

Andrew J Burghardt

List of Publications by Year in descending order

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89
papers

5,624
citations

81900

39
h-index

79698

73
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90
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docs citations

90
times ranked

4736
citing authors

#	ARTICLE	IF	CITATIONS
1	High-Resolution Peripheral Quantitative Computed Tomographic Imaging of Cortical and Trabecular Bone Microarchitecture in Patients with Type 2 Diabetes Mellitus. <i>Journal of Clinical Endocrinology and Metabolism</i> , 2010, 95, 5045-5055.	3.6	407
2	Reproducibility of direct quantitative measures of cortical bone microarchitecture of the distal radius and tibia by HR-pQCT. <i>Bone</i> , 2010, 47, 519-528.	2.9	397
3	Increased cortical porosity in type 2 diabetic postmenopausal women with fragility fractures. <i>Journal of Bone and Mineral Research</i> , 2013, 28, 313-324.	2.8	369
4	Age- and gender-related differences in the geometric properties and biomechanical significance of intracortical porosity in the distal radius and tibia. <i>Journal of Bone and Mineral Research</i> , 2010, 25, 983-993.	2.8	271
5	Visual grading of motion induced image degradation in high resolution peripheral computed tomography: Impact of image quality on measures of bone density and micro-architecture. <i>Bone</i> , 2012, 50, 111-118.	2.9	223
6	High-resolution Computed Tomography for Clinical Imaging of Bone Microarchitecture. <i>Clinical Orthopaedics and Related Research</i> , 2011, 469, 2179-2193.	1.5	213
7	A longitudinal HR-pQCT study of alendronate treatment in postmenopausal women with low bone density: Relations among density, cortical and trabecular microarchitecture, biomechanics, and bone turnover. <i>Journal of Bone and Mineral Research</i> , 2010, 25, 2558-2571.	2.8	210
8	Does vertebral bone marrow fat content correlate with abdominal adipose tissue, lumbar spine bone mineral density, and blood biomarkers in women with type 2 diabetes mellitus?. <i>Journal of Magnetic Resonance Imaging</i> , 2012, 35, 117-124.	3.4	196
9	High-Resolution Peripheral Quantitative Computed Tomography for the Assessment of Bone Strength and Structure: A Review by the Canadian Bone Strength Working Group. <i>Current Osteoporosis Reports</i> , 2013, 11, 136-146.	3.6	182
10	High-Resolution Imaging Techniques for the Assessment of Osteoporosis. <i>Radiologic Clinics of North America</i> , 2010, 48, 601-621.	1.8	174
11	In Vivo Determination of Bone Structure in Postmenopausal Women: A Comparison of HR-pQCT and High-Field MR Imaging. <i>Journal of Bone and Mineral Research</i> , 2008, 23, 463-474.	2.8	122
12	Morphology of the human vertebral endplate. <i>Journal of Orthopaedic Research</i> , 2012, 30, 280-287.	2.3	121
13	Serum miRNA Signatures Are Indicative of Skeletal Fractures in Postmenopausal Women With and Without Type 2 Diabetes and Influence Osteogenic and Adipogenic Differentiation of Adipose Tissueâ€œDerived Mesenchymal Stem Cells In Vitro. <i>Journal of Bone and Mineral Research</i> , 2016, 31, 2173-2192.	2.8	115
14	A Local Adaptive Threshold Strategy for High Resolution Peripheral Quantitative Computed Tomography of Trabecular Bone. <i>Annals of Biomedical Engineering</i> , 2007, 35, 1678-1686.	2.5	104
15	Multicenter precision of cortical and trabecular bone quality measures assessed by high-resolution peripheral quantitative computed tomography. <i>Journal of Bone and Mineral Research</i> , 2013, 28, 524-536.	2.8	98
16	The effect of voxel size on high-resolution peripheral computed tomography measurements of trabecular and cortical bone microstructure. <i>Medical Physics</i> , 2012, 39, 1893-1903.	3.0	96
17	HRâ€œpQCT Measures of Bone Microarchitecture Predict Fracture: Systematic Review and Metaâ€œAnalysis. <i>Journal of Bone and Mineral Research</i> , 2020, 35, 446-459.	2.8	92
18	Human Disc Nucleus Properties and Vertebral Endplate Permeability. <i>Spine</i> , 2011, 36, 512-520.	2.0	90

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19	Quantitative Assessment of Bone Tissue Mineralization with Polychromatic Micro-Computed Tomography. <i>Calcified Tissue International</i> , 2008, 83, 129-138.	3.1	89
20	Quantitative characterization of subject motion in HR-pQCT images of the distal radius and tibia. <i>Bone</i> , 2011, 48, 1291-1297.	2.9	88
21	Microarchitecture and Peripheral BMD are Impaired in Postmenopausal White Women With Fracture Independently of Total Hip <i>T</i> -Score: An International Multicenter Study. <i>Journal of Bone and Mineral Research</i> , 2016, 31, 1158-1166.	2.8	69
22	Resolution Dependence of the Non-metric Trabecular Structure Indices. <i>Bone</i> , 2008, 42, 728-736.	2.9	67
23	Regional variations of gender-specific and age-related differences in trabecular bone structure of the distal radius and tibia. <i>Bone</i> , 2010, 46, 1652-1660.	2.9	66
24	The influence of disuse on bone microstructure and mechanics assessed by HR-pQCT. <i>Bone</i> , 2014, 63, 132-140.	2.9	66
25	Assessment of trabecular bone structure of the calcaneus using multi-detector CT: Correlation with microCT and biomechanical testing. <i>Bone</i> , 2009, 44, 976-983.	2.9	65
26	Validation of bone marrow fat quantification in the presence of trabecular bone using MRI. <i>Journal of Magnetic Resonance Imaging</i> , 2015, 42, 539-544.	3.4	65
27	In vivo ultra-high-field magnetic resonance imaging of trabecular bone microarchitecture at 7 T. <i>Journal of Magnetic Resonance Imaging</i> , 2008, 27, 854-859.	3.4	63
28	Quantitative In Vivo HR-pQCT Imaging of 3D Wrist and Metacarpophalangeal Joint Space Width in Rheumatoid Arthritis. <i>Annals of Biomedical Engineering</i> , 2013, 41, 2553-2564.	2.5	60
29	Volumetric Bone Mineral Density and Failure Load of Distal Limbs Predict Incident Clinical Fracture Independent of FRAX and Clinical Risk Factors Among Older Men. <i>Journal of Bone and Mineral Research</i> , 2018, 33, 1302-1311.	2.8	57
30	Noninvasive imaging of bone microarchitecture. <i>Annals of the New York Academy of Sciences</i> , 2011, 1240, 77-87.	3.8	56
31	Volumetric femoral BMD, bone geometry, and serum sclerostin levels differ between type 2 diabetic postmenopausal women with and without fragility fractures. <i>Osteoporosis International</i> , 2015, 26, 1283-1293.	3.1	54
32	Assessment of trabecular bone structure using MDCT: comparison of 64- and 320-slice CT using HR-pQCT as the reference standard. <i>European Radiology</i> , 2010, 20, 458-468.	4.5	52
33	Age- and gender-related differences in cortical geometry and microstructure: Improved sensitivity by regional analysis. <i>Bone</i> , 2013, 52, 623-631.	2.9	51
34	The Effects of Geometric and Threshold Definitions on Cortical Bone Metrics Assessed by In Vivo High-Resolution Peripheral Quantitative Computed Tomography. <i>Calcified Tissue International</i> , 2007, 81, 364-371.	3.1	50
35	Longitudinal evaluation of the effects of alendronate on MRI bone microarchitecture in postmenopausal osteopenic women. <i>Bone</i> , 2011, 48, 611-621.	2.9	47
36	Cortical bone laminar analysis reveals increased midcortical and periosteal porosity in type 2 diabetic postmenopausal women with history of fragility fractures compared to fracture-free diabetics. <i>Osteoporosis International</i> , 2016, 27, 2791-2802.	3.1	47

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37	Variations in morphological and biomechanical indices at the distal radius in subjects with identical BMD. <i>Journal of Biomechanics</i> , 2011, 44, 257-266.	2.1	44
38	Accuracy of volumetric bone mineral density measurement in high-resolution peripheral quantitative computed tomography. <i>Bone</i> , 2009, 45, 473-479.	2.9	41
39	Quantitative and Semiquantitative Bone Erosion Assessment on High-resolution Peripheral Quantitative Computed Tomography in Rheumatoid Arthritis. <i>Journal of Rheumatology</i> , 2013, 40, 408-416.	2.0	41
40	Trabecular Bone Structure Analysis in the Osteoporotic Spine Using a Clinical In Vivo Setup for 64-Slice MDCT Imaging: Comparison to μ CT Imaging and μ FE Modeling. <i>Journal of Bone and Mineral Research</i> , 2009, 24, 1628-1637.	2.8	38
41	Higher doses of bisphosphonates further improve bone mass, architecture, and strength but not the tissue material properties in aged rats. <i>Bone</i> , 2010, 46, 1267-1274.	2.9	38
42	Spatial distribution of intracortical porosity varies across age and sex. <i>Bone</i> , 2015, 75, 88-95.	2.9	38
43	Kartogenin treatment prevented joint degeneration in a rodent model of osteoarthritis: A pilot study. <i>Journal of Orthopaedic Research</i> , 2016, 34, 1780-1789.	2.3	37
44	The comparability of HR-pQCT bone measurements is improved by scanning anatomically standardized regions. <i>Osteoporosis International</i> , 2017, 28, 2115-2128.	3.1	35
45	Sensitivity of damage predictions to tissue level yield properties and apparent loading conditions. <i>Journal of Biomechanics</i> , 2001, 34, 699-706.	2.1	34
46	Heterogeneity of bone microstructure in the femoral head in patients with osteoporosis: An ex vivo HR-pQCT study. <i>Bone</i> , 2013, 56, 139-146.	2.9	33
47	Correlation of structural abnormalities of the wrist and metacarpophalangeal joints evaluated by high-resolution peripheral quantitative computed tomography, 3T Tesla magnetic resonance imaging and conventional radiographs in rheumatoid arthritis. <i>International Journal of Rheumatic Diseases</i> , 2015, 18, 628-639.	1.9	33
48	Operator variability in scan positioning is a major component of HR-pQCT precision error and is reduced by standardized training. <i>Osteoporosis International</i> , 2017, 28, 245-257.	3.1	33
49	High-Resolution Peripheral Quantitative Computed Tomography for Bone Evaluation in Inflammatory Rheumatic Disease. <i>Frontiers in Medicine</i> , 2020, 7, 337.	2.6	32
50	Contribution of the intra-specimen variations in tissue mineralization to PTH- and raloxifene-induced changes in stiffness of rat vertebrae. <i>Bone</i> , 2010, 46, 1162-1169.	2.9	29
51	Ultrashort echo time MRI of cortical bone at 7 tesla field strength: A feasibility study. <i>Journal of Magnetic Resonance Imaging</i> , 2011, 34, 691-695.	3.4	29
52	Structural analysis of cortical porosity applied to HR-pQCT data. <i>Medical Physics</i> , 2013, 41, 013701.	3.0	29
53	Evaluation of fetal bone structure and mineralization in IGF-I deficient mice using synchrotron radiation microtomography and Fourier transform infrared spectroscopy. <i>Bone</i> , 2007, 40, 160-168.	2.9	28
54	Postmenopausal women treated with combination parathyroid hormone (1α -84) and ibandronate demonstrate different microstructural changes at the radius vs. tibia: the PTH and Ibandronate Combination Study (PICS). <i>Osteoporosis International</i> , 2013, 24, 2591-2601.	3.1	28

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55	Three-dimensional analysis of subchondral cysts in hip osteoarthritis: An ex vivo HR-pQCT study. <i>Bone</i> , 2014, 66, 140-145.	2.9	28
56	Assessment of 3-month changes in bone microstructure under anti-TNF α therapy in patients with rheumatoid arthritis using high-resolution peripheral quantitative computed tomography (HR-pQCT). <i>Arthritis Research and Therapy</i> , 2017, 19, 222.	3.5	27
57	Quantifying sex, race, and age specific differences in bone microstructure requires measurement of anatomically equivalent regions. <i>Bone</i> , 2017, 101, 206-213.	2.9	26
58	Quantification of lower leg arterial calcifications by high-resolution peripheral quantitative computed tomography. <i>Bone</i> , 2014, 58, 42-47.	2.9	25
59	Computational identification and quantification of trabecular microarchitecture classes by 3-D texture analysis-based clustering. <i>Bone</i> , 2013, 54, 133-140.	2.9	23
60	Consensus approach for 3D joint space width of metacarpophalangeal joints of rheumatoid arthritis patients using high-resolution peripheral quantitative computed tomography. <i>Quantitative Imaging in Medicine and Surgery</i> , 2020, 10, 314-325.	2.0	23
61	Automatic multi-parametric quantification of the proximal femur with quantitative computed tomography. <i>Quantitative Imaging in Medicine and Surgery</i> , 2015, 5, 552-68.	2.0	23
62	Wavelet-based characterization of vertebral trabecular bone structure from magnetic resonance images at 3 T compared with micro-computed tomographic measurements. <i>Magnetic Resonance Imaging</i> , 2007, 25, 392-398.	1.8	22
63	Imaging longitudinal changes in articular cartilage and bone following doxycycline treatment in a rabbit anterior cruciate ligament transection model of osteoarthritis. <i>Magnetic Resonance Imaging</i> , 2012, 30, 271-282.	1.8	17
64	Quantitative characterization of metacarpal and radial bone in rheumatoid arthritis using high resolution- peripheral quantitative computed tomography. <i>International Journal of Rheumatic Diseases</i> , 2017, 20, 353-362.	1.9	16
65	Bone Structure and Perfusion Quantification of Bone Marrow Edema Pattern in the Wrist of Patients with Rheumatoid Arthritis: A Multimodality Study. <i>Journal of Rheumatology</i> , 2014, 41, 1766-1773.	2.0	14
66	Longitudinal Evolution of Bone Microarchitecture and Bone Strength in Type 2 Diabetic Postmenopausal Women With and Without History of Fragility Fractures—A 5-Year Follow-Up Study Using High Resolution Peripheral Quantitative Computed Tomography. <i>Frontiers in Endocrinology</i> , 2021, 12, 599316.	3.5	13
67	CT Muscle Density, D3Cr Muscle Mass, and Body Fat Associations With Physical Performance, Mobility Outcomes, and Mortality Risk in Older Men. <i>Journals of Gerontology - Series A Biological Sciences and Medical Sciences</i> , 2022, 77, 790-799.	3.6	13
68	Trabecular Reorganization in Consecutive Iliac Crest Biopsies when Switching from Bisphosphonate to Strontium Ranelate Treatment. <i>PLoS ONE</i> , 2011, 6, e23638.	2.5	12
69	Accelerated Bone Loss in Older Men: Effects on Bone Microarchitecture and Strength. <i>Journal of Bone and Mineral Research</i> , 2018, 33, 1859-1869.	2.8	12
70	Structural Changes over a Short Period Are Associated with Functional Assessments in Rheumatoid Arthritis. <i>Journal of Rheumatology</i> , 2019, 46, 676-684.	2.0	12
71	The SPECTRA Collaboration OMERACT Special Interest Group: Current Research and Future Directions. <i>Journal of Rheumatology</i> , 2017, 44, 1911-1915.	2.0	11
72	Hip Fracture Discrimination Based on Statistical Multi-parametric Modeling (SMPM). <i>Annals of Biomedical Engineering</i> , 2019, 47, 2199-2212.	2.5	11

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73	Determining Metacarpophalangeal Flexion Angle Tolerance for Reliable Volumetric Joint Space Measurements by High-resolution Peripheral Quantitative Computed Tomography. <i>Journal of Rheumatology</i> , 2016, 43, 1941-1944.	2.0	10
74	Novel anthropomorphic hip phantom corrects systemic interscanner differences in proximal femoral vBMD. <i>Physics in Medicine and Biology</i> , 2014, 59, 7819-7834.	3.0	9
75	Statistical Parametric Mapping of HR-pQCT Images: A Tool for Population-Based Local Comparisons of Micro-Scale Bone Features. <i>Annals of Biomedical Engineering</i> , 2017, 45, 949-962.	2.5	9
76	Biochemical Markers of Bone Turnover in Older Adults With Type 1 Diabetes. <i>Journal of Clinical Endocrinology and Metabolism</i> , 2022, 107, e2405-e2416.	3.6	9
77	Improved Trabecular Bone Structure of 20-Month-Old Male Spontaneously Hypertensive Rats. <i>Calcified Tissue International</i> , 2014, 95, 282-291.	3.1	8
78	Bone microstructure in men assessed by HR-pQCT: Associations with risk factors and differences between men with normal, low, and osteoporosis-range areal BMD. <i>Bone Reports</i> , 2016, 5, 312-319.	0.4	7
79	Reliability and Change in Erosion Measurements by High-resolution Peripheral Quantitative Computed Tomography in a Longitudinal Dataset of Rheumatoid Arthritis Patients. <i>Journal of Rheumatology</i> , 2021, 48, 348-351.	2.0	6
80	Objective measures of moderate to vigorous physical activity are associated with higher distal limb bone strength among elderly men. <i>Bone</i> , 2020, 132, 115198.	2.9	5
81	Differences in bone mineral density and morphometry measurements by fixed versus relative offset methods in high-resolution peripheral quantitative computed tomography. <i>Bone</i> , 2021, 149, 115973.	2.9	4
82	Interpretation of Bone Mineral Density Z-Scores by Dual-Energy X-Ray Absorptiometry in Transgender and Gender Diverse Youth Prior to Gender-Affirming Medical Therapy. <i>Journal of Clinical Densitometry</i> , 2022, 25, 559-568.	1.2	4
83	Vascular patterning and permeability in prostate cancer models with differing osteogenic properties. <i>NMR in Biomedicine</i> , 2012, 25, 843-851.	2.8	3
84	Super-resolution/segmentation of 3D trabecular bone images with total variation and nonconvex Cahn-Hilliard functional. , 2017, , .		3
85	High-Resolution Imaging Techniques for Bone Quality Assessment. , 2018, , 1007-1041.		3
86	High-Resolution Imaging Techniques for Bone Quality Assessment. , 2011, , 891-925.		1
87	Global and Spatial Compartmental Interrelationships of Bone Density, Microstructure, Geometry and Biomechanics in the Distal Radius in a Collesâ€™ Fracture Study Using HR-pQCT. <i>Frontiers in Endocrinology</i> , 2021, 12, 568454.	3.5	1
88	Augmenting Osteoporosis Imaging with Machine Learning. <i>Current Osteoporosis Reports</i> , 2021, 19, 699-709.	3.6	1
89	Semi-blind joint super-resolution/segmentation of 3D trabecular bone images by a TV box approach. , 2015, , .		0