

# Christoph Lerche

## List of Publications by Year in descending order

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71  
papers

1,531  
citations

471509

17  
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330143

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all docs

73  
docs citations

73  
times ranked

1431  
citing authors

#	ARTICLE	IF	CITATIONS
1	A Novel J-Shape Antenna Array for Simultaneous MR-PET or MR-SPECT Imaging. IEEE Transactions on Medical Imaging, 2022, 41, 1104-1113.	8.9	7
2	mGluR5 binding changes during a mismatch negativity task in a multimodal protocol with [11C]ABP688 PET/MR-EEG. Translational Psychiatry, 2022, 12, 6.	4.8	7
3	<scp>mGluR<sub>5</sub></scp> and <scp>GABA<sub>A</sub></scp> receptorâ€™specific parametric <scp>PET</scp> atlas constructionâ€™ <scp>PET</scp>/<scp>MR</scp> data processing pipeline, validation, and application. Human Brain Mapping, 2022, 43, 2148-2163.	3.6	5
4	Static FET PET radiomics for the differentiation of treatment-related changes from glioma progression. Journal of Neuro-Oncology, 2022, 159, 519-529.	2.9	11
5	Two Decades of Brain Tumour Imaging with O-(2-[18F]fluoroethyl)-L-tyrosine PET: The Forschungszentrum JÃ¼lich Experience. Cancers, 2022, 14, 3336.	3.7	8
6	Comparison of EEG microstates with resting state fMRI and FDGâ€™PET measures in the default mode network via simultaneously recorded trimodal (PET/MR/EEG) data. Human Brain Mapping, 2021, 42, 4122-4133.	3.6	32
7	A Linearized Fit Model for Robust Shape Parameterization of FET-PET TACs. IEEE Transactions on Medical Imaging, 2021, 40, 1-1.	8.9	2
8	High-throughput, accurate Monte Carlo simulation on CPU hardware for PET applications. Physics in Medicine and Biology, 2021, 66, 185001.	3.0	5
9	Excitatoryâ€™inhibitory balance within EEG microstates and resting-state fMRI networks: assessed via simultaneous trimodal PETâ€™MRâ€™EEG imaging. Translational Psychiatry, 2021, 11, 60.	4.8	21
10	Bias evaluation and reduction in 3D OP-OSEM reconstruction in dynamic equilibrium PET studies with 11C-labeled for binding potential analysis. PLoS ONE, 2021, 16, e0245580.	2.5	5
11	Scatter Correction Based on GPU-Accelerated Full Monte Carlo Simulation for Brain PET/MRI. IEEE Transactions on Medical Imaging, 2020, 39, 140-151.	8.9	15
12	FET PET Radiomics for Differentiating Pseudoprogression from Early Tumor Progression in Glioma Patients Post-Chemoradiation. Cancers, 2020, 12, 3835.	3.7	55
13	mGluR5 receptor availability is associated with lower levels of negative symptoms and better cognition in male patients with chronic schizophrenia. Human Brain Mapping, 2020, 41, 2762-2781.	3.6	20
14	The JÃ¼lich Experience With Simultaneous 3T MR-BrainPET: Methods and Technology. IEEE Transactions on Radiation and Plasma Medical Sciences, 2019, 3, 352-362.	3.7	14
15	Resolution modeling in projection space using a factorized multi-block detector response function for PET image reconstruction. Physics in Medicine and Biology, 2019, 64, 145012.	3.0	6
16	Simultaneous PET-MR-EEG: Technology, Challenges and Application in Clinical Neuroscience. IEEE Transactions on Radiation and Plasma Medical Sciences, 2019, 3, 377-385.	3.7	9
17	Image-based Motion Correction for the Siemens hybrid-MR/BrainPET Scanner. Nuklearmedizin - NuclearMedicine, 2019, 58, .	0.7	4
18	A new PET detector concept for compact preclinical high-resolution hybrid MR-PET. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2018, 888, 44-52.	1.6	4

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19	PET attenuation correction for rigid MR Tx/Rx coils from <sup>176</sup> Lu background activity. Physics in Medicine and Biology, 2018, 63, 035039.	3.0	11
20	TRIMAGE: A dedicated trimodality (PET/MR/EEG) imaging tool for schizophrenia. European Psychiatry, 2018, 50, 7-20.	0.2	40
21	Alternative headphones for patient noise protection and communication in PET-MR studies of the brain. EJMIMI Research, 2018, 8, 106.	2.5	7
22	Resolution Modelling in Projection Space using Factorized Multi-block Detector Response Function. , 2018, , .		0
23	Predicting IDH genotype in gliomas using FET PET radiomics. Scientific Reports, 2018, 8, 13328.	3.3	90
24	RESampling between Projection SpACES (RESPACE) using Bayesâ€™ Theorem. , 2018, , .		0
25	Design and Characterization of a Gradient-Transparent RF Copper Shield for PET Detector Modules in Hybrid MR-PET Imaging. IEEE Transactions on Nuclear Science, 2017, 64, 1118-1127.	2.0	8
26	Multimodal Fingerprints of Resting State Networks as assessed by Simultaneous Trimodal MR-PET-EEG Imaging. Scientific Reports, 2017, 7, 6452.	3.3	23
27	NIMG-32. DIFFERENTIATION OF PSEUDOPROGRESSION FROM TUMOR PROGRESSION IN GLIOBLASTOMA PATIENTS BASED ON FET PET RADIOMICS. Neuro-Oncology, 2017, 19, vi148-vi149.	1.2	3
28	Attenuation Correction of Cerebellum in PET/MR Data. , 2017, , .		0
29	Simultaneous trimodal PET-MR-EEG imaging: Do EEG caps generate artefacts in PET images?. PLoS ONE, 2017, 12, e0184743.	2.5	11
30	Application and performance of an ML-EM algorithm in NEXT. Journal of Instrumentation, 2017, 12, P08009-P08009.	1.2	8
31	New Imaging Method of Positrons Leaving the Source Application for PET/MR hybrid Scanners -. , 2017, , .		1
32	Iterative, direct LOR PET Image Reconstruction of Human Brain Data for the Siemens mMR Biograph. , 2017, , .		0
33	Full dynamic brain simulation using GATE in a high-performance computer. , 2017, , .		0
34	NIMG-82. PREDICTING ISOCITRATE DEHYDROGENASE GENOTYPE IN GLIOMAS USING FET PET RADIOMICS. Neuro-Oncology, 2017, 19, vi160-vi160.	1.2	1
35	Event reconstruction in NEW using a ML-EM algorithm. , 2017, , .		0
36	Initial PET performance evaluation of a preclinical insert for PET/MRI with digital SiPM technology. Physics in Medicine and Biology, 2016, 61, 2851-2878.	3.0	59

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37	Advances in Clinical PET/MRI Instrumentation. PET Clinics, 2016, 11, 95-103.	3.0	38
38	Maximum likelihood positioning and energy correction for scintillation detectors. Physics in Medicine and Biology, 2016, 61, 1650-1676.	3.0	6
39	Software-Based Real-Time Acquisition and Processing of PET Detector Raw Data. IEEE Transactions on Biomedical Engineering, 2016, 63, 316-327.	4.2	16
40	Reconstruction of attenuation maps for a PET/MR scanner based on the LSO background activity. , 2015, , .		0
41	A Digital Preclinical PET/MRI Insert and Initial Results. IEEE Transactions on Medical Imaging, 2015, 34, 2258-2270.	8.9	97
42	PET Performance Evaluation of a Pre-Clinical SiPM-Based MR-Compatible PET Scanner. IEEE Transactions on Nuclear Science, 2015, 62, 784-790.	2.0	30
43	PET/MR Synchronization by Detection of Switching Gradients. IEEE Transactions on Nuclear Science, 2015, 62, 650-657.	2.0	9
44	Data Processing for a High Resolution Preclinical PET Detector Based on Philips DPC Digital SiPMs. IEEE Transactions on Nuclear Science, 2015, 62, 669-678.	2.0	31
45	MR compatibility aspects of a silicon photomultiplier-based PET/RF insert with integrated digitisation. Physics in Medicine and Biology, 2014, 59, 5119-5139.	3.0	105
46	Towards Software-Based Real-Time Singles and Coincidence Processing of Digital PET Detector Raw Data. IEEE Transactions on Nuclear Science, 2013, 60, 1550-1559.	2.0	73
47	Demonstration of motion correction for PET-MR with PVA cryogel phantoms. , 2013, , .		1
48	Calibration and stability of a SiPM-based simultaneous PET/MR insert. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2013, 702, 50-53.	1.6	6
49	MR image quality and timing resolution of an analog SiPM based pre-clinical PET/MR insert. , 2012, , .		2
50	Design concept of world's first preclinical PET/MR insert with fully digital silicon photomultiplier technology. , 2012, , .		27
51	PET performance evaluation of a pre-clinical SiPM based MR-compatible PET scanner. , 2012, , .		1
52	Sensitivity Encoded Silicon Photomultipliers (SeSPs): A novel detector design for uniform crystal identification. , 2011, , .		3
53	SiPM based preclinical PET/MR insert for a human 3T MR: first imaging experiments. , 2011, , .		30
54	AMIC: An Expandable Front-End for Gamma-Ray Detectors With Light Distribution Analysis Capabilities. IEEE Transactions on Nuclear Science, 2011, 58, 1641-1646.	2.0	16

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55	Singles and coincidence processing for a digital PET/MR system using SiPM detectors. , 2011, , .		2
56	Maximum likelihood based positioning and energy correction for pixelated solid state PET detectors. , 2011, , .		8
57	Variable preprocessing applied to neural network position estimators for 2-D PET. , 2011, , .		0
58	Efficient readout electronics for multi-anode photomultiplier. , 2010, , .		1
59	AMIC: An expandable front-end for gamma-ray detectors with light distribution analysis capabilities. , 2010, , .		3
60	Analysis of time resolution in a dual head $\langle \text{mml:math} \text{xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si2.gif" overflow="scroll" \rangle \langle \text{mml:mi} \text{LSO} \langle \text{mml:mi} \rangle \langle \text{mml:mo} \rangle + \langle \text{mml:mo} \rangle \langle \text{mml:mi} \text{PSPMT} \langle \text{mml:mi} \rangle \langle \text{mml:math} \rangle$ PET system using low pass filter interpolation and digital constant fraction discriminator techniques. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2009, 604, 347-350.	1.6	7
61	Dependency of Energy-, Position- and Depth of Interaction Resolution on Scintillation Crystal Coating and Geometry. IEEE Transactions on Nuclear Science, 2008, 55, 1344-1351.	2.0	44
62	PESIC: An Integrated Front-End for PET Applications. IEEE Transactions on Nuclear Science, 2008, 55, 27-33.	2.0	26
63	Improved Digital Pulse Height Estimation for PET Detectors Using LMS Adaptive Filters. IEEE Transactions on Nuclear Science, 2008, 55, 48-53.	2.0	7
64	DOI measurement with monolithic scintillation crystals: A primary performance evaluation. , 2007, , .		14
65	Front-end circuit for position sensitive silicon and vacuum tube photomultipliers with gain control and depth of interaction measurement. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2007, 576, 118-122.	1.6	3
66	Performance tests of two portable mini gamma cameras for medical applications. Medical Physics, 2006, 33, 4210-4220.	3.0	59
67	Corrected position estimation in PET detector modules with multi-anode PMTs using neural networks. , 2005, , .		2
68	Depth of $\text{/spl}$ gamma-ray interaction within continuous crystals from the width of its scintillation light-distribution. IEEE Transactions on Nuclear Science, 2005, 52, 560-572.	2.0	117
69	The Gamma Functional Navigator. IEEE Transactions on Nuclear Science, 2004, 51, 682-689.	2.0	3
70	Infrared exponent for gluon and ghost propagation in Landau gauge QCD. Physical Review D, 2002, 65, .	4.7	249
71	A software-based approach for calculating spatially resolved radiation exposure for structural radiation protection in nuclear medical imaging. Journal of Radiological Protection, 0, , .	1.1	0