Christopher Brace

List of Publications by Citations

114 papers	6,123 citations	39 h-index	77 g-index
122 ext. papers	7,185 ext. citations	4.9 avg, IF	6.2 L-index

#	Paper	IF	Citations
114	Image-guided tumor ablation: standardization of terminology and reporting criteria--a 10-year update. *Radiology*, **2014**, 273, 241-60	20.5	611
113	Principles of and advances in percutaneous ablation. *Radiology*, **2011**, 258, 351-69	20.5	564
112	Microwave tumor ablation: mechanism of action, clinical results, and devices. *Journal of Vascular and Interventional Radiology*, **2010**, 21, S192-203	2.4	433
111	Radiofrequency and microwave ablation of the liver, lung, kidney, and bone: what are the differences?. *Current Problems in Diagnostic Radiology*, **2009**, 38, 135-43	1.6	371
110	Image-guided tumor ablation: standardization of terminology and reporting criteria--a 10-year update. *Journal of Vascular and Interventional Radiology*, **2014**, 25, 1691-705.e4	2.4	307
109	Percutaneous tumor ablation tools: microwave, radiofrequency, or cryoablation--what should you use and why?. *Radiographics*, **2014**, 34, 1344-62	5.4	202
108	Microwave tissue ablation: biophysics, technology, and applications. *Critical Reviews in Biomedical Engineering*, **2010**, 38, 65-78	1.1	195
107	Pulmonary thermal ablation: comparison of radiofrequency and microwave devices by using gross pathologic and CT findings in a swine model. *Radiology*, **2009**, 251, 705-11	20.5	149
106	Tumor ablation: common modalities and general practices. *Techniques in Vascular and Interventional Radiology*, **2013**, 16, 192-200	2.6	136
105	Microwave ablation technology: what every user should know. *Current Problems in Diagnostic Radiology*, **2009**, 38, 61-7	1.6	125
104	Tissue contraction caused by radiofrequency and microwave ablation: a laboratory study in liver and lung. *Journal of Vascular and Interventional Radiology*, **2010**, 21, 1280-6	2.4	118
103	Expanded modeling of temperature-dependent dielectric properties for microwave thermal ablation. *Physics in Medicine and Biology*, **2011**, 56, 5249-64	3.8	107
102	Thermal tumor ablation in clinical use. *IEEE Pulse*, **2011**, 2, 28-38	0.7	103
101	Microwave ablation with multiple simultaneously powered small-gauge triaxial antennas: results from an in vivo swine liver model. *Radiology*, **2007**, 244, 151-6	20.5	90
100	Microwave ablation versus radiofrequency ablation in the kidney: high-power triaxial antennas create larger ablation zones than similarly sized internally cooled electrodes. *Journal of Vascular and Interventional Radiology*, **2009**, 20, 1224-9	2.4	88
99	Microwave Ablation With a Triaxial Antenna: Results in ex vivo Bovine Liver. *IEEE Transactions on Microwave Theory and Techniques*, **2005**, 53, 215-220	4.1	85
98	Microwaves create larger ablations than radiofrequency when controlled for power in ex vivo tissue. *Medical Physics*, **2010**, 37, 2967-73	4.4	84

97	Microwave ablation with a single small-gauge triaxial antenna: in vivo porcine liver model. *Radiology* , **2007**, 242, 435-40	20.5	84
96	Heating technology for malignant tumors: a review. *International Journal of Hyperthermia*, **2020**, 37, 711-741	3.7	79
95	A comparison of direct heating during radiofrequency and microwave ablation in ex vivo liver. *CardioVascular and Interventional Radiology*, **2013**, 36, 505-11	2.7	68
94	Microwave ablation in primary and secondary liver tumours: technical and clinical approaches. *International Journal of Hyperthermia*, **2017**, 33, 15-24	3.7	67
93	Multiple-electrode radiofrequency ablation creates confluent areas of necrosis: in vivo porcine liver results. *Radiology*, **2006**, 241, 116-24	20.5	67
92	Unintended thermal injuries from radiofrequency ablation: protection with 5% dextrose in water. *American Journal of Roentgenology*, **2006**, 186, S249-54	5.4	65
91	Early small-bowel ischemia: dual-energy CT improves conspicuity compared with conventional CT in a swine model. *Radiology*, **2015**, 275, 119-26	20.5	62
90	Microwave ablation of hepatic malignancy. *Seminars in Interventional Radiology*, **2013**, 30, 56-66	1.6	60
89	Microwave versus Radiofrequency Ablation Treatment for Hepatocellular Carcinoma: A Comparison of Efficacy at a Single Center. *Journal of Vascular and Interventional Radiology*, **2016**, 27, 631-8	2.4	59
88	Hepatic Thermal Ablation: Effect of Device and Heating Parameters on Local Tissue Reactions and Distant Tumor Growth. *Radiology*, **2016**, 281, 782-792	20.5	57
87	Computational modelling of microwave tumour ablations. *International Journal of Hyperthermia*, **2013**, 29, 308-17	3.7	55
86	Radiofrequency ablation: simultaneous application of multiple electrodes via switching creates larger, more confluent ablations than sequential application in a large animal model. *Journal of Vascular and Interventional Radiology*, **2009**, 20, 118-24	2.4	55
85	Optimizing the protocol for pulmonary cryoablation: a comparison of a dual- and triple-freeze protocol. *CardioVascular and Interventional Radiology*, **2010**, 33, 1180-5	2.7	55
84	Liver Ablation: Best Practice. *Radiologic Clinics of North America*, **2015**, 53, 933-71	2.3	54
83	Effect of Tumor Complexity and Technique on Efficacy and Complications after Percutaneous Microwave Ablation of Stage T1a Renal Cell Carcinoma: A Single-Center, Retrospective Study. *Radiology*, **2017**, 284, 272-280	20.5	53
82	High-powered microwave ablation of t1a renal cell carcinoma: safety and initial clinical evaluation. *Journal of Endourology*, **2014**, 28, 1046-52	2.7	53
81	Dual-slot antennas for microwave tissue heating: parametric design analysis and experimental validation. *Medical Physics*, **2011**, 38, 4232-40	4.4	52
80	Microwave ablation with triaxial antennas tuned for lung: results in an in vivo porcine model. *Radiology*, **2008**, 247, 80-7	20.5	52

79	Percutaneous microwave ablation of hepatocellular carcinoma with a gas-cooled system: initial clinical results with 107 tumors. *Journal of Vascular and Interventional Radiology*, **2015**, 26, 62-8	2.4	46
78	Microwave Ablation: Comparison of Simultaneous and Sequential Activation of Multiple Antennas in Liver Model Systems. *Radiology*, **2016**, 278, 95-103	20.5	43
77	CT imaging during microwave ablation: analysis of spatial and temporal tissue contraction. *Medical Physics*, **2014**, 41, 113303	4.4	42
76	Thermal ablation of lung tumors. *Surgical Oncology Clinics of North America*, **2011**, 20, 369-87, ix	2.7	39
75	High-powered microwave ablation with a small-gauge, gas-cooled antenna: initial ex vivo and in vivo results. *Journal of Vascular and Interventional Radiology*, **2012**, 23, 405-11	2.4	38
74	Percutaneous microwave ablation of T1a and T1b renal cell carcinoma: short-term efficacy and complications with emphasis on tumor complexity and single session treatment. *Abdominal Radiology*, **2016**, 41, 1203-11	3	37
73	Young's modulus reconstruction for radio-frequency ablation electrode-induced displacement fields: a feasibility study. *IEEE Transactions on Medical Imaging*, **2009**, 28, 1325-34	11.7	36
72	Interstitial microwave treatment for cancer: historical basis and current techniques in antenna design and performance. *International Journal of Hyperthermia*, **2017**, 33, 3-14	3.7	35
71	Numerical simulation of microwave ablation incorporating tissue contraction based on thermal dose. *Physics in Medicine and Biology*, **2017**, 62, 2070-2086	3.8	34
70	Temperature isotherms during pulmonary cryoablation and their correlation with the zone of ablation. *Journal of Vascular and Interventional Radiology*, **2010**, 21, 1424-8	2.4	33
69	Contrast media-doped hydrodissection during thermal ablation: optimizing contrast media concentration for improved visibility on CT images. *American Journal of Roentgenology*, **2012**, 199, 677-82	5.4	33
68	High-powered gas-cooled microwave ablation: shaft cooling creates an effective stick function without altering the ablation zone. *American Journal of Roentgenology*, **2012**, 198, W260-5	5.4	32
67	Multiple-electrode radiofrequency ablation of hepatic malignancies: initial clinical experience. *American Journal of Roentgenology*, **2007**, 188, 1485-94	5.4	32
66	Microwave ablation energy delivery: influence of power pulsing on ablation results in an ex vivo and in vivo liver model. *Medical Physics*, **2014**, 41, 123301	4.4	30
65	Temperature-dependent dielectric properties of liver tissue measured during thermal ablation: toward an improved numerical model. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2008**, 2008, 230-3	0.9	30
64	Effects of Microwave Ablation on Arterial and Venous Vasculature after Treatment of Hepatocellular Carcinoma. *Radiology*, **2016**, 281, 617-624	20.5	29
63	Microwave ablation of malignant hepatic tumours: intraperitoneal fluid instillation prevents collateral damage and allows more aggressive case selection. *International Journal of Hyperthermia*, **2014**, 30, 299-305	3.7	29
62	Modeling and validation of microwave ablations with internal vaporization. *IEEE Transactions on Biomedical Engineering*, **2015**, 62, 657-63	5	28

61	Microwave ablation of hepatic tumors abutting the diaphragm is safe and effective. *American Journal of Roentgenology*, **2015**, 204, 197-203	5.4	27
60	Radiofrequency and microwave ablation of subcapsular hepatocellular carcinoma accessed by direct puncture: Safety and efficacy. *European Journal of Radiology*, **2016**, 85, 739-43	4.7	26
59	Electrode displacement strain imaging of thermally-ablated liver tissue in an in vivo animal model. *Medical Physics*, **2010**, 37, 1075-82	4.4	26
58	Visualizing ex vivo radiofrequency and microwave ablation zones using electrode vibration elastography. *Medical Physics*, **2012**, 39, 6692-700	4.4	24
57	Multiple-electrode radiofrequency ablation: simultaneous production of separate zones of coagulation in an in vivo porcine liver model. *Journal of Vascular and Interventional Radiology*, **2005**, 16, 1727-35	2.4	24
56	A dual-slot microwave antenna for more spherical ablation zones: ex vivo and in vivo validation. *Radiology*, **2013**, 268, 382-9	20.5	23
55	Microwave Ablation for the Treatment of Hepatic Adenomas. *Journal of Vascular and Interventional Radiology*, **2016**, 27, 244-9	2.4	22
54	Radiofrequency ablation with a high-power generator: device efficacy in an in vivo porcine liver model. *International Journal of Hyperthermia*, **2007**, 23, 387-94	3.7	22
53	Multiple-electrode radiofrequency ablation: comparison with a conventional cluster electrode in an in vivo porcine kidney model. *Journal of Vascular and Interventional Radiology*, **2007**, 18, 1005-10	2.4	21
52	Ultrasound-based relative elastic modulus imaging for visualizing thermal ablation zones in a porcine model. *Physics in Medicine and Biology*, **2010**, 55, 2281-306	3.8	20
51	Combination transarterial chemoembolization and microwave ablation improves local tumor control for 3- to 5-cm hepatocellular carcinoma when compared with transarterial chemoembolization alone. *Abdominal Radiology*, **2018**, 43, 2497-2504	3	19
50	Multiple-Antenna Microwave Ablation: Spatially Distributing Power Improves Thermal Profiles and Reduces Invasiveness **2009**, 2, 65-72		19
49	Safety and Efficacy of Percutaneous Microwave Hepatic Ablation Near the Heart. *Journal of Vascular and Interventional Radiology*, **2017**, 28, 490-497	2.4	18
48	Predictors of thrombosis in hepatic vasculature during microwave tumor ablation of an in vivo porcine model. *Journal of Vascular and Interventional Radiology*, **2014**, 25, 1965-1971.e2	2.4	18
47	Quantifying local stiffness variations in radiofrequency ablations with dynamic indentation. *IEEE Transactions on Biomedical Engineering*, **2012**, 59, 728-35	5	18
46	Analysis and experimental validation of a triaxial antenna for microwave tumor ablation. *IEEE MTT-S International Microwave Symposium Digest IEEE MTT-S International Microwave Symposium*, **2004**, 3, 1437-1440		18
45	Creation of short microwave ablation zones: in vivo characterization of single and paired modified triaxial antennas. *Journal of Vascular and Interventional Radiology*, **2014**, 25, 1633-40	2.4	17
44	Flow-dependent vascular heat transfer during microwave thermal ablation. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2012**, 2012, 5582-5	0.9	16

43	Hepatic Tumor Ablation. *Surgical Clinics of North America*, **2016**, 96, 315-39	4	14
42	Evaluation of tissue deformation during radiofrequency and microwave ablation procedures: Influence of output energy delivery. *Medical Physics*, **2019**, 46, 4127-4134	4.4	14
41	Tissue dielectric measurement using an interstitial dipole antenna. *IEEE Transactions on Biomedical Engineering*, **2012**, 59, 115-21	5	14
40	Electrical isolation during radiofrequency ablation: 5% dextrose in water provides better protection than saline. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society*, **2006**, 2006, 5021-4		14
39	Monitoring Microwave Ablation of Ex□Vivo Bovine Liver Using Ultrasonic Attenuation Imaging. *Ultrasound in Medicine and Biology*, **2017**, 43, 1441-1451	3.5	13
38	Analysis of microwave ablation antenna optimization techniques. *International Journal of RF and Microwave Computer-Aided Engineering*, **2018**, 28, e21224	1.5	13
37	Percutaneous Microwave Ablation of Renal Angiomyolipomas. *CardioVascular and Interventional Radiology*, **2016**, 39, 433-40	2.7	12
36	Pulmonary Microwave Ablation Near the Heart: Antenna Positioning Can Mitigate Cardiac Complications in a Porcine Model. *Radiology*, **2017**, 282, 892-902	20.5	12
35	Ultrasound-Guided Microwave Ablation for the Management of Inguinal Neuralgia: A Preliminary Study with 1-Year Follow-up. *Journal of Vascular and Interventional Radiology*, **2019**, 30, 242-248	2.4	11
34	Design and validation of a thermoreversible material for percutaneous tissue hydrodissection. *Journal of Biomedical Materials Research - Part B Applied Biomaterials*, **2013**, 101, 1400-9	3.5	11
33	Bronchoscopically-Guided Microwave Ablation in the Lung. *Chest*, **2013**, 144, 87A	5.3	11
32	Evaluation of a thermoprotective gel for hydrodissection during percutaneous microwave ablation: in vivo results. *CardioVascular and Interventional Radiology*, **2015**, 38, 722-30	2.7	10
31	Does selective intubation increase ablation zone size during pulmonary cryoablation?. *Journal of Vascular and Interventional Radiology*, **2008**, 19, 1497-501	2.4	9
30	Thermal ablation for the treatment of abdominal tumors. *Journal of Visualized Experiments*, **2011**,	1.6	8
29	Periodic contrast-enhanced computed tomography for thermal ablation monitoring: a feasibility study. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2009**, 2009, 4299-302	0.9	6
28	Radiofrequency and microwave ablation in a porcine liver model: non-contrast CT and ultrasound radiologic-pathologic correlation. *International Journal of Hyperthermia*, **2020**, 37, 799-807	3.7	6
27	Comparison of Conventional and Cone-Beam CT for Monitoring and Assessing Pulmonary Microwave Ablation in a Porcine Model. *Journal of Vascular and Interventional Radiology*, **2018**, 29, 1447-1454	2.4	6
26	Ablation zone visualization enhancement by periodic contrast-enhancement computed tomography during microwave ablation. *Medical Physics*, **2017**, 44, 2132-2140	4.4	5

25	Two-dimensional ultrasound-computed tomography image registration for monitoring percutaneous hepatic intervention. *Medical Physics*, **2019**, 46, 2600-2609	4.4	5
24	Microwave ablation of the liver in a live porcine model: the impact of power, time and total energy on ablation zone size and shape. *International Journal of Hyperthermia*, **2020**, 37, 668-676	3.7	5
23	An Analysis of Open-Ended Coaxial Probe Sensitivity to Heterogeneous Media. *Sensors*, **2020**, 20,	3.8	5
22	Combination Therapies: Quantifying the Effects of Transarterial Embolization on Microwave Ablation Zones. *Journal of Vascular and Interventional Radiology*, **2018**, 29, 1050-1056	2.4	5
21	Potential Mechanisms of Vascular Thrombosis after Microwave Ablation in an In Vivo Liver. *Journal of Vascular and Interventional Radiology*, **2017**, 28, 1053-1058	2.4	4
20	Development of Water Content Dependent Tissue Dielectric Property Models. *IEEE Journal of Electromagnetics, RF and Microwaves in Medicine and Biology*, **2019**, 3, 105-110	2.8	4
19	Quantitative 4D-Digital Subtraction Angiography to Assess Changes in Hepatic Arterial Flow during Transarterial Embolization: A Feasibility Study in a Swine Model. *Journal of Vascular and Interventional Radiology*, **2019**, 30, 1286-1292	2.4	4
18	Heat transfer within hydrodissection fluids: An analysis of thermal conduction and convection using liquid and gel materials. *International Journal of Hyperthermia*, **2015**, 31, 551-9	3.7	4
17	Quantifying optical properties with visible and near-infrared optical coherence tomography to visualize esophageal microwave ablation zones. *Biomedical Optics Express*, **2018**, 9, 1648-1663	3.5	4
16	Tumor boundary estimation through time-domain peaks monitoring: numerical predictions and experimental results in tissue-mimicking phantoms. *IEEE Transactions on Biomedical Engineering*, **2009**, 56, 2634-41	5	4
15	Analysis of iodinated contrast delivered during thermal ablation: is material trapped in the ablation zone?. *Physics in Medicine and Biology*, **2016**, 61, 6041-54	3.8	4
14	Feature-based automated segmentation of ablation zones by fuzzy c-mean clustering during low-dose computed tomography. *Medical Physics*, **2021**, 48, 703-714	4.4	4
13	Design of a dual slot antenna for small animal microwave ablation studies. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2016**, 2016, 348-351	0.9	3
12	Percutaneous Microwave Tumor Ablation Is Safe in Patients with Cardiovascular Implantable Electronic Devices: A Single-Institutional Retrospective Review. *Journal of Vascular and Interventional Radiology*, **2019**, 30, 396-400	2.4	2
11	Microwave Ablation of the Lung in a Porcine Model: Vessel Diameter Predicts Pulmonary Artery Occlusion. *CardioVascular and Interventional Radiology*, **2017**, 40, 1609-1616	2.7	2
10	In vivo ultrasound electrode displacement strain imaging **2009**,		2
9	**2009**,		1
8	Computed Tomography-Based Modeling of Water Vapor-Induced Changes in Permittivity During Microwave Ablation. *IEEE Transactions on Biomedical Engineering*, **2020**, 67, 2427-2433	5	1

7	Development of a Tissue Dielectric Properties Model Based on Maxwell-Fricke Mixture Theory **2018**,		1
6	Contrast-enhanced CT immediately following percutaneous microwave ablation of cT1a renal cell carcinoma: Optimizing cancer outcomes.. *Abdominal Radiology*, **2022**, 1	3	1
5	MR visible localization device for radiographic-pathologic correlation of surgical specimens. *Magnetic Resonance Imaging*, **2017**, 37, 159-163	3.3	0
4	Inducing valvular regurgitation in mice via thermal ablation of cardiac valves. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2014**, 2014, 5663-6	0.9	
3	TU-E-201C-05: Electrode Displacement Strain Imaging for Monitoring In-Vivo Ablative Therapies. *Medical Physics*, **2010**, 37, 3405-3405	4.4	
2	Letter To The EditOr. *Journal of Vascular and Interventional Radiology*, **2016**, 27, 933-4	2.4	
1	Split-bolus CT urography after microwave ablation of renal cell carcinoma improves image quality and reduces radiation exposure.. *Abdominal Radiology*, **2022**, 1	3	