1
99	Positron range effects in high resolution 3D PET imaging. , 2009, , .		17
100	rSPECT: A compact gamma camera based SPECT system for small-animal imaging. , 2009, , .		0
101	Automated dual-exposure technique to extend the dynamic range of flat-panel detectors used in small-animal cone-beam micro-CT. , 2009, , .		0
102	Design and performance evaluation of a coplanar multimodality scanner for rodent imaging. Physics in Medicine and Biology, 2009, 54, 5427-5441.	1.6	49
103	Automatic quantification of histological studies in allergic asthma. Cytometry Part A: the Journal of the International Society for Analytical Cytology, 2009, 75A, 271-277.	1.1	2
104	Automated Method for Small-Animal PET Image Registration with Intrinsic Validation. Molecular Imaging and Biology, 2009, 11, 107-113.	1.3	29
105	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.	1.3	22
106	Assessment of Airway Distribution of Transnasal Solutions in Mice by PET/CT Imaging. Molecular Imaging and Biology, 2009, 11, 263-268.	1.3	6
107	Sinogram bow–tie filtering in FBP PET reconstruction. Medical Physics, 2009, 36, 1663-1671.	1.6	11
108	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.	1.9	74

#	Article	IF	Citations
109	Multipurpose Monte Carlo simulator for photon transport in turbid media. , 2009, , .		0
110	Assessment of a New High-Performance Small-Animal X-Ray Tomograph. IEEE Transactions on Nuclear Science, 2008, 55, 898-905.	1.2	48
111	Performance comparison of two commercial small animal PET scanners: ClearPETT and rPET-1T. , 2008, , .		3
112	Simulation of mechanical misalignments in a cone-beam micro-CT system. , 2008, , .		5
113	Validation of a retrospective respiratory gating method for small-animal CT scanners. , 2008, , .		3
114	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.	2.8	82
115	Frequency selective signal extrapolation for compensation of missing data in sinograms. , 2008, , .		8
116	Efficient methodology for 3D statistical reconstruction of high resolution coplanar PET/CT scanner. , 2008, , .		1
117	PET/CT alignment for small animal scanners based on capillary detection. , 2008, , .		2
118	Fully 4D reconstruction of dynamic SPECT images based on the estimation of spatiotemporal basis coefficients directly from projection measurements. , 2008, , .		0
119	VrPET/CT: Development of a rotating multimodality scanner for small-animal imaging. , 2008, , .		4
120	Nonlinear effect of pile-up in the quantification of a small animal PET scanner. , 2008, , .		0
121	Performance evaluation of SiPM detectors for PET imaging in the presence of magnetic fields. , 2008, , .		13
122	Use of IBASPM atlas-based automatic segmentation toolbox in pathological brains: Effect of template selection. , 2008, , .		2
123	Comparative study of two flat-panel X-ray detectors applied to small-animal imaging cone-beam micro-CT. , 2008, , .		2
124	Effects of the Super Bialkali photocathode on the performance characteristics of a position-sensitive depth-of-interaction PET detector module. , 2008, , .		2
125	Design and development of a co-planar fluorescence and X-ray tomograph. , 2008, , .		2
126	Real-Time Digital Timing in Positron Emission Tomography. IEEE Transactions on Nuclear Science, 2008, 55, 2531-2540.	1.2	21

#	Article	IF	Citations
127	A super-resolution feasibility study in small-animal SPECT imaging. , 2008, , .		4
128	High resolution image in bone biology II. Review of the literature. Medicina Oral, Patologia Oral Y Cirugia Bucal, 2008, 13, E31-5.	0.7	4
129	Performance evaluation of a new gamma imager for small animal SPECT applications. , 2007, , .		3
130	Influence of random, pile-up and scatter corrections in the quantification properties of small-animal PET scanners. , 2007, , .		0
131	Revised consistency conditions for PET data. , 2007, , .		1
132	Field of view alignment on a multimodal PET/CT scanner for small animals. , 2007, , .		2
133	Validation of PeneloPET against two small animal PET scanners. , 2007, , .		4
134	Improved image reconstruction in small animal PET using a priori estimates of single-pixel events. , 2007, , .		7
135	PETonCHIP: architecture of a on-chip high-resolution, fully digital positron emission tomography scanner for small Animal Imaging. , 2007, , .		3
136	Small-animal PET registration method with intrinsic validation designed for large datasets. , 2007, , .		1
137	Accuracy of CT-Based attenuation correction in bone imaging with PET/CT. , 2007, , .		1
138	Effects of MDMA on blood glucose levels and brain glucose metabolism. European Journal of Nuclear Medicine and Molecular Imaging, 2007, 34, 916-925.	3.3	20
139	High resolution image in bone biology I. Review of the literature. Medicina Oral, Patologia Oral Y Cirugia Bucal, 2007, 12, E454-8.	0.7	2
140	New embedded digital front-end for high resolution PET scanner. IEEE Transactions on Nuclear Science, 2006, 53, 770-775.	1.2	18
141	Normalization in 3D PET: Dependence on the Activity Distribution of the Source. , 2006, , .		1
142	Effects of Sinogram Filtering in the Quality of PET Reconstructions: Preliminary Results. , 2006, , .		0
143	PeneloPET, a Monte Carlo PET simulation toolkit based on PENELOPE: Features and Validation. , 2006, , .		8
144	Digital timing in positron emission tomography. , 2006, , .		2

#	Article	IF	Citations
145	Modeling the acquisition front-end in high resolution gamma-ray imaging. IEEE Transactions on Nuclear Science, 2006, 53, 1150-1155.	1.2	9
146	ROC evaluation of statistical wavelet-based analysis of brain activation in [15O]-H2O PET scans. NeuroImage, 2005, 24, 763-770.	2.1	5
147	Resolution recovery in Turbo Spin Echo using segmented Half Fourier acquisition. Magnetic Resonance Imaging, 2004, 22, 369-378.	1.0	2
148	Method for bias field correction of brain T1-weighted magnetic resonance images minimizing segmentation error. Human Brain Mapping, 2004, 22, 133-144.	1.9	65
149	Automatic tuning and matching of a small multifrequency saddle coil at 4.7 T. Magnetic Resonance in Medicine, 2004, 51, 869-873.	1.9	22
150	A Novel Approach Using Transcomplementing Adenoviral Vectors for Gene Therapy of Adrenocortical Cancer. Hormone and Metabolic Research, 2002, 34, 279-287.	0.7	17
151	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.	2.0	12
152	PET, CT, and MR image registration of the rat brain and skull. IEEE Transactions on Nuclear Science, 2001, 48, 1440-1445.	1.2	36
153	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.	1.1	14
154	High resolution PET, SPECT and projection imaging in small animals. Computerized Medical Imaging and Graphics, 2001, 25, 79-86.	3.5	80
155	Probe efficiency improvement with remote and transmission line tuning and matching. Magnetic Resonance Imaging, 1999, 17, 1083-1086.	1.0	4
156	Correction to "Performance Characteristics Of A Compact Position-sensitive LSO Detector Module". IEEE Transactions on Medical Imaging, 1999, 18, 184-184.	5.4	0
157	Depth identification accuracy of a three layer phoswich PET detector module. IEEE Transactions on Nuclear Science, 1999, 46, 485-490.	1.2	229
158	Applying watershed algorithms to the segmentation of clustered nuclei. , 1998, 28, 289-297.		370
159	MRI Visualization of Small Structures Using Improved Surface Coils. Magnetic Resonance Imaging, 1998, 16, 157-166.	1.0	17
160	Measurement of Myocardial Wall Thickening from PET/SPECT Images: Comparison of Two Methods. Journal of Computer Assisted Tomography, 1996, 20, 473-481.	0.5	15
161	Towards high performance small animal positron emission tomography. , 0, , .		2
162	Features of the NIH atlas small animal PET scanner and its use with a coaxial small animal volume CT scanner. , 0, , .		15

#	Article	IF	Citations
163	Co-Planar PET/CT for Small Animal Imaging. , 0, , .		5
164	Statistical Reconstruction Methods in PET: Resolution Limit, Noise, Edge Artifacts and considerations for the design of better scanners. , 0, , .		5
165	Quasi Pseudo-Inverse Reconstruction Technique for Rotating PET Scanners. , 0, , .		1
166	rPET Detectors Design and Data Processing. , 0, , .		24