Emmanuel Barbier

List of Publications by Year
in descending order

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128	4,858	94433	106344
papers	citations	37 h-index	65 g-index

149	149	149	6407
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Comparative Overview of Brain Perfusion Imaging Techniques. Stroke, 2005, 36, e83-99.	2.0	397
2	Methodology of brain perfusion imaging. Journal of Magnetic Resonance Imaging, 2001, 13, 496-520.	3.4	361
3	Ultrasmall Rigid Particles as Multimodal Probes for Medical Applications. Angewandte Chemie - International Edition, 2011, 50, 12299-12303.	13.8	156
4	Imaging cortical anatomy by high-resolution MR at 3.0T: Detection of the stripe of Gennari in visual area 17. Magnetic Resonance in Medicine, 2002, 48, 735-738.	3.0	151
5	Preferential Effect of Synchrotron Microbeam Radiation Therapy on Intracerebral 9L Gliosarcoma Vascular Networks. International Journal of Radiation Oncology Biology Physics, 2010, 78, 1503-1512.	0.8	149
6	Comparative overview of brain perfusion imaging techniques. Journal of Neuroradiology, 2005, 32, 294-314.	1.1	141
7	Intravenous Administration of ^{99m}Tc-HMPAO-Labeled Human Mesenchymal Stem Cells after Stroke: In Vivo Imaging and Biodistribution. Cell Transplantation, 2009, 18, 1369-1379.	2.5	138
8	Gadolinium-Based Nanoparticles and Radiation Therapy for Multiple Brain Melanoma Metastases: Proof of Concept before Phase I Trial. Theranostics, 2016, 6, 418-427.	10.0	134
9	Comparative Overview of Brain Perfusion Imaging Techniques. Stroke, 2005, 36, 2032-2033.	2.0	112
10	Assessment of blood volume, vessel size, and the expression of angiogenic factors in two rat glioma models: a longitudinal in vivo and ex vivo study. NMR in Biomedicine, 2008, 21, 1043-1056.	2.8	98
11	Cell-Permeable Ln(III) Chelate-Functionalized InP Quantum Dots As Multimodal Imaging Agents. ACS Nano, 2011, 5, 8193-8201.	14.6	87
12	AGuIX^{Â®} from bench to bedsideâ€"Transfer of an ultrasmall theranostic gadolinium-based nanoparticle to clinical medicine. British Journal of Radiology, 2019, 92, 20180365.	2.2	86
13	High-Precision Radiosurgical Dose Delivery by Interlaced Microbeam Arrays of High-Flux Low-Energy Synchrotron X-Rays. PLoS ONE, 2010, 5, e9028.	2.5	79
14	Synchrotron microbeam radiation therapy induces hypoxia in intracerebral gliosarcoma but not in the normal brain. Radiotherapy and Oncology, 2013, 108, 143-148.	0.6	78
15	Impaired fMRI activation in patients with primary brain tumors. NeuroImage, 2010, 52, 538-548.	4.2	76
16	Brain tumor vessel response to synchrotron microbeam radiation therapy: a short-termin vivostudy. Physics in Medicine and Biology, 2008, 53, 3609-3622.	3.0	72
17	Evaluation of a quantitative blood oxygenation levelâ€dependent (qBOLD) approach to map local blood oxygen saturation. NMR in Biomedicine, 2011, 24, 393-403.	2.8	72
18	Is T2* Enough to Assess Oxygenation? Quantitative Blood Oxygen Levelâ€"Dependent Analysis in Brain Tumor. Radiology, 2012, 262, 495-502.	7.3	72

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19	Cell-Based therapy for traumatic brain injury. British Journal of Anaesthesia, 2015, 115, 203-212.	3.4	72
20	Targeting brain metastases with ultrasmall theranostic nanoparticles, a first-in-human trial from an MRI perspective. Science Advances, 2020, 6, eaay5279.	10.3	70
21	Perfusion imaging using dynamic arterial spin labeling (DASL). Magnetic Resonance in Medicine, 2001, 45, 1021-1029.	3.0	69
22	In vivo MRI tracking of exogenous monocytes/macrophages targeting brain tumors in a rat model of glioma. NeuroImage, 2008, 40, 973-983.	4.2	67
23	Characterization of Tumor Angiogenesis in Rat Brain Using Iron-Based Vessel Size Index MRI in Combination with Gadolinium-Based Dynamic Contrast-Enhanced MRI. Journal of Cerebral Blood Flow and Metabolism, 2009, 29, 1714-1726.	4.3	65
24	In vivo imaging of vessel diameter, size, and density: A comparative study between MRI and histology. Magnetic Resonance in Medicine, 2013, 69, 18-26.	3.0	59
25	Microtubule-associated protein 6 mediates neuronal connectivity through Semaphorin 3E-dependent signalling for axonal growth. Nature Communications, 2015, 6, 7246.	12.8	57
26	In vivo MRI tracking of exogenous monocytes/macrophages targeting brain tumors in a rat model of glioma. NeuroImage, 2007, 37, S47-S58.	4.2	55
27	Monochromatic Minibeams Radiotherapy: From Healthy Tissue-Sparing Effect Studies Toward First Experimental Glioma Bearing Rats Therapy. International Journal of Radiation Oncology Biology Physics, 2012, 82, e693-e700.	0.8	51
28	Imaging the microvessel caliber and density: Principles and applications of microvascular MRI. Magnetic Resonance in Medicine, 2015, 73, 325-341.	3.0	51
29	MRI-guided clinical 6-MV radiosensitization of glioma using a unique gadolinium-based nanoparticles injection. Nanomedicine, 2016, 11, 2405-2417.	3.3	51
30	A model of the dual effect of gadopentetate dimeglumine on dynamic brain MR images. Journal of Magnetic Resonance Imaging, 1999, 10, 242-253.	3.4	49
31	PO2 Matters in Stem Cell Culture. Cell Stem Cell, 2009, 5, 242-243.	11.1	49
32	Monitoring Blood-Brain Barrier Status in a Rat Model of Glioma Receiving Therapy: Dual Injection of Low-Molecular-Weight and Macromolecular MR Contrast Media. Radiology, 2010, 257, 342-352.	7.3	48
33	Artificial intelligence to predict clinical disability in patients with multiple sclerosis using FLAIR MRI. Diagnostic and Interventional Imaging, 2020, 101, 795-802.	3.2	46
34	An MRI-based classification scheme to predict passive access of 5 to 50-nm large nanoparticles to tumors. Scientific Reports, 2016, 6, 21417.	3.3	44
35	Defective tubulin detyrosination causes structural brain abnormalities with cognitive deficiency in humans and mice. Human Molecular Genetics, 2019, 28, 3391-3405.	2.9	43
36	Perfusion analysis using dynamic arterial spin labeling (DASL). Magnetic Resonance in Medicine, 1999, 41, 299-308.	3.0	42

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37	Tissue Oxygen Saturation Mapping with Magnetic Resonance Imaging. Journal of Cerebral Blood Flow and Metabolism, 2014, 34, 1550-1557.	4.3	42
38	Permeability of Brain Tumor Vessels Induced by Uniform or Spatially Microfractionated Synchrotron Radiation Therapies. International Journal of Radiation Oncology Biology Physics, 2017, 98, 1174-1182.	0.8	41
39	Microvascular Plasticity After Experimental Stroke: A Molecular and MRI Study. Cerebrovascular Diseases, 2014, 38, 344-353.	1.7	39
40	A pericyteâ€glia scarring develops at the leaky capillaries in the hippocampus during seizure activity. Epilepsia, 2019, 60, 1399-1411.	5.1	37
41	Focal brain ischemia in rat: acute changes in brain tissueT1 reflect acute increase in brain tissue water content. NMR in Biomedicine, 2005, 18, 499-506.	2.8	36
42	Fully Automatic Lesion Localization and Characterization: Application to Brain Tumors Using Multiparametric Quantitative MRI Data. IEEE Transactions on Medical Imaging, 2018, 37, 1678-1689.	8.9	36
43	Assessment of multiparametric MRI in a human glioma model to monitor cytotoxic and antiâ€angiogenic drug effects. NMR in Biomedicine, 2011, 24, 473-482.	2.8	35
44	Neuronal transport defects of the MAP6 KO mouse â€“ a model of schizophrenia â€“ and alleviation by Epothilone D treatment, as observed using MEMRI. NeuroImage, 2014, 96, 133-142.	4.2	33
45	Magnetic Resonance Imaging and Fluorescence Labeling of Clinical-Grade Mesenchymal Stem Cells Without Impacting Their Phenotype: Study in a Rat Model of Stroke. Stem Cells Translational Medicine, 2012, 1, 333-340.	3.3	32
46	Erythropoietin and Its Derivates Modulate Mitochondrial Dysfunction after Diffuse Traumatic Brain Injury. Journal of Neurotrauma, 2016, 33, 1625-1633.	3.4	32
47	Intracerebral injection of human mesenchymal stem cells impacts cerebral microvasculature after experimental stroke: MRI study. NMR in Biomedicine, 2012, 25, 1340-1348.	2.8	31
48	MR Vascular Fingerprinting in Stroke and Brain Tumors Models. Scientific Reports, 2016, 6, 37071.	3.3	31
49	Reduced brain edema and functional deficits after treatment of diffuse traumatic brain injury by carbamylated erythropoietin derivative*. Critical Care Medicine, 2011, 39, 2099-2105.	0.9	30
50	Quantitative MR estimates of blood oxygenation based on T₂*: A numerical study of the impact of model assumptions. Magnetic Resonance in Medicine, 2012, 67, 1458-1468.	3.0	29
51	Interpulse phase corrections for unbalanced pseudoâ€continuous arterial spin labeling at high magnetic field. Magnetic Resonance in Medicine, 2018, 79, 1314-1324.	3.0	29
52	Cerebrovascular heterogeneity and neuronal excitability. Neuroscience Letters, 2018, 667, 75-83.	2.1	28
53	Transit time mapping in the mouse brain using timeâ€encoded pCASL. NMR in Biomedicine, 2018, 31, e3855.	2.8	28
54	Neurogliovascular dysfunction in a model of repeated traumatic brain injury. Theranostics, 2018, 8, 4824-4836.	10.0	28

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55	Improvedk-space trajectory measurement with signal shifting. Magnetic Resonance in Medicine, 2007, 58, 200-205.	3.0	27
56	The Impact of Erythropoietin on Short-Term Changes in Phosphorylation of Brain Protein Kinases in a Rat Model of Traumatic Brain Injury. Journal of Cerebral Blood Flow and Metabolism, 2010, 30, 361-369.	4.3	27
57	NG2-expressing glial precursor cells are a new potential oligodendroglioma cell initiating population in N -ethyl- N -nitrosourea-induced gliomagenesis. Carcinogenesis, 2010, 31, 1718-1725.	2.8	27
58	Evaluation of the Relationship between MR Estimates of Blood Oxygen Saturation and Hypoxia: Effect of an Antiangiogenic Treatment on a Gliosarcoma Model. Radiology, 2012, 265, 743-752.	7.3	27
59	Vessel size index measurements in a rat model of glioma: comparison of the dynamic (Gd) and steadyâ€state (ironâ€oxide) susceptibility contrast MRI approaches. NMR in Biomedicine, 2012, 25, 218-226.	2.8	26
60	Changes in Brain Tissue Oxygenation After Treatment of Diffuse Traumatic Brain Injury by Erythropoietin*. Critical Care Medicine, 2013, 41, 1316-1324.	0.9	26
61	Mathematical Modelling of an Ischemic Stroke: An Integrative Approach. Acta Biotheoretica, 2004, 52, 255-272.	1.5	25
62	Reduced CMRO‹sub›2‹/sub› and cerebrovascular reserve in patients with severe intracranial arterial stenosis: A combined multiparametric qBOLD oxygenation and BOLD fMRI study. Human Brain Mapping, 2015, 36, 695-706.	3.6	24
63	A model of blood-brain barrier permeability to water: Accounting for blood inflow and longitudinal relaxation effects. Magnetic Resonance in Medicine, 2002, 47, 1100-1109.	3.0	23
64	Microvascular MRI and Unsupervised Clustering Yields Histology-Resembling Images in Two Rat Models of Glioma. Journal of Cerebral Blood Flow and Metabolism, 2014, 34, 1354-1362.	4.3	23
65	A Simulation Tool for Dynamic Contrast Enhanced MRI. PLoS ONE, 2013, 8, e57636.	2.5	23
66	Intravenous Injection of Clinical Grade Human MSCs after Experimental Stroke: Functional Benefit and Microvascular Effect. Cell Transplantation, 2016, 25, 2157-2171.	2.5	22
67	Ultrasmall theranostic gadolinium-based nanoparticles improve high-grade rat glioma survival. Journal of Clinical Neuroscience, 2019, 67, 215-219.	1.5	22
68	Bloodâ€"brain barrier permeability to manganese and to Gdâ€ÐOTA in a rat model of transient cerebral ischaemia. NMR in Biomedicine, 2008, 21, 427-436.	2.8	21
69	Manganese enhanced MRI in rat hippocampus: A correlative study with synchrotron X-ray microprobe. NeuroImage, 2013, 64, 10-18.	4.2	21
70	Comparison of strategies for monitoring and treating patients at the early phase of severe traumatic brain injury: the multicentre randomised controlled OXY-TC trial study protocol. BMJ Open, 2020, 10, e040550.	1.9	21
71	Distribution and Radiosensitizing Effect of Cholesterol-Coupled Dbait Molecule in Rat Model of Glioblastoma. PLoS ONE, 2012, 7, e40567.	2.5	21
72	Hypertonic sodium lactate reverses brain oxygenation and metabolism dysfunction after traumatic brain injury. British Journal of Anaesthesia, 2018, 120, 1295-1303.	3.4	19

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73	Imaging of brain oxygenation with magnetic resonance imaging: A validation with positron emission tomography in the healthy and tumoural brain. Journal of Cerebral Blood Flow and Metabolism, 2017, 37, 2584-2597.	4.3	18
74	Impact of manganese on primary hippocampal neurons from rodents. Hippocampus, 2014, 24, 598-610.	1.9	17
75	Radial Echo-Planar Imaging. Journal of Magnetic Resonance, 1998, 135, 242-247.	2.1	16
76	Simultaneous Glutamate and Perfusion fMRI Responses to Regional Brain Stimulation. Journal of Cerebral Blood Flow and Metabolism, 1998, 18, 1064-1070.	4.3	15
77	A low temperature embedding and section registration strategy for 3D image reconstruction of the rat brain from autoradiographic sections. Journal of Neuroscience Methods, 2006, 158, 242-250.	2.5	14
78	The Ammonium-Induced Increase in Rat Brain Lactate Concentration is Rapid and Reversible and is Compatible with Trafficking and Signaling Roles for Ammonium. Journal of Cerebral Blood Flow and Metabolism, 2007, 27, 1830-1840.	4.3	14
79	Anomalous water dynamics in brain: a combined diffusion magnetic resonance imaging and neutron scattering investigation. Journal of the Royal Society Interface, 2019, 16, 20190186.	3.4	14
80	Mannitol Improves Brain Tissue Oxygenation in a Model of Diffuse Traumatic Brain Injury*. Critical Care Medicine, 2015, 43, 2212-2218.	0.9	13
81	Functional connectivity is preserved but reorganized across several anesthetic regimes. NeuroImage, 2020, 219, 116945.	4.2	13
82	In vivo Î³â€aminobutyric acid increase as a biomarker of the epileptogenic zone: An unbiased metabolomics approach. Epilepsia, 2021, 62, 163-175.	5.1	12
83	A metabolic biomarker predicts Parkinsonâ€™s disease at the early stages in patients and animal models. Journal of Clinical Investigation, 2022, 132, .	8.2	12
84	A Multicenter Preclinical MRI Study: Definition of Rat Brain Relaxometry Reference Maps. Frontiers in Neuroinformatics, 2020, 14, 22.	2.5	11
85	Brain metabolism in tau and amyloid mouse models of Alzheimer's disease: An MRI study. NMR in Biomedicine, 2021, 34, e4568.	2.8	11
86	Contribution of CT-Scan Analysis by Artificial Intelligence to the Clinical Care of TBI Patients. Frontiers in Neurology, 2021, 12, 666875.	2.4	11
87	Neural Parameters Estimation for Brain Tumor Growth Modeling. Lecture Notes in Computer Science, 2019, , 787-795.	1.3	11
88	High-resolution relaxometry-based calibrated fMRI in murine brain: Metabolic differences between awake and anesthetized states. Journal of Cerebral Blood Flow and Metabolism, 2022, 42, 811-825.	4.3	11
89	Brain networks of rats under anesthesia using resting-state fMRI: comparison with dead rats, random noise and generative models of networks. Journal of Neural Engineering, 2020, 17, 045012.	3.5	10
90	Multiparametric MRI as an early biomarker of individual therapy effects during concomitant treatment of brain tumours. NMR in Biomedicine, 2015, 28, 1163-1173.	2.8	9

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91	Locomotion and eating behavior changes in Yucatan minipigs after unilateral radio-induced ablation of the caudate nucleus. Scientific Reports, 2019, 9, 17082.	3.3	9
92	Monochromatic minibeam radiotherapy: theoretical and experimental dosimetry for preclinical treatment plans. Physics in Medicine and Biology, 2011, 56, 4465-4480.	3.0	8
93	The three glioma rat models C6, F98 and RG2 exhibit different metabolic profiles: in vivo 1H MRS and ex vivo 1H HRMAS combined with multivariate statistics. Metabolomics, 2015, 11, 1834-1847.	3.0	8
94	Neurovascular multiparametric MRI defines epileptogenic and seizure propagation regions in experimental mesiotemporal lobe epilepsy. Epilepsia, 2021, 62, 1244-1255.	5.1	8
95	Impact of tissue T₁on perfusion measurement with arterial spin labeling. Magnetic Resonance in Medicine, 2017, 77, 1656-1664.	3.0	7
96	Evaluation of Parametric Response Mapping to Assess Therapeutic Response to Human Mesenchymal Stem Cells after Experimental Stroke. Cell Transplantation, 2017, 26, 1462-1471.	2.5	7
97	Multiparametric magnetic resonance imaging including oxygenation mapping of experimental ischaemic stroke. Journal of Cerebral Blood Flow and Metabolism, 2017, 37, 2196-2207.	4.3	7
98	Dynamical properties of water in living cells. Frontiers of Physics, 2018, 13, 1.	5.0	7
99	Optimized cervical spinal cord perfusion MRI after traumatic injury in the rat. Journal of Cerebral Blood Flow and Metabolism, 2021, 41, 0271678X2098239.	4.3	7
100	Impact of manganese on the hippocampus metabolism in the context of MEMRI: a proton HRMAS MRS study. Toxicology Research, 2015, 4, 376-384.	2.1	6
101	Cluster versus ROI analysis to assess combined antiangiogenic therapy and radiotherapy in the F98 ratâ€glioma model. NMR in Biomedicine, 2018, 31, e3933.	2.8	6
102	MP3: Medical Software for Processing Multi-Parametric Images Pipelines. Frontiers in Neuroinformatics, 2020, 14, 594799.	2.5	6
103	T2-*weighted perfusion MRI. Diagnostic and Interventional Imaging, 2013, 94, 1205-1209.	3.2	5
104	Vascular permeability in the RG2 glioma model can be mediated by macropinocytosis and be independent of the opening of the tight junction. Journal of Cerebral Blood Flow and Metabolism, 2017, 37, 1264-1275.	4.3	5
105	Brain lateralization probed by water diffusion at the atomic to micrometric scale. Scientific Reports, 2019, 9, 14694.	3.3	5
106	Bayesian Inverse Regression for Vascular Magnetic Resonance Fingerprinting. IEEE Transactions on Medical Imaging, 2021, 40, 1827-1837.	8.9	5
107	3D Spatial Distribution of Nanoparticles in Mice Brain Metastases by X-ray Phase-Contrast Tomography. Frontiers in Oncology, 2021, 11, 554668.	2.8	5
108	SAR comparison between CASL and pCASL at high magnetic field and evaluation of the benefit of a dedicated labeling coil. Magnetic Resonance in Medicine, 2020, 83, 254-261.	3.0	4

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109	Mapping of brain tissue hematocrit in glioma and acute stroke using a dual autoradiography approach. Scientific Reports, 2018, 8, 9878.	3.3	3
110	MRI Assessment of Oxygen Metabolism and Hemodynamic Status in Symptomatic Intracranial Atherosclerotic Stenosis: A Pilot Study. Journal of Neuroimaging, 2019, 29, 467-475.	2.0	3
111	Hypertonic Sodium Lactate to Alleviate Functional Deficits Following Diffuse Traumatic Brain Injury: An Osmotic or a Lactate-Related Effect?. Neurocritical Care, 2021, 34, 795-803.	2.4	3
112	Component Elimination Strategies to Fit Mixtures of Multiple Scale Distributions. Communications in Computer and Information Science, 2019, , 81-95.	0.5	3
113	Editorial: APPNING: Animal Population Imaging. Frontiers in Neuroinformatics, 2021, 15, 676603.	2.5	1
114	Perfusion analysis using dynamic arterial spin labeling (DASL). Magnetic Resonance in Medicine, 1999, 41, 299-308.	3.0	1
115	Spatially resolved imaging methods to probe metals in the brain: from subcellular to organ level. , 2012, , 211-222.		1
116	Traumatic Brain Lesion Quantification Based on Mean Diffusivity Changes. Lecture Notes in Computer Science, 2018, , 88-99.	1.3	1
117	Brain, Head, and Neck. , 2008, , 169-533.		1
118	VPS35 deficiency in the embryonic cortex leads to prenatal cell loss and abnormal development of axonal connectivity. Molecular and Cellular Neurosciences, 2022, 120, 103726.	2.2	1
119	Cohort Creation and Visualization Using Graph Model in the PREDIMED Health Data Warehouse. Studies in Health Technology and Informatics, 2020, 270, 108-112.	0.3	1
120	Evaluation of tumor response to carmustin and sorafenib with magnetic resonance imaging in orthotopic human glioblastoma models xenografted in nude rats. European Journal of Cancer, Supplement, 2008, 6, 28.	2.2	0
121	ThÃ©rapie cellulaire dans le traumatisme cÃ©rÃ©bral aiguÂ: espoirs et limites. AnesthÃ©sie & RÃ©animation, 2015, 1, 554-555.	0.1	0
122	Parametric response map (prm) is a promising tool for the monitoring of post traumatic cerebral oedema. Intensive Care Medicine Experimental, 2015, 3, .	1.9	0
123	Evaluation of Cerebral Blood Flow and Brain Metabolism in the Intensive Care Unit. , 2018, , 327-338.		0
124	Manganese Cytotoxicity Assay on Hippocampal Neuronal Cell Culture. Bio-protocol, 2015, 5, .	0.4	0
125	Evaluation of parametric response mapping to assess therapeutic response to human mesenchymal stem cells after experimental stroke. Cell Transplantation, 2017, , .	2.5	0
126	Other MRI Approaches to Perfusion Imaging (ASL, DSC, DCE). , 2018, , 31-66.		0

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127	Automated Quantification of Brain Lesion Volume From Post-trauma MR Diffusion-Weighted Images. Frontiers in Neurology, 2021, 12, 740603.	2.4	0
128	A model of the dual effect of gadopentetate dimeglumine on dynamic brain MR images. Journal of Magnetic Resonance Imaging, 1999, 10, 242-253.	3.4	0