Joseph M Reinhardt

List of Publications by Year
in descending order

144 papers	4,886 citations	109137 35 h-index	110170 64 g-index
144 all docs	144 docs citations	144 times ranked	4547 citing authors

#	Article	IF	Citations
1	Evaluation of Registration Methods on Thoracic CT: The EMPIRE10 Challenge. IEEE Transactions on Medical Imaging, 2011, 30, 1901-1920.	5.4	363
2	Registration-based estimates of local lung tissue expansion compared to xenon CT measures of specific ventilation. Medical Image Analysis, 2008, 12, 752-763.	7.0	273
3	Automated Early Detection of Diabetic Retinopathy. Ophthalmology, 2010, 117, 1147-1154.	2.5	221
4	Segmentation and analysis of the human airway tree from three-dimensional X-ray CT images. IEEE Transactions on Medical Imaging, 2003, 22, 940-950.	5.4	202
5	Characterization of the interstitial lung diseases via density-based and texture-based analysis of computed tomography images of lung structure and function1. Academic Radiology, 2003, 10, 1104-1118.	1.3	179
6	Extraction of Airways From CT (EXACT'09). IEEE Transactions on Medical Imaging, 2012, 31, 2093-2107.	5.4	173
7	Atlas-driven lung lobe segmentation in volumetric X-ray CT images. IEEE Transactions on Medical Imaging, 2006, 25, 1-16.	5.4	170
8	Splat Feature Classification With Application to Retinal Hemorrhage Detection in Fundus Images. IEEE Transactions on Medical Imaging, 2013, 32, 364-375.	5.4	147
9	Three-Dimensional Human Airway Segmentation Methods for Clinical Virtual Bronchoscopy. Academic Radiology, 2002, 9, 1153-1168.	1.3	141
10	Breast MRI lesion classification: Improved performance of human readers with a backpropagation neural network computer-aided diagnosis (CAD) system. Journal of Magnetic Resonance Imaging, 2007, 25, 89-95.	1.9	138
11	Anatomy-Guided Lung Lobe Segmentation in X-Ray CT Images. IEEE Transactions on Medical Imaging, 2009, 28, 202-214.	5.4	127
12	Establishing a Normative Atlas of the Human Lung. Academic Radiology, 2003, 10, 255-265.	1.3	124
13	Maximizing quantitative accuracy of lung airway lumen and wall measures obtained from X-ray CT imaging. Journal of Applied Physiology, 2003, 95, 1063-1075.	1.2	109
14	CT-measured regional specific volume change reflects regional ventilation in supine sheep. Journal of Applied Physiology, 2008, 104, 1177-1184.	1.2	97
15	Vessel Boundary Delineation on Fundus Images Using Graph-Based Approach. IEEE Transactions on Medical Imaging, 2011, 30, 1184-1191.	5.4	93
16	4DCTâ€based measurement of changes in pulmonary function following a course of radiation therapy. Medical Physics, 2010, 37, 1261-1272.	1.6	89
17	FissureNet: A Deep Learning Approach For Pulmonary Fissure Detection in CT Images. IEEE Transactions on Medical Imaging, 2019, 38, 156-166.	5.4	77
18	Lung structure phenotype variation in inbred mouse strains revealed through in vivo micro-CT imaging. Journal of Applied Physiology, 2010, 109, 1960-1968.	1.2	74

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19	Rapid prototype patient-specific drill template for cervical pedicle screw placement. Computer Aided Surgery, 2007, 12, 303-308.	1.8	72
20	Three-dimensional characterization of regional lung deformation. Journal of Biomechanics, 2011, 44, 2489-2495.	0.9	69
21	The comprehensive imaging-based analysis of the lung. Academic Radiology, 2004, 11, 1370-1380.	1.3	67
22	Automated Method for Identification and Artery-Venous Classification of Vessel Trees in Retinal Vessel Networks. PLoS ONE, 2014, 9, e88061.	1.1	66
23	Air Trapping and Airflow Obstruction in Newborn Cystic Fibrosis Piglets. American Journal of Respiratory and Critical Care Medicine, 2013, 188, 1434-1441.	2.5	60
24	Computed Tomography Measure of Lung at Risk and Lung Function Decline in Chronic Obstructive Pulmonary Disease. American Journal of Respiratory and Critical Care Medicine, 2017, 196, 569-576.	2.5	59
25	The VAMPIRE challenge: A multiâ€institutional validation study of CT ventilation imaging. Medical Physics, 2019, 46, 1198-1217.	1.6	59
26	Registration-Based Lung Mechanical Analysis of Chronic Obstructive Pulmonary Disease (COPD) Using a Supervised Machine Learning Framework. Academic Radiology, 2013, 20, 527-536.	1.3	57
27	Reproducibility of registration-based measures of lung tissue expansion. Medical Physics, 2012, 39, 1595-1608.	1.6	55
28	Comparison of image registration based measures of regional lung ventilation from dynamic spiral CT with Xeâ€CT. Medical Physics, 2012, 39, 5084-5098.	1.6	55
29	Multi-resolution convolutional neural networks for fully automated segmentation of acutely injured lungs in multiple species. Medical Image Analysis, 2020, 60, 101592.	7.0	55
30	A cubic B-spline-based hybrid registration of lung CT images for a dynamic airway geometric model with large deformation. Physics in Medicine and Biology, 2011, 56, 203-218.	1.6	49
31	Image-based drill templates for cervical pedicle screw placement. Journal of Neurosurgery: Spine, 2009, 10, 21-26.	0.9	46
32	Segmentation of pathological and diseased lung tissue in CT images using a graph-search algorithm. , 2011, , .		46
33	Recent Advances in Computed Tomography Imaging in Chronic Obstructive Pulmonary Disease. Annals of the American Thoracic Society, 2018, 15, 281-289.	1.5	44
34	Biomechanical CT metrics are associated with patient outcomes in COPD. Thorax, 2017, 72, 409-414.	2.7	41
35	Airway fractal dimension predicts respiratory morbidity and mortality in COPD. Journal of Clinical Investigation, 2018, 128, 5374-5382.	3.9	38
36	Computed Tomography Studies of Lung Mechanics. Proceedings of the American Thoracic Society, 2005, 2, 517-521.	3.5	37

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37	Computer-Assisted Assessment of Hyoid Bone Motion from Videofluoroscopic Swallow Studies. Dysphagia, 2010, 25, 298-306.	1.0	37
38	CT image segmentation for inflamed and fibrotic lungs using a multi-resolution convolutional neural network. Scientific Reports, 2021, 11, 1455.	1.6	32
39	‹title›Lung lobe segmentation by graph search with 3D shape constraints‹/title›. , 2001, , .		29
40	Smoothing Lung Segmentation Surfaces in Three-dimensional X-ray CT Images Using Anatomic Guidance1. Academic Radiology, 2005, 12, 1502-1511.	1.3	28
41	Respiratory effort correction strategies to improve the reproducibility of lung expansion measurements. Medical Physics, 2013, 40, 123504.	1.6	28
42	Evaluation of Lobar Biomechanics during Respiration Using Image Registration. Lecture Notes in Computer Science, 2009, 12, 739-746.	1.0	28
43	Establishing a Normative Atlas of the Human Lung. Academic Radiology, 2012, 19, 1368-1381.	1.3	27
44	Registration-Derived Estimates of Local Lung Expansion as Surrogates for Regional Ventilation. Lecture Notes in Computer Science, 2007, 20, 763-774.	1.0	27
45	CT-derived Biomechanical Metrics Improve Agreement Between Spirometry and Emphysema. Academic Radiology, 2016, 23, 1255-1263.	1.3	26
46	Signs of Gas Trapping in Normal Lung Density Regions in Smokers. American Journal of Respiratory and Critical Care Medicine, 2017, 196, 1404-1410.	2.5	26
47	Pulmonary CT image registration and warping for tracking tissue deformation during the respiratory cycle through 3D consistent image registration. Medical Physics, 2008, 35, 5575-5583.	1.6	25
48	Deep neural network analyses of spirometry for structural phenotyping of chronic obstructive pulmonary disease. JCI Insight, 2020, 5, .	2.3	23
49	‹title›Evaluation and application of 3D lung warping and registration model using HRCT images‹/title›. , 2001, 4321, 234.		22
50	Objective and expert-independent validation of retinal image registration algorithms by a projective imaging distortion model. Medical Image Analysis, 2010, 14, 539-549.	7.0	22
51	Quantifying ventilation change due to radiation therapy using 4‹scp›DCT‹/scp› Jacobian calculations. Medical Physics, 2018, 45, 4483-4492.	1.6	22
52	Improving Intensity-Based Lung CT Registration Accuracy Utilizing Vascular Information. International Journal of Biomedical Imaging, 2012, 2012, 1-17.	3.0	21
53	Automated Detection of Malarial Retinopathy-Associated Retinal Hemorrhages. , 2012, 53, 6582.		21
54	Reproducibility of intensityâ€based estimates of lung ventilation. Medical Physics, 2013, 40, 063504.	1.6	21

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55	Smoothing lung segmentation surfaces in 3D x-ray CT images using anatomic guidance. , 2004, 5370, 1066.		20
56	Engineering patient-specific drill templates and bioabsorbable posterior cervical plates: a feasibility study. Journal of Neurosurgery: Spine, 2009, 10, 129-132.	0.9	20
57	A Measure for Characterizing Sliding on Lung Boundaries. Annals of Biomedical Engineering, 2014, 42, 642-650.	1.3	20
58	Quantification of confocal images of biofilms grown on irregular surfaces. Journal of Microbiological Methods, 2014, 100, 111-120.	0.7	20
59	Pulmonary Lobe Segmentation Using A Sequence of Convolutional Neural Networks For Marginal Learning. , 2019, , .		18
60	<title>Detection of lung lobar fissures using fuzzy logic</title>. , 1999, , .		17
61	Integrated CT/Bronchoscopy in the Central Airways. Academic Radiology, 2008, 15, 786-798.	1.3	17
62	Tissue volume and vesselness measure preserving nonrigid registration of lung CT images. Proceedings of SPIE, 2010, , .	0.8	17
63	Computed Tomographyâ€“based Airway Surface Areaâ€“to-Volume Ratio for Phenotyping Airway Remodeling in Chronic Obstructive Pulmonary Disease. American Journal of Respiratory and Critical Care Medicine, 2021, 203, 185-191.	2.5	17
64	Quantifying Regional Lung Deformation Using Four-Dimensional Computed Tomography: A Comparison of Conventional and Oscillatory Ventilation. Frontiers in Physiology, 2020, 11, 14.	1.3	15
65	Quantitative pulmonary imaging: Spatial and temporal considerations in high-resolution CT. Academic Radiology, 1998, 5, 539-546.	1.3	14
66	An Airway Phantom to Standardize CT Acquisition in Multicenter Clinical Trials. Academic Radiology, 2009, 16, 1134-1141.e1.	1.3	14
67	Virtual bronchoscopy for quantitative airway analysis. , 2005, , .		13
68	Automatic lung lobe segmentation in x-ray CT images by 3D watershed transform using anatomic information from the segmented airway tree. , 2005, , .		13
69	Automated measurement of retinal blood vessel tortuosity. Proceedings of SPIE, 2010, , .	0.8	13
70	Identification and reconnection of interrupted vessels in retinal vessel segmentation. , 2011, , .		13
71	A Novel Method for Automatic Identification of Breathing State. Scientific Reports, 2019, 9, 103.	1.6	13
72	<title>Automatic generation of object shape models and their application to tomographic image segmentation</title>. , 2001, , .		12

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73	3D human airway segmentation for virtual bronchoscopy. , 2002, 4683, 16.		12
74	Validation of Retinal Image Registration Algorithms by a Projective Imaging Distortion Model. Annual International Conference of the IEEE Engineering in Medicine and Biology Society, 2007, 2007, 6472-5.	0.5	12
75	Automated method for the identification and analysis of vascular tree structures in retinal vessel network. Proceedings of SPIE, 2011, , .	0.8	12
76	N-Phase Local Expansion Ratio for Characterizing Out-of-Phase Lung Ventilation. IEEE Transactions on Medical Imaging, 2020, 39, 2025-2034.	5.4	12
77	<title>3D pulmonary CT image registration with a standard lung atlas</title>. , 2000, 3978, 67.		11
78	Atlas-driven lung lobe segmentation in volumetric x-ray CT images. , 2003, , .		11
79	Evaluation of the Î”V 4D CT ventilation calculation method using in vivo xenon CT ventilation data and comparison to other methods. Journal of Applied Clinical Medical Physics, 2016, 17, 550-560.	0.8	11
80	Effects of Lung Injury on Regional Aeration and Expiratory Time Constants: Insights From Four-Dimensional Computed Tomography Image Registration. Frontiers in Physiology, 2021, 12, 707119.	1.3	11
81	Feature-based pairwise retinal image registration by radial distortion correction. , 2007, , .		10
82	Registration-based regional lung mechanical analysis: retrospectively reconstructed dynamic imaging versus static breath-hold image acquisition. Proceedings of SPIE, 2009, , .	0.8	10
83	Automated artery-venous classification of retinal blood vessels based on structural mapping method. Proceedings of SPIE, 2012, , .	0.8	10
84	Modeling the impact of outâ€ofâ€phase ventilation on normal lung tissue response to radiation dose. Medical Physics, 2020, 47, 3233-3242.	1.6	10
85	Rapid prototype patient-specific drill template for cervical pedicle screw placement. Computer Aided Surgery, 2007, 12, 303-308.	1.8	10
86	Macro-optical color assessment of the pulmonary airways with subsequent three-dimensional multidetector-x-ray-computed-tomography assisted display. Journal of Biomedical Optics, 2005, 10, 051703.	1.4	9
87	Retinal image mosaicing using the radial distortion correction model. , 2008, , .		9
88	Retinal atlas statistics from color fundus images. Proceedings of SPIE, 2010, , .	0.8	9
89	Unifying Vascular Information in Intensity-Based Nonrigid Lung CT Registration. Lecture Notes in Computer Science, 2010, , 1-12.	1.0	9
90	3D intersubject warping and registration of pulmonary CT images for a human lung model. , 2002, 4683, 324.		8

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91	Automated Quantification of Inherited Phenotypes from Color Images: A Twin Study of the Variability of Optic Nerve Head Shape. , 2010, 51, 5870.		8
92	Effect of Segmental Bronchoalveolar Lavage on Quantitative Computed Tomography of the Lung. Academic Radiology, 2011, 18, 876-884.	1.3	8
93	Geodesic density regression for correcting 4DCT pulmonary respiratory motion artifacts. Medical Image Analysis, 2021, 72, 102140.	7.0	8
94	A Process Model for Direct Correlation between Computed Tomography and Histopathology. Academic Radiology, 2010, 17, 169-180.	1.3	7
95	Radiation-induced Hounsfield unit change correlates with dynamic CT perfusion better than 4DCT-based ventilation measures in a novel-swine model. Scientific Reports, 2021, 11, 13156.	1.6	7
96	Radiation-induced airway changes and downstream ventilation decline in a swine model. Biomedical Physics and Engineering Express, 2021, 7, 065039.	0.6	7
97	Estimation of regional lung expansion via 3D image registration. , 2005, , .		6
98	Tracking Regional Tissue Volume and Function Change in Lung Using Image Registration. International Journal of Biomedical Imaging, 2012, 2012, 1-14.	3.0	6
99	Development of a preliminary pediatric tracheal growth model from magnetic resonance images. Laryngoscope, 2014, 124, 1947-1951.	1.1	6
100	PLOSL: Population learning followed by one shot learning pulmonary image registration using tissue volume preserving and vesselness constraints. Medical Image Analysis, 2022, 79, 102434.	7.0	6
101	Cue-Based Segmentation of 4D Cardiac Image Sequences. Computer Vision and Image Understanding, 2000, 77, 251-262.	3.0	5
102	Three-dimensional true color topographical analysis of the pulmonary airways. , 2004, 5369, 189.		5
103	Three-dimensional visual truth of the normal airway tree for use as a quantitative comparison to micro-CT reconstructions. , 2005, , .		5
104	Automatic segmentation of pulmonary fissures in x-ray CT images using anatomic guidance. , 2006, , .		5
105	Regional Gas Transport During Conventional and Oscillatory Ventilation Assessed by Xenon-Enhanced Computed Tomography. Annals of Biomedical Engineering, 2021, 49, 2377-2388.	1.3	5
106	Case Studies in Physiology: Temporal variations of the lung parenchyma and vasculature in asymptomatic COVID-19 pneumonia: a multispectral CT assessment. Journal of Applied Physiology, 2021, 131, 454-463.	1.2	5
107	Retinal Vessel Width Measurement at Branchings Using an Improved Electric Field Theory-Based Graph Approach. PLoS ONE, 2012, 7, e49668.	1.1	5
108	<title>Computed tomographic-based estimation of airway size with correction for scanned plane tilt angle</title>. , 2000, , .		4

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109	A whole organ serial sectioning and imaging system for correlation of pathology to computer tomography. , 2004, 5324, 224.		4
110	Three-dimensional murine airway segmentation in micro-CT images. , 2007, , .		4
111	Registration-based measurement of regional expiration volume ratio using dynamic 4DCT imaging. , 2011, , .		4
112	Simultaneous automatic detection of optic disc and fovea on fundus photographs. , 2011, , .		4
113	Enhanced analysis of bacteria susceptibility in connected biofilms. Journal of Microbiological Methods, 2012, 90, 9-14.	0.7	4
114	Tissue-Volume Preserving Deformable Image Registration for 4DCT Pulmonary Images. , 2016, , .		4
115	Transfer Learning for Segmentation of Injured Lungs Using Coarse-to-Fine Convolutional Neural Networks. Lecture Notes in Computer Science, 2018, , 191-201.	1.0	4
116	<title>Automatic axis generation for 3D virtual-bronchoscopic image assessment</title>. , 1998, , .		3
117	Current-and Varifold-Based Registration of Lung Vessel and Airway Trees. , 2016, , .		3
118	A Deep Learning Approach to Video Fluoroscopic Swallowing Exam Classification. , 2020, , .		3
119	Registration-Invariant Biomechanical Features for Disease Staging of COPD in SPIROMICS. Lecture Notes in Computer Science, 2020, , 143-154.	1.0	3
120	Quantitative CT Characteristics of Cluster Phenotypes in the Severe Asthma Research Program Cohorts. Radiology, 2022, 304, 450-459.	3.6	3
121	<title>Flexible search-based approach for morphological shape decomposition</title>. , 1993, 2094, 1424.		2
122	Classification of mammographic masses: comparison between Backpropagation Neural Network (BNN) and human readers. , 2003, , .		2
123	Segmentation of the ovine lung in 3D CT Images. , 2004, , .		2
124	3D pulmonary airway color image reconstruction via shape from shading and virtual bronchoscopy imaging techniques. , 2005, , .		2
125	Establishing multimodality datasets with the incorporation of 3D histopathology for soft tissue classification. , 2006, , .		2
126	GUEST EDITORIAL: MEDICAL IMAGING INFORMATICS â€" AN INFORMATION PROCESSING FROM IMAGE FORMATION TO VISUALIZATION. International Journal of Image and Graphics, 2007, 07, 1-15.	1.2	2

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127	Retinal vessel width measurement at branching points using an improved electric field theory-based graph approach. Proceedings of SPIE, 2012, , .	0.8	2
128	Computed Tomography Image Matching in Chronic Obstructive Pulmonary Disease. Critical Reviews in Biomedical Engineering, 2016, 44, 411-425.	0.5	2
129	Detecting Out-of-Phase Ventilation Using 4DCT to Improve Radiation Therapy for Lung Cancer. Lecture Notes in Computer Science, 2018, , 251-259.	1.0	2
130	Contact mechanics model of lung lobar sliding. Applications in Engineering Science, 2022, 10, 100098.	0.5	2
131	Classification of pulmonary airway disease based on mucosal color analysis. , 2005, , .		1
132	Cardiac Image Processing. , 2005, , 1175-XXXIV.		1
133	Tracking the hyoid bone in videofluoroscopic swallowing studies. , 2008, , .		1
134	Estimation of lung lobar sliding using image registration. , 2012, , .		1
135	Intensity-Based Registration for Lung MotionÂEstimation. Biological and Medical Physics Series, 2013, , 125-158.	0.3	1
136	Single Volume Lung Biomechanics from Chest Computed Tomography Using a Mode Preserving Generative Adversarial Network. , 2022, , .		1
137	The use and benefit of stereology in choosing a CT scanning protocol for the lung. , 2005, 5747, 667.		0
138	Human airway tree structure query atlas. Proceedings of SPIE, 2010, , .	0.8	0
139	Time-varying lung ventilation analysis of 4DCT using image registration. , 2011, , .		0
140	Graph-based segmentation of the pediatric trachea in MR images to model growth. Proceedings of SPIE, 2013, , .	0.8	0
141	Color analysis of the human airway wall. , 2002, , .		0
142	Comparison of Regional Lung Deformation Between Dynamic and Static CT Imagery Using Inverse Consistent Registration. , 2009, , .		0
143	A Novel Method of Characterizing Regional Lung Deformation. , 2010, , .		0
144	Estimation of Lung Ventilation. Biological and Medical Physics Series, 2013, , 297-317.	0.3	0