

# Julian C Matthews

## List of Publications by Year in descending order

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Version: 2024-02-01

93  
papers

2,914  
citations

230014

27  
h-index

206121

51  
g-index

94  
all docs

94  
docs citations

94  
times ranked

4159  
citing authors

| #  | ARTICLE  | IF  | CITATIONS |
|----|--|-----|-----------|
| 1  | Quantitative kinetic modelling and mapping of cerebral glucose transport and metabolism using glucoCESL MRI. <i>Journal of Cerebral Blood Flow and Metabolism</i> , 2022, 42, 2066-2079.   | 2.4 | 1         |
| 2  | A highly reproducible method for the measurement of [ $^{11}\text{C}$ ]diprenorphine and its radio-metabolites based on solid-phase extraction and high-pressure liquid chromatography. <i>Journal of Labelled Compounds and Radiopharmaceuticals</i> , 2021, 64, 30-39. | 0.5 | 0         |
| 3  | Dopamine and Glutamate in Antipsychotic-Responsive Compared With Antipsychotic-Nonresponsive Psychosis: A Multicenter Positron Emission Tomography and Magnetic Resonance Spectroscopy Study (STRATA). <i>Schizophrenia Bulletin</i> , 2021, 47, 505-516.                | 2.3 | 51        |
| 4  | Dynamic PET image reconstruction utilizing intrinsic data-driven HYPR4D denoising kernel. <i>Medical Physics</i> , 2021, 48, 2230-2244.  | 1.6 | 15        |
| 5  | Optimization of quantitative susceptibility mapping for regional estimation of oxygen extraction fraction in the brain. <i>Magnetic Resonance in Medicine</i> , 2021, 86, 1314-1329.   | 1.9 | 5         |
| 6  | Uncertainty analysis of MR-PET image registration for precision neuro-PET imaging. <i>NeuroImage</i> , 2021, 232, 117821.  | 2.1 | 8         |
| 7  | SIRF: Synergistic Image Reconstruction Framework. <i>Computer Physics Communications</i> , 2020, 249, 107087.  | 3.0 | 35        |
| 8  | Oxygen-enhanced MRI Is Feasible, Repeatable, and Detects Radiotherapy-induced Change in Hypoxia in Xenograft Models and in Patients with Non-small Cell Lung Cancer. <i>Clinical Cancer Research</i> , 2019, 25, 3818-3829.  | 3.2 | 51        |
| 9  | Comparison of a Standard Resolution PET-CT Scanner With an HRRT Brain Scanner for Imaging Small Tumors Within the Head. <i>IEEE Transactions on Radiation and Plasma Medical Sciences</i> , 2019, 3, 434-443.  | 2.7 | 10        |
| 10 | Qualification of the Seven Dementias Platform UK PET-MR Scanners for Multicentre Trials. , 2019, , .   |     | 1         |
| 11 | Comparison of point spread function variations across the field of view of a PET/MR scanner with a standard resolution PET/CT. , 2019, , .   |     | 0         |
| 12 | Evaluation of the Benefit of Partial Volume Correction for High Resolution PET Scanners. , 2019, , .   |     | 0         |
| 13 | Data-driven mapping of hypoxia-related tumor heterogeneity using DCE-MRI and OE-MRI. <i>Magnetic Resonance in Medicine</i> , 2018, 79, 2236-2245.  | 1.9 | 18        |
| 14 | Acute and chronic changes in brain activity with deep brain stimulation for refractory depression. <i>Journal of Psychopharmacology</i> , 2018, 32, 430-440.   | 2.0 | 21        |
| 15 | Elevated Translocator Protein in Anterior Cingulate in Major Depression and a Role for Inflammation in Suicidal Thinking: A Positron Emission Tomography Study. <i>Biological Psychiatry</i> , 2018, 83, 61-69.  | 0.7 | 266       |
| 16 | Experimental validation of estimated spatially variant radioisotope-specific point spread functions using published positron range simulations and fluorine-18 measurements. <i>Physics in Medicine and Biology</i> , 2018, 63, 24NT01.                                  | 1.6 | 3         |
| 17 | Dynamic PET Reconstruction Utilizing a Spatiotemporal 4D De-noising Kernel. , 2018, , .  |     | 2         |
| 18 | Motion-corrected reconstruction of parametric images from dynamic PET data with the Synergistic Image Reconstruction Framework (SIRF). , 2018, , .   |     | 2         |

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|----|---|-----|-----------|
| 19 | Incorporating HYPR de-noising within iterative PET reconstruction (HYPR-OSEM). <i>Physics in Medicine and Biology</i> , 2017, 62, 6666-6687.  | 1.6 | 19        |
| 20 | Deep brain stimulation of the periaqueductal gray releases endogenous opioids in humans. <i>NeuroImage</i> , 2017, 146, 833-842.  | 2.1 | 58        |
| 21 | A MR Guided De-noising for PET Using IHYPR-LR. , 2017, , .  |     | 0         |
| 22 | Validation of a realistic simulation of the HRRT using SimSET. , 2017, , .  |     | 1         |
| 23 | In vivo imaging of brain microglial activity in antipsychotic-free and medicated schizophrenia: a [11C](R)-PK11195 positron emission tomography study. <i>Molecular Psychiatry</i> , 2016, 21, 1672-1679. | 4.1 | 82        |
| 24 | Striatal opioid receptor availability is related to acute and chronic pain perception in arthritis. <i>Pain</i> , 2015, 156, 2267-2275.   | 2.0 | 34        |
| 25 | The assessment of time-of-flight on image quality and quantification with reduced administered activity and scan times in 18F-FDG PET. <i>Nuclear Medicine Communications</i> , 2015, 36, 728-737.        | 0.5 | 12        |
| 26 | Evaluation of the utility of estimated covariance kernels for predicting regional ensemble variance. , 2015, , .  |     | 0         |
| 27 | Assessment of bootstrap resampling performance for PET data. <i>Physics in Medicine and Biology</i> , 2015, 60, 279-299.  | 1.6 | 18        |
| 28 | Full field spatially-variant image-based resolution modelling reconstruction for the HRRT. <i>Physica Medica</i> , 2015, 31, 137-145.   | 0.4 | 13        |
| 29 | The effect of 18F-florbetapir dose reduction on region-based classification of cortical amyloid deposition. <i>European Journal of Nuclear Medicine and Molecular Imaging</i> , 2014, 41, 2144-2149.      | 3.3 | 11        |
| 30 | Impact of point spread function modelling and time of flight on FDG uptake measurements in lung lesions using alternative filtering strategies. <i>EJNMMI Physics</i> , 2014, 1, 99.                      | 1.3 | 67        |
| 31 | Evaluation of a direct 4D reconstruction method using generalised linear least squares for estimating nonlinear micro-parametric maps. <i>Annals of Nuclear Medicine</i> , 2014, 28, 860-873.             | 1.2 | 4         |
| 32 | Isotope specific resolution recovery image reconstruction in high resolution PET imaging. <i>Medical Physics</i> , 2014, 41, 052503.  | 1.6 | 11        |
| 33 | Application of adaptive kinetic modelling for bias propagation reduction in direct 4D image reconstruction. <i>Physics in Medicine and Biology</i> , 2014, 59, 6061-6084.                                 | 1.6 | 13        |
| 34 | Image-Based Spatially Variant and Count Rate Dependent Point Spread Function on the HRRT. <i>IEEE Transactions on Nuclear Science</i> , 2014, 61, 1192-1202.  | 1.2 | 6         |
| 35 | P-glycoprotein expression and function in patients with temporal lobe epilepsy: a case-control study. <i>Lancet Neurology</i> , The, 2013, 12, 777-785.   | 4.9 | 155       |
| 36 | Acceleration of image-based resolution modelling reconstruction using an expectation maximization nested algorithm. <i>Physics in Medicine and Biology</i> , 2013, 58, 5061-5083.                         | 1.6 | 10        |

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|----|--|-----|-----------|
| 37 | Impact of motion on indirect and direct reconstruction of kinetic parameters from dynamic PET data. , 2013, , .  |     | 0         |
| 38 | Isotope specific resolution modelling image reconstruction for high resolution PET imaging. , 2013, , .  |     | 2         |
| 39 | Comparison of depth of interaction encoding and resolution modelling image reconstruction in High Resolution PET imaging. , 2013, , .  |     | 0         |
| 40 | Optimization of methods for quantification of rCBF using high-resolution [ <sup>15</sup> O]H <sub>2</sub> O PET images. Physics in Medicine and Biology, 2012, 57, 2251-2271.  | 1.6 | 8         |
| 41 | Direct parametric reconstruction for dynamic [ <sup>18</sup> F]-FDG PET/CT imaging in the body. , 2012, , .  |     | 6         |
| 42 | Full field spatially-variant image-based resolution modelling reconstruction for the HRRT. , 2012, , .   |     | 4         |
| 43 | Application of adaptive kinetic modeling for bias propagation reduction in direct 4D image reconstruction. , 2012, , .   |     | 3         |
| 44 | Isotope dependent system matrices for high resolution PET imaging. , 2012, , .   |     | 2         |
| 45 | An investigation into attenuation artefacts created by cochlear implants in positron emission tomography. , 2012, , .  |     | 0         |
| 46 | Adaptive parametric kinetic modelling for improved full field of view fitting of PET data. , 2012, , .   |     | 10        |
| 47 | A Comparison of Gray Matter Density in Restless Legs Syndrome Patients and Matched Controls Using Voxel-Based Morphometry. Journal of Neuroimaging, 2012, 22, 28-32.   | 1.0 | 35        |
| 48 | Accuracy and variability of quantitative measurements using PET with time-of-flight information and resolution modelling. , 2011, , .  |     | 3         |
| 49 | The performance of monotonic and new non-monotonic gradient ascent reconstruction algorithms for high-resolution neuroreceptor PET imaging. Physics in Medicine and Biology, 2011, 56, 3895-3917.  | 1.6 | 4         |
| 50 | Verification of predicted robustness and accuracy of multivariate analysis. NeuroImage, 2011, 56, 1382-1385.   | 2.1 | 17        |
| 51 | Robustness of correlations between PCA of FDG-PET scans and biological variables in healthy and demented subjects. NeuroImage, 2011, 56, 782-787.  | 2.1 | 7         |
| 52 | A Multi-Center Randomized Proof-of-Concept Clinical Trial Applying [ <sup>18</sup> F]FDG-PET for Evaluation of Metabolic Therapy with Rosiglitazone XR in Mild to Moderate Alzheimer's Disease. Journal of Alzheimer's Disease, 2011, 22, 1241-1256. | 1.2 | 86        |
| 53 | Optimized Data Preprocessing for Multivariate Analysis Applied to <sup>99m</sup> Tc-ECD SPECT Data Sets of Alzheimer's Patients and Asymptomatic Controls. Journal of Cerebral Blood Flow and Metabolism, 2011, 31, 371-383.                         | 2.4 | 24        |
| 54 | Bias in iterative reconstruction of low-statistics PET data: benefits of a resolution model. Physics in Medicine and Biology, 2011, 56, 931-949.   | 1.6 | 92        |

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|----|---|-----|-----------|
| 55 | Single scan parameterization of space-variant point spread functions in image space via a printed array: the impact for two PET/CT scanners. <i>Physics in Medicine and Biology</i> , 2011, 56, 2917-2942.                            | 1.6 | 45        |
| 56 | A custom-built PET phantom design for quantitative imaging of printed distributions. <i>Physics in Medicine and Biology</i> , 2011, 56, N247-N261.  | 1.6 | 23        |
| 57 | Evaluation of image based spatially variant and count rate dependant point spread functions on the HRRT PET scanner. , 2011, , .  |     | 4         |
| 58 | Evaluation of a direct 4D reconstruction method using GLLS for estimating parametric maps of micro-parameters. , 2011, , .  |     | 4         |
| 59 | Impact of erroneous kinetic model formulation in Direct 4D image reconstruction. , 2011, , .  |     | 22        |
| 60 | Molecular Imaging and Pharmacokinetic Analysis of Carbon-11 Labeled Antisense Oligonucleotide LY2181308 in Cancer Patients. <i>Theranostics</i> , 2011, 1, 290-301.   | 4.6 | 14        |
| 61 | Direct reconstruction of parametric images using any spatiotemporal 4D image based model and maximum likelihood expectation maximisation. , 2010, , .   |     | 34        |
| 62 | Direct parametric estimation of blood flow in abdominal PET/CT within an EM reconstruction framework. , 2010, , .   |     | 7         |
| 63 | Fast single scan derivation of the PSF resolution model on the TruePoint PET/CT using a printed point source array. , 2010, , .   |     | 0         |
| 64 | Investigation of motion induced errors in scatter correction for the HRRT brain scanner. , 2010, , .  |     | 16        |
| 65 | Tumor Survivin Is Downregulated by the Antisense Oligonucleotide LY2181308: A Proof-of-Concept, First-in-Human Dose Study. <i>Clinical Cancer Research</i> , 2010, 16, 6150-6158.   | 3.2 | 94        |
| 66 | Development and validation of a variance model for dynamic PET: uses in fitting kinetic data and optimizing the injected activity. <i>Physics in Medicine and Biology</i> , 2010, 55, 6655-6672.                                      | 1.6 | 4         |
| 67 | Brain Serotonin Transporter Occupancy by Oral Sibutramine Dosed to Steady State: A PET Study Using 11C-DASB in Healthy Humans. <i>Neuropsychopharmacology</i> , 2010, 35, 741-751.  | 2.8 | 25        |
| 68 | Classification accuracy of multivariate analysis applied to 99mTc-ECD SPECT data in Alzheimer's disease patients and asymptomatic controls. , 2009, , .   |     | 1         |
| 69 | Bias in iterative reconstruction of low-statistics PET data: Benefits of a resolution model. , 2009, , .  |     | 3         |
| 70 | Optimization of the Injected Activity in Dynamic 3D PET: A Generalized Approach Using Patient-Specific NECs as Demonstrated by a Series of $^{15}\text{O}$ -H $_2$ O Scans. <i>Journal of Nuclear Medicine</i> , 2009, 50, 1409-1417. | 2.8 | 19        |
| 71 | Robustness of multivariate image analysis assessed by resampling techniques and applied to FDG-PET scans of patients with Alzheimer's disease. <i>NeuroImage</i> , 2009, 46, 472-485.   | 2.1 | 41        |
| 72 | Plasma pharmacokinetic evaluation of cytotoxic agents radiolabelled with positron emitting radioisotopes. <i>Cancer Chemotherapy and Pharmacology</i> , 2008, 61, 865-873.  | 1.1 | 22        |

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|----|--|-----|-----------|
| 73 | Patient-specific noise-equivalent-counts from repeated, dose varying [O-15]H <sub>2</sub> O PET scans. , 2007, , .   |     | 1         |
| 74 | Fully 4D image reconstruction by estimation of an input function and spectral coefficients. , 2007, , .  |     | 33        |
| 75 | Iterative Kinetic Parameter Estimation within Fully 4D PET Image Reconstruction. , 2006, , .   |     | 23        |
| 76 | Early change in glucose metabolic rate measured using FDG-PET in patients with high-grade glioma predicts response to temozolomide but not temozolomide plus radiotherapy. International Journal of Radiation Oncology Biology Physics, 2006, 66, 331-338.     | 0.4 | 44        |
| 77 | Imaging vascular physiology to monitor cancer treatment. Critical Reviews in Oncology/Hematology, 2006, 58, 95-113.  | 2.0 | 53        |
| 78 | Support for dopaminergic hypoactivity in restless legs syndrome: a PET study on D2-receptor binding. Brain, 2006, 129, 2017-2028.  | 3.7 | 224       |
| 79 | Behaviour of [11C]R(?) - and [11C]S(+)-rolipram in vitro and in vivo, and their use as PET radiotracers for the quantitative assay of PDE4. Synapse, 2005, 55, 270-279.  | 0.6 | 30        |
| 80 | Radiolabelling and in vivo evaluation of [11C]GSK215083 as potential PET radioligand for the 5-HT6 receptor in the porcine brain. Journal of Cerebral Blood Flow and Metabolism, 2005, 25, S598-S598.  | 2.4 | 7         |
| 81 | Investigation of acute modulation of cAMP in vivo with PET using [11C]rolipram. Journal of Cerebral Blood Flow and Metabolism, 2005, 25, S663-S663.  | 2.4 | 0         |
| 82 | The effect of ionic environments on the affinity of D2-dopamine receptor radioligands. Journal of Cerebral Blood Flow and Metabolism, 2005, 25, S616-S616.   | 2.4 | 0         |
| 83 | Kinetic analysis of neuroreceptor binding using PET. International Congress Series, 2004, 1265, 12-24.   | 0.2 | 7         |
| 84 | Quantification in positron emission tomography for research in pharmacology and drug development. Nuclear Medicine Communications, 2004, 25, 643-646.  | 0.5 | 32        |
| 85 | The peripheral benzodiazepine receptor ligand PK11195 binds with high affinity to the acute phase reactant $\alpha$ 1-acid glycoprotein: implications for the use of the ligand as a CNS inflammatory marker. Nuclear Medicine and Biology, 2003, 30, 199-206. | 0.3 | 96        |
| 86 | Effect of hyperventilation on cerebral blood flow in traumatic head injury: Clinical relevance and monitoring correlates*. Critical Care Medicine, 2002, 30, 1950-1959.  | 0.4 | 302       |
| 87 | Pharmacokinetic Evaluation of N-[2-(Dimethylamino)Ethyl]Acridine-4-Carboxamide in Patients by Positron Emission Tomography. Journal of Clinical Oncology, 2001, 19, 1421-1429.   | 0.8 | 76        |
| 88 | Tumor, Normal Tissue, and Plasma Pharmacokinetic Studies of Fluorouracil Biomodulation With N-Phosphonacetyl-L-aspartate, Folinic Acid, and Interferon Alfa. Journal of Clinical Oncology, 1999, 17, 1580-1580.  | 0.8 | 49        |
| 89 | Pharmacokinetic assessment of novel anti-cancer drugs using spectral analysis and positron emission tomography: A feasibility study. Cancer Chemotherapy and Pharmacology, 1998, 42, 183-193.  | 1.1 | 57        |
| 90 | Parametric image reconstruction using spectral analysis of PET projection data. Physics in Medicine and Biology, 1998, 43, 651-666.  | 1.6 | 85        |

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|----|--|-----|-----------|
| 91 | Suppression of Noise Artifacts in Spectral Analysis of Dynamic PET Data 1 1Transcripts of the BRAINPET97 discussion of this chapter can be found in Section VIII., 1998, , 329-334.        |     | 4         |
| 92 | The direct calculation of parametric images from dynamic PET data using maximum-likelihood iterative reconstruction. Physics in Medicine and Biology, 1997, 42, 1155-1173.                 | 1.6 | 103       |
| 93 | No relationship between 18F-fluorodeoxyglucose positron emission tomography and expression of Glut-1 and -3 and hexokinase I and II in high-grade glioma. Oncology Reports, 1994, 20, 537. | 1.2 | 4         |