Nicolas Karakatsanis

List of Publications by Year
in descending order

97 papers	4,513 citations	257450 24 h-index	123424 61 g-index
105 all docs	105 docs citations	105 times ranked	9747 citing authors

#	Article	IF	Citations
1	Recent developments in Geant4. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2016, 835, 186-225.	1.6	2,327
2	Dynamic whole-body PET parametric imaging: I. Concept, acquisition protocol optimization and clinical application. Physics in Medicine and Biology, 2013, 58, 7391-7418.	3.0	172
3	Hybrid Magnetic Resonance Imaging and Positron Emission Tomography With Fluorodeoxyglucose to Diagnose ActiveÂCardiac Sarcoidosis. JACC: Cardiovascular Imaging, 2018, 11, 94-107.	5.3	152
4	Dynamic whole-body PET imaging: principles, potentials and applications. European Journal of Nuclear Medicine and Molecular Imaging, 2019, 46, 501-518.	6.4	145
5	Efficacy and safety assessment of a TRAF6-targeted nanoimmunotherapy in atherosclerotic mice and non-human primates. Nature Biomedical Engineering, 2018, 2, 279-292.	22.5	94
6	Coronary Artery PET/MR Imaging. JACC: Cardiovascular Imaging, 2017, 10, 1103-1112.	5.3	90
7	Recent Improvements in Geant4 Electromagnetic Physics Models and Interfaces. Progress in Nuclear Science and Technology, 2011, 2, 898-903.	0.3	87
8	Towards enhanced PET quantification in clinical oncology. British Journal of Radiology, 2018, 91, 20170508.	2.2	86
9	Dynamic whole-body PET parametric imaging: II. Task-oriented statistical estimation. Physics in Medicine and Biology, 2013, 58, 7419-7445.	3.0	84
10	Whole-body direct 4D parametric PET imaging employing nested generalized Patlak expectationâ€“maximization reconstruction. Physics in Medicine and Biology, 2016, 61, 5456-5485.	3.0	79
11	Generalized whole-body Patlak parametric imaging for enhanced quantification in clinical PET. Physics in Medicine and Biology, 2015, 60, 8643-8673.	3.0	78
12	Nanobody-Facilitated Multiparametric PET/MRI Phenotyping of Atherosclerosis. JACC: Cardiovascular Imaging, 2019, 12, 2015-2026.	5.3	66
13	18 F-Sodium Fluoride PET/MR for the Assessment of CardiacÂAmyloidosis. Journal of the American College of Cardiology, 2016, 68, 2712-2714.	2.8	59
14	Validation of a GATE model for the simulation of the Siemens biographâ„¢ 6 PET scanner. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2007, 571, 263-266.	1.6	55
15	Galliumâ€68 DOTATATE PET in the Evaluation of Intracranial Meningiomas. Journal of Neuroimaging, 2019, 29, 650-656.	2.0	55
16	Does whole-body Patlak 18F-FDG PET imaging improve lesion detectability in clinical oncology?. European Radiology, 2019, 29, 4812-4821.	4.5	54
17	Imaging-assisted nanoimmunotherapy for atherosclerosis in multiple species. Science Translational Medicine, 2019, 11, .	12.4	51
18	Clinical Utility of Combined FDG-PET/MR to Assess Myocardial Disease. JACC: Cardiovascular Imaging, 2017, 10, 594-597.	5.3	49

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19	Comparative evaluation of two commercial PET scanners, ECAT EXACT HR+ and Biograph 2, using GATE. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2006, 569, 368-372.	1.6	41
20	Correction of respiratory and cardiac motion in cardiac PET/MR using MR-based motion modeling. Physics in Medicine and Biology, 2018, 63, 225011.	3.0	36
21	Hybrid PET-MR list-mode kernelized expectation maximization reconstruction. Inverse Problems, 2019, 35, 044001.	2.0	36
22	3.5D dynamic PET image reconstruction incorporating kinetics-based clusters. Physics in Medicine and Biology, 2012, 57, 5035-5055.	3.0	33
23	Physical performance of a long axial fieldâ€ofâ€view PET scanner prototype with sparse rings configuration: A Monte Carlo simulation study. Medical Physics, 2020, 47, 1949-1957.	3.0	29
24	Dynamic Multi-Bed FDG PET imaging: Feasibility and optimization. , 2011, , .		28
25	Dosage optimization in positron emission tomography: state-of-the-art methods and future prospects. American Journal of Nuclear Medicine and Molecular Imaging, 2015, 5, 527-47.	1.0	25
26	Generalized PSF modeling for optimized quantitation in PET imaging. Physics in Medicine and Biology, 2017, 62, 5149-5179.	3.0	23
27	A radionuclide dosimetry toolkit based on material-specific Monte Carlo dose kernels. Nuclear Medicine Communications, 2009, 30, 504-512.	1.1	22
28	Effect of PET-MR Inconsistency in the Kernel Image Reconstruction Method. IEEE Transactions on Radiation and Plasma Medical Sciences, 2019, 3, 400-409.	3.7	22
29	[68Ga]-DOTATATE PET/MRI as an adjunct imaging modality for radiation treatment planning of meningiomas. Neuro-Oncology Advances, 2021, 3, vdab012.	0.7	20
30	Quantitative Analysis of Heterogeneous [18F]FDG Static (SUV) vs. Patlak (Ki) Whole-body PET Imaging Using Different Segmentation Methods: a Simulation Study. Molecular Imaging and Biology, 2019, 21, 317-327.	2.6	18
31	Quantitative PET image reconstruction employing nested expectation-maximization deconvolution for motion compensation. Computerized Medical Imaging and Graphics, 2017, 60, 11-21.	5.8	17
32	Hybrid PET- and MR-driven attenuation correction for enhanced 18F-NaF and 18F-FDG quantification in cardiovascular PET/MR imaging. Journal of Nuclear Cardiology, 2020, 27, 1126-1141.	2.1	17
33	Impact of acquisition time-window on clinical whole-body PET parametric imaging. , 2014, , .		16
34	SUV/Patlak-4D whole-body PET/CT dynamic and parametric imaging: clinical demonstration and validation of SUV synthesis from dynamic passes. , 2017, , .		15
35	Assessment of atherosclerotic plaque activity in patients with sleep apnea using hybrid positron emission tomography/magnetic resonance imaging (PET/MRI): a feasibility study. Sleep and Breathing, 2018, 22, 1125-1135.	1.7	15
36	Monte Carlo Simulation of the Siemens Biograph Vision PET With Extended Axial Field of View Using Sparse Detector Module Rings Configuration. IEEE Transactions on Radiation and Plasma Medical Sciences, 2021, 5, 331-342.	3.7	15

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37	Study of the effect of magnetic field in positron range using GATE simulation toolkit. Journal of Physics: Conference Series, 2011, 317, 012021.	0.4	14
38	GATE simulations for small animal SPECT/PET using voxelized phantoms and rotating-head detectors. , 2006, , .		12
39	Comparison of CsI(Tl) and CsI(Na) partially slotted crystals for high-resolution SPECT imaging. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2006, 569, 185-187.	1.6	12
40	Effect of ¹⁷⁶Lu intrinsic radioactivity on dual head PET system imaging and data acquisition, simulation, and experimental measurements. Medical Physics, 2013, 40, 112505.	3.0	12
41	Iterative reconstruction incorporating background correction improves quantification of [18F]-NaF PET/CT images of patients with abdominal aortic aneurysm. Journal of Nuclear Cardiology, 2021, 28, 1875-1886.	2.1	12
42	Introducing time-of-flight and resolution recovery image reconstruction to clinical whole-body PET parametric imaging. , 2014, , .		11
43	Hybrid PET/MR Kernelised Expectation Maximisation Reconstruction for Improved Image-Derived Estimation of the Input Function from the Aorta of Rabbits. Contrast Media and Molecular Imaging, 2019, 2019, 1-12.	0.8	11
44	Continuous bed motion Vs. step-and-shoot acquisition on clinical whole-body dynamic and parametric PET imaging. , 2015, , .		10
45	Evaluation of Image Quality and Quantitation in a Clinical PET Scanner with a Uniformly Sparse Detector Rings Configuration. , 2018, , .		10
46	Evaluating diagnostic accuracy and determining optimal diagnostic thresholds of different approaches to [68Ga]-DOTATATE PET/MRI analysis in patients with meningioma. Scientific Reports, 2022, 12, .	3.3	10
47	Physical performance of adaptive axial FOV PET scanners with a sparse detector block rings or a checkerboard configuration. Physics in Medicine and Biology, 2022, 67, 105010.	3.0	9
48	Investigation of the minimum detectable activity level of a preclinical LSO PET scanner. , 2007, , .		7
49	Generalized dynamic PET inter-frame and intra-frame motion correction - Phantom and human validation studies. , 2012, , .		7
50	Whole-body PET parametric imaging employing direct 4D nested reconstruction and a generalized non-linear Patlak model. , 2014, , .		7
51	A systematic performance evaluation of head motion correction techniques forÂ3 commercial PET scanners using a reproducible experimental acquisition protocol. Annals of Nuclear Medicine, 2019, 33, 459-470.	2.2	7
52	Positron Emission Tomography with Sparse Block Rings and Continuous Bed Motion. , 2019, , .		7
53	Longitudinal alterations in gamma-aminobutyric acid (GABAA) receptor availability over aˆ¼ 1 year following traumatic brain injury. Brain Communications, 2022, 4, .	3.3	7
54	Imaging properties of cerium doped Yttrium Aluminum Oxide (YAP:Ce) powder scintillating screens under X-ray excitation. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2006, 569, 210-214.	1.6	6

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55	Diagnostic performance of a whole-body dynamic 68GA-DOTATOC PET/CT acquisition to differentiate physiological uptake of pancreatic uncinate process from pancreatic neuroendocrine tumor. Medicine (United States), 2020, 99, e20021.	1.0	6
56	Comparison of Correction Techniques for the Spillin Effect in Emission Tomography. IEEE Transactions on Radiation and Plasma Medical Sciences, 2020, 4, 422-432.	3.7	6
57	Population-based input function for TSPO quantification and kinetic modeling with [11C]-DPA-713. EJNMMI Physics, 2021, 8, 39.	2.7	6
58	Dynamic ⁶⁸Ga-DOTATATE PET/MRI in the Diagnosis and Management of Intracranial Meningiomas. Radiology Imaging Cancer, 2022, 4, e210067.	1.6	6
59	A methodology for optimizing the acquisition time of a clinical PET scan using GATE. , 2009, , .		5
60	Generalized inter-frame and intra-frame motion correction in PET imaging - a simulation study. , 2011, , .		5
61	Quantitative whole-body parametric PET imaging incorporating a generalized Patlak model. , 2013, , .		5
62	Generalized 3D and 4D motion compensated whole-body PET image reconstruction employing nested EM deconvolution. , 2014, , .		5
63	Whole body parametric imaging on clinical scanner: Direct 4D reconstruction with simultaneous attenuation estimation and time-dependent normalization. , 2015, , .		5
64	Direct 4D slice-wise whole-body parametric PET image reconstruction for continuous bed motion acquisitions. , 2016, , .		5
65	Imager-4D: New Software for Viewing Dynamic PET Scans and Extracting Radiomic Parameters from PET Data. Journal of Digital Imaging, 2019, 32, 1071-1080.	2.9	5
66	Impact of Tissue Classification in MRI-Guided Attenuation Correction on Whole-Body Patlak PET/MRI. Molecular Imaging and Biology, 2019, 21, 1147-1156.	2.6	5
67	Assessing the qualitative and quantitative impacts of simple two-class vs multiple tissue-class MR-based attenuation correction for cardiac PET/MR. Journal of Nuclear Cardiology, 2021, 28, 2194-2204.	2.1	5
68	Scan-rescan measurement repeatability of 18F-FDG PET/MR imaging of vascular inflammation. Journal of Nuclear Cardiology, 2022, 29, 1660-1670.	2.1	5
69	System sensitivity in preclinical small animal imaging. , 2008, , .		4
70	Enhanced whole-body PET parametric imaging using hybrid regression and thresholding driven by kinetic correlations. , 2012, , .		4
71	18F-FDG:18F-NaF PET/MR multi-parametric imaging with kinetics-based bone segmentation for enhanced dual-tracer PET quantification. , 2016, , .		4
72	Assessment of different quantification metrics of [18F]-NaF PET/CT images of patients with abdominal aortic aneurysm. Journal of Nuclear Cardiology, 2022, 29, 251-261.	2.1	4

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73	Towards continualized task-based resolution modeling in PET imaging. , 2014, , .		3
74	Clinical evaluation of direct 4D whole-body PET parametric imaging with time-of-flight and resolution modeling capabilities. , 2015, , .		3
75	Prospective study of dynamic whole-body 68Ga-DOTATOC-PET/CT acquisition in patients with well-differentiated neuroendocrine tumors. Scientific Reports, 2021, 11, 4727.	3.3	3
76	A simulation study of the counting-rate performance of clinical pet systems applying a methodology for optimizing the injected dose. , 2008, , .		2
77	A simulation model of the counting-rate response of clinical pet systems and it's application to optimize the injected dose. , 2009, , .		2
78	MRI guided myocardial perfusion PET image reconstruction. , 2013, , .		2
79	Parametric myocardial perfusion PET imaging using physiological clustering. Proceedings of SPIE, 2014, , .	0.8	2
80	Estimation of dynamic time activity curves from dynamic cardiac SPECT imaging. Physics in Medicine and Biology, 2015, 60, 3193-3208.	3.0	2
81	Hybrid PET-MR list-mode kernelized expectation maximization reconstruction for quantitative PET images of the carotid arteries. , 2017, , .		2
82	Direct 4D Patlak 18F-FDG PET/MR for the Multi-Parametric Assessment of active cardiac sarcoidosis. , 2017, , .		2
83	A study of the parameters affecting minimum detectable activity concentration level of clinical LSO PET scanners. , 2008, , .		1
84	Multi-bed tracer kinetic imaging of micro-parameters from dynamic time-of-flight PET data. , 2015, , .		1
85	Novel quantitative whole-body parametric PET imaging utilizing multiple clustering realizations. , 2016, , .		1
86	PET-driven respiratory phase tracking and self-gating of PET data: clinical demonstration of enhanced lesion detectability in cardiovascular PET/MRI. , 2017, , .		1
87	Improved myocardial perfusion PET imaging with MRI assisted reconstruction incorporating multi-resolution joint entropy. Physics in Medicine and Biology, 2018, 63, 175017.	3.0	1
88	68Ga-DOTATATE PET/MRI as an Adjunct Imaging Modality For Radiation Treatment Planning Of Meningiomas. International Journal of Radiation Oncology Biology Physics, 2020, 108, e668-e669.	0.8	1
89	Dr. Edith H. Quimby: A pioneering medical physicist and educator with outstanding contributions in radiation dosimetry. Clinical Imaging, 2022, 81, 118-121.	1.5	1
90	Feasibility of Population-Based Input Function for Kinetic Analysis of [¹¹C]-DPA-713. , 2020, , .		1

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91	PET/MR Imaging of Somatostatin Receptor Expression and Tumor Vascularity in Meningioma: Implications for Pathophysiology and Tumor Outcomes. Frontiers in Oncology, 2021, 11, 820287.	2.8	1
92	A simulation study for optimizing the injected dose of clinical PET systems. , 2008, , .		0
93	Cluster-based priors for MAP PET image reconstruction. , 2011, , .		0
94	Performance evaluation of the Inveon PET scanner using GATE based on the NEMA NU-4 standards. , 2013, , .		0
95	¹⁷⁶Lu effect on the minimum detectable activity limits for a dual head, LSO: Ce based, PET system. , 2013, , .		0
96	Improved correction techniques to compensate for partial volume and spill-in effects in PET. , 2018, , .		0
97	Physical Performance of SynchroPET ArterialPETâ„¢, a Human Wrist PET Prototype Scanner for Non-Invasive Arterial Input Function Evaluation. , 2020, , .		0