

# Nathan J Mcdannold

## List of Publications by Year in descending order

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Version: 2024-02-01

92  
papers

7,946  
citations

81900

39  
h-index

53230

85  
g-index

103  
all docs

103  
docs citations

103  
times ranked

5006  
citing authors

#	ARTICLE	IF	CITATIONS
1	Noninvasive MR Imaging-guided Focal Opening of the Blood-Brain Barrier in Rabbits. <i>Radiology</i> , 2001, 220, 640-646.	7.3	1,264
2	Cellular mechanisms of the blood-brain barrier opening induced by ultrasound in presence of microbubbles. <i>Ultrasound in Medicine and Biology</i> , 2004, 30, 979-989.	1.5	514
3	Transcranial Magnetic Resonance Imaging-guided Focused Ultrasound Surgery of Brain Tumors. <i>Neurosurgery</i> , 2010, 66, 323-332.	1.1	504
4	Temporary Disruption of the Blood-brain Barrier by Use of Ultrasound and Microbubbles: Safety and Efficacy Evaluation in Rhesus Macaques. <i>Cancer Research</i> , 2012, 72, 3652-3663.	0.9	474
5	Effect of Focused Ultrasound Applied With an Ultrasound Contrast Agent on the Tight Junctional Integrity of the Brain Microvascular Endothelium. <i>Ultrasound in Medicine and Biology</i> , 2008, 34, 1093-1104.	1.5	409
6	Ultrasound-mediated blood-brain barrier disruption for targeted drug delivery in the central nervous system. <i>Advanced Drug Delivery Reviews</i> , 2014, 72, 94-109.	13.7	332
7	Blood-Brain Barrier Disruption Induced by Focused Ultrasound and Circulating Preformed Microbubbles Appears to Be Characterized by the Mechanical Index. <i>Ultrasound in Medicine and Biology</i> , 2008, 34, 834-840.	1.5	248
8	Usefulness of MR Imaging-Derived Thermometry and Dosimetry in Determining the Threshold for Tissue Damage Induced by Thermal Surgery in Rabbits. <i>Radiology</i> , 2000, 216, 517-523.	7.3	236
9	Effects of Acoustic Parameters and Ultrasound Contrast Agent Dose on Focused-Ultrasound Induced Blood-Brain Barrier Disruption. <i>Ultrasound in Medicine and Biology</i> , 2008, 34, 930-937.	1.5	228
10	Uterine Leiomyomas: MR Imaging-based Thermometry and Thermal Dosimetry during Focused Ultrasound Thermal Ablation. <i>Radiology</i> , 2006, 240, 263-272.	7.3	207
11	Ultrasound Enhanced Delivery of Molecular Imaging and Therapeutic Agents in Alzheimer's Disease Mouse Models. <i>PLoS ONE</i> , 2008, 3, e2175.	2.5	188
12	Closed-loop control of targeted ultrasound drug delivery across the blood-brain/tumor barriers in a rat glioma model. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2017, 114, E10281-E10290.	7.1	183
13	The kinetics of blood brain barrier permeability and targeted doxorubicin delivery into brain induced by focused ultrasound. <i>Journal of Controlled Release</i> , 2012, 162, 134-142.	9.9	174
14	MRI evaluation of thermal ablation of tumors with focused ultrasound. <i>Journal of Magnetic Resonance Imaging</i> , 1998, 8, 91-100.	3.4	169
15	Mechanisms of enhanced drug delivery in brain metastases with focused ultrasound-induced blood-tumor barrier disruption. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2018, 115, E8717-E8726.	7.1	159
16	MRI investigation of the threshold for thermally induced blood-brain barrier disruption and brain tissue damage in the rabbit brain. <i>Magnetic Resonance in Medicine</i> , 2004, 51, 913-923.	3.0	155
17	Brain arterioles show more active vesicular transport of blood-borne tracer molecules than capillaries and venules after focused ultrasound-evoked opening of the blood-brain barrier. <i>Ultrasound in Medicine and Biology</i> , 2006, 32, 1399-1409.	1.5	149
18	Magnetic resonance acoustic radiation force imaging. <i>Medical Physics</i> , 2008, 35, 3748-3758.	3.0	141

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19	Evaluation of permeability, doxorubicin delivery, and drug retention in a rat brain tumor model after ultrasound-induced blood-tumor barrier disruption. <i>Journal of Controlled Release</i> , 2017, 250, 77-85.	9.9	115
20	Effects on P-Glycoprotein Expression after Blood-Brain Barrier Disruption Using Focused Ultrasound and Microbubbles. <i>PLoS ONE</i> , 2017, 12, e0166061.	2.5	115
21	Multiple sessions of liposomal doxorubicin delivery via focused ultrasound mediated blood-brain barrier disruption: A safety study. <i>Journal of Controlled Release</i> , 2015, 204, 60-69.	9.9	100
22	Combined ultrasound and MR imaging to guide focused ultrasound therapies in the brain. <i>Physics in Medicine and Biology</i> , 2013, 58, 4749-4761.	3.0	88
23	Growth inhibition in a brain metastasis model by antibody delivery using focused ultrasound-mediated blood-brain barrier disruption. <i>Journal of Controlled Release</i> , 2016, 238, 281-288.	9.9	86
24	Intermediate Range Wireless Power Transfer With Segmented Coil Transmitters for Implantable Heart Pumps. <i>IEEE Transactions on Power Electronics</i> , 2017, 32, 3844-3857.	7.9	86
25	Temperature monitoring in fat with MRI. <i>Magnetic Resonance in Medicine</i> , 2000, 43, 901-904.	3.0	83
26	Acoustic feedback enables safe and reliable carboplatin delivery across the blood-brain barrier with a clinical focused ultrasound system and improves survival in a rat glioma model. <i>Theranostics</i> , 2019, 9, 6284-6299.	10.0	78
27	MRI monitoring of the thermal ablation of tissue: Effects of long exposure times. <i>Journal of Magnetic Resonance Imaging</i> , 2001, 13, 421-427.	3.4	70
28	Three-year follow-up of prospective trial of focused ultrasound thalamotomy for essential tremor. <i>Neurology</i> , 2019, 93, e2284-e2293.	1.1	69
29	Safety Validation of Repeated Blood-brain Barrier Disruption Using Focused Ultrasound. <i>Ultrasound in Medicine and Biology</i> , 2016, 42, 481-492.	1.5	68
30	Passive Acoustic Mapping with the Angular Spectrum Method. <i>IEEE Transactions on Medical Imaging</i> , 2017, 36, 983-993.	8.9	64
31	Integrated ultrasound and magnetic resonance imaging for simultaneous temperature and cavitation monitoring during focused ultrasound therapies. <i>Medical Physics</i> , 2013, 40, 112901.	3.0	61
32	Localized delivery of doxorubicin in vivo from polymer-modified thermosensitive liposomes with MR-guided focused ultrasound-mediated heating. <i>Journal of Controlled Release</i> , 2014, 194, 71-81.	9.9	61
33	Blood-Brain Barrier Disruption and Vascular Damage Induced by Ultrasound Bursts Combined with Microbubbles can be Influenced by Choice of Anesthesia Protocol. <i>Ultrasound in Medicine and Biology</i> , 2011, 37, 1259-1270.	1.5	55
34	Cavitation-enhanced nonthermal ablation in deep brain targets: feasibility in a large animal model. <i>Journal of Neurosurgery</i> , 2016, 124, 1450-1459.	1.6	52
35	Cavitation-enhanced MR-guided focused ultrasound ablation of rabbit tumors <i>in vivo</i> using phase shift nanoemulsions. <i>Physics in Medicine and Biology</i> , 2014, 59, 3465-3481.	3.0	47
36	The Effects of Oxygen on Ultrasound-Induced Blood-brain Barrier Disruption in Mice. <i>Ultrasound in Medicine and Biology</i> , 2017, 43, 469-475.	1.5	47

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37	Evaluation of referenceless thermometry in MRI-guided focused ultrasound surgery of uterine fibroids. <i>Journal of Magnetic Resonance Imaging</i> , 2008, 28, 1026-1032.	3.4	46
38	Secondary effects on brain physiology caused by focused ultrasound-mediated disruption of the blood-brain barrier. <i>Journal of Controlled Release</i> , 2020, 324, 450-459.	9.9	45
39	Accumulation of Phase-Shift Nanoemulsions to Enhance MR-Guided Ultrasound-Mediated Tumor Ablation In Vivo. <i>Journal of Healthcare Engineering</i> , 2013, 4, 109-126.	1.9	42
40	Focused Ultrasound Platform for Investigating Therapeutic Neuromodulation Across the Human Hippocampus. <i>Ultrasound in Medicine and Biology</i> , 2020, 46, 1270-1274.	1.5	42
41	Nonthermal ablation with microbubble-enhanced focused ultrasound close to the optic tract without affecting nerve function. <i>Journal of Neurosurgery</i> , 2013, 119, 1208-1220.	1.6	39
42	Quality assurance and system stability of a clinical MRI-guided focused ultrasound system: Four-year experience. <i>Medical Physics</i> , 2006, 33, 4307-4313.	3.0	35
43	Targeted, noninvasive blockade of cortical neuronal activity. <i>Scientific Reports</i> , 2015, 5, 16253.	3.3	34
44	Temperature monitoring with line scan echo planar spectroscopic imaging. <i>Medical Physics</i> , 2001, 28, 346-355.	3.0	33
45	Volumetric analysis of magnetic resonance-guided focused ultrasound thalamotomy lesions. <i>Neurosurgical Focus</i> , 2018, 44, E6.	2.3	33
46	Focused ultrasound induced opening of the blood-brain barrier disrupts inter-hemispheric resting state functional connectivity in the rat brain. <i>NeuroImage</i> , 2018, 178, 414-422.	4.2	31
47	Modulation of brain function by targeted delivery of GABA through the disrupted blood-brain barrier. <i>NeuroImage</i> , 2019, 189, 267-275.	4.2	31
48	Elementwise approach for simulating transcranial MRI-guided focused ultrasound thermal ablation. <i>Physical Review Research</i> , 2019, 1, .	3.6	28
49	The use of quantitative temperature images to predict the optimal power for focused ultrasound surgery: In vivo verification in rabbit muscle and brain. <i>Medical Physics</i> , 2002, 29, 356-365.	3.0	27
50	Nonthermal ablation of deep brain targets: A simulation study on a large animal model. <i>Medical Physics</i> , 2016, 43, 870-882.	3.0	25
51	Blood-brain barrier disruption and delivery of irinotecan in a rat model using a clinical transcranial MRI-guided focused ultrasound system. <i>Scientific Reports</i> , 2020, 10, 8766.	3.3	24
52	Temperature mapping considerations in the breast with line scan echo planar spectroscopic imaging. <i>Magnetic Resonance in Medicine</i> , 2007, 58, 1117-1123.	3.0	23
53	Update on Clinical Magnetic Resonance-Guided Focused Ultrasound Applications. <i>Magnetic Resonance Imaging Clinics of North America</i> , 2015, 23, 657-667.	1.1	23
54	Power Loss Analysis and Comparison of Segmented and Unsegmented Energy Coupling Coils for Wireless Energy Transfer. <i>IEEE Journal of Emerging and Selected Topics in Power Electronics</i> , 2015, 3, 215-225.	5.4	22

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55	MRI Monitoring and Quantification of Ultrasound-Mediated Delivery of Liposomes Dually Labeled with Gadolinium and Fluorophore through the Blood-Brain Barrier. <i>Ultrasound in Medicine and Biology</i> , 2019, 45, 1733-1742.	1.5	22
56	Focused ultrasound with anti-pGlu3 $A\beta^2$ enhances efficacy in Alzheimer's disease-like mice via recruitment of peripheral immune cells. <i>Journal of Controlled Release</i> , 2021, 336, 443-456.	9.9	21
57	The neurovascular response is attenuated by focused ultrasound-mediated disruption of the blood-brain barrier. <i>NeuroImage</i> , 2019, 201, 116010.	4.2	20
58	Lesion location and lesion creation affect outcomes after focused ultrasound thalamotomy. <i>Brain</i> , 2021, 144, 3089-3100.	7.6	18
59	Preclinical evaluation of a low-frequency transcranial MRI-guided focused ultrasound system in a primate model. <i>Physics in Medicine and Biology</i> , 2016, 61, 7664-7687.	3.0	17
60	Nonthermal ablation in the rat brain using focused ultrasound and an ultrasound contrast agent: long-term effects. <i>Journal of Neurosurgery</i> , 2016, 125, 1539-1548.	1.6	17
61	Intracranial Non-thermal Ablation Mediated by Transcranial Focused Ultrasound and Phase-Shift Nanoemulsions. <i>Ultrasound in Medicine and Biology</i> , 2019, 45, 2104-2117.	1.5	12
62	Combined passive acoustic mapping and magnetic resonance thermometry for monitoring phase-shift nanoemulsion enhanced focused ultrasound therapy. <i>Physics in Medicine and Biology</i> , 2017, 62, 6144-6163.	3.0	11
63	Virtual Brain Projection for Evaluating Trans-skull Beam Behavior of Transcranial Ultrasound Devices. <i>Ultrasound in Medicine and Biology</i> , 2019, 45, 1850-1856.	1.5	11
64	Using Phase Data From MR Temperature Imaging to Visualize Anatomy During MRI-Guided Focused Ultrasound Neurosurgery. <i>IEEE Transactions on Medical Imaging</i> , 2020, 39, 3821-3830.	8.9	11
65	Targeted manipulation of pain neural networks: The potential of focused ultrasound for treatment of chronic pain. <i>Neuroscience and Biobehavioral Reviews</i> , 2020, 115, 238-250.	6.1	10
66	MRI-based thermal dosimetry based on single-slice imaging during focused ultrasound thalamotomy. <i>Physics in Medicine and Biology</i> , 2020, 65, 235018.	3.0	10
67	Low Intensity Focused Ultrasound for Epilepsy—A New Approach to Neuromodulation. <i>Epilepsy Currents</i> , 2022, 22, 156-160.	0.8	10
68	Transcranial cavitation-mediated ultrasound therapy at sub-MHz frequency <i>via</i> temporal interference modulation. <i>Applied Physics Letters</i> , 2017, 111, .	3.3	9
69	Two-step aberration correction: application to transcranial histotripsy. <i>Physics in Medicine and Biology</i> , 2022, 67, 125009.	3.0	9
70	Evolution of Movement Disorders Surgery Leading to Contemporary Focused Ultrasound Therapy for Tremor. <i>Magnetic Resonance Imaging Clinics of North America</i> , 2015, 23, 515-522.	1.1	8
71	High-frequency, low-intensity ultrasound and microbubbles enhance nerve blockade. <i>Journal of Controlled Release</i> , 2018, 276, 150-156.	9.9	8
72	Observed Effects of Whole-Brain Radiation Therapy on Focused Ultrasound Blood–Brain Barrier Disruption. <i>Ultrasound in Medicine and Biology</i> , 2020, 46, 1998-2006.	1.5	7

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73	Association between tumor architecture derived from generalized Q-space MRI and survival in glioblastoma. <i>Oncotarget</i> , 2017, 8, 41815-41826.	1.8	7
74	Simultaneous Passive Acoustic Mapping and Magnetic Resonance Thermometry for Monitoring of Cavitation-Enhanced Tumor Ablation in Rabbits Using Focused Ultrasound and Phase-Shift Nanoemulsions. <i>Ultrasound in Medicine and Biology</i> , 2018, 44, 2609-2624.	1.5	6
75	Targeted Blood Brain Barrier Opening With Focused Ultrasound Induces Focal Macrophage/Microglial Activation in Experimental Autoimmune Encephalomyelitis. <i>Frontiers in Neuroscience</i> , 2021, 15, 665722.	2.8	6
76	Moving toward Noninvasive, Focused Ultrasound Therapeutic Delivery of Drugs in the Brain: Prolonged Opening of Blood-Brain Barrier May Not Be Needed. <i>Radiology</i> , 2019, 291, 467-468.	7.3	5
77	Predicting Bone Marrow Damage in the Skull After Clinical Transcranial MRI-Guided Focused Ultrasound With Acoustic and Thermal Simulations. <i>IEEE Transactions on Medical Imaging</i> , 2020, 39, 3231-3239.	8.9	5
78	Regularized referenceless temperature estimation in PRF-shift MR thermometry. , 2009, , .		4
79	Artifact Suppression for Passive Cavitation Imaging Using U-Net CNNs with Uncertainty Quantification. , 2019, , .		4
80	Local anesthesia enhanced with increasing high-frequency ultrasound intensity. <i>Drug Delivery and Translational Research</i> , 2020, 10, 1507-1516.	5.8	3
81	Simultaneous temperature and cavitation activity mapping. , 2011, , .		2
82	Mid-range wireless power transfer with segmented coil transmitters for implantable heart pumps. , 2016, , .		2
83	Evaluation of Referenceless Thermometry in MRI-Guided Focused Ultrasound Surgery of Uterine Fibroids. <i>AIP Conference Proceedings</i> , 2006, , .	0.4	1
84	Induction of Apoptosis In Vivo in the Rabbit Brain with Focused Ultrasound. <i>AIP Conference Proceedings</i> , 2006, , .	0.4	1
85	Quality Assurance and System Stability of a Clinical MRI-Guided Focused Ultrasound System: Three-Year Experience. <i>AIP Conference Proceedings</i> , 2006, , .	0.4	0
86	Efficacy of MR-guided Focused Ultrasound Thermal Ablation of Rabbit VX2 Tumors. <i>AIP Conference Proceedings</i> , 2006, , .	0.4	0
87	Enhanced permeability of tumor blood vessels in brain using focused ultrasound with microbubbles. , 2010, , .		0
88	Blood-Brain Barrier Disruption Caused by Ultrasound Bursts Combined with Microbubbles Depends on Anesthesia. <i>AIP Conference Proceedings</i> , 2011, , .	0.4	0
89	Notice of Removal: Evaluation of anticancer agent transport in brain tumors after focused ultrasound-induced blood-brain/blood-tumor barrier disruption. , 2017, , .		0
90	CADD-32. MECHANISMS OF ENHANCED DRUG DELIVERY IN BRAIN TUMORS WITH FOCUSED ULTRASOUND-INDUCED TRANSIENT BLOOD-TUMOR BARRIER DISRUPTION. <i>Neuro-Oncology</i> , 2018, 20, vi281-vi281.	1.2	0

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91	BSCI-09. MECHANISMS OF ENHANCED DRUG DELIVERY IN BRAIN METASTASES WITH FOCUSED ULTRASOUND-INDUCED BLOOD-TUMOR BARRIER DISRUPTION. <i>Neuro-Oncology Advances</i> , 2019, 1, i2-i2.	0.7	0
92	Focus Ultrasound-Induced Blood-Brain Barrier opening enhances anti-pGlu3 A $\beta$ mAb delivery and amyloid-beta plaque clearance. <i>Alzheimer's and Dementia</i> , 2021, 17, e058725.	0.8	0