

Robin A De Graaf

List of Publications by Year in descending order

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111
papers

6,635
citations

57758

44
h-index

76900

74
g-index

128
all docs

128
docs citations

128
times ranked

6431
citing authors

#	ARTICLE	IF	CITATIONS
1	Human brain functional MRS reveals interplay of metabolites implicated in neurotransmission and neuroenergetics. <i>Journal of Cerebral Blood Flow and Metabolism</i> , 2022, 42, 911-934.	4.3	16
2	Interleaved fluid-attenuated inversion recovery (FLAIR) MRI and deuterium metabolic imaging (DMI) on human brain in vivo. <i>Magnetic Resonance in Medicine</i> , 2022, 88, 28-37.	3.0	8
3	Prefrontal Glutamate Neurotransmission in PTSD: A Novel Approach to Estimate Synaptic Strength in Vivo in Humans. <i>Chronic Stress</i> , 2022, 6, 247054702210927.	3.4	8
4	Short symmetric and highly selective asymmetric first and second order gradient modulated offset independent adiabaticity (GOIA) pulses for applications in clinical MRS and MRSI. <i>Journal of Magnetic Resonance</i> , 2022, 341, 107247.	2.1	1
5	B ₀ shimming for in vivo magnetic resonance spectroscopy: Experts' consensus recommendations. <i>NMR in Biomedicine</i> , 2021, 34, e4350.	2.8	60
6	Contribution of macromolecules to brain ¹ H MR spectra: Experts' consensus recommendations. <i>NMR in Biomedicine</i> , 2021, 34, e4393.	2.8	92
7	Characterization of Kinetic Isotope Effects and Label Loss in Deuterium-Based Isotopic Labeling Studies. <i>ACS Chemical Neuroscience</i> , 2021, 12, 234-243.	3.5	25
8	Terminology and concepts for the characterization of in vivo MR spectroscopy methods and MR spectra: Background and experts' consensus recommendations. <i>NMR in Biomedicine</i> , 2021, 34, e4347.	2.8	69
9	Spectral editing in ¹ H magnetic resonance spectroscopy: Experts' consensus recommendations. <i>NMR in Biomedicine</i> , 2021, 34, e4411.	2.8	74
10	Methods ¹³ C MRS Measurements of in Vivo Rates of the Glutamate/Glutamine and GABA/Glutamine Neurotransmitter Cycles. , 2021, , 688-700.		2
11	NMR visibility of deuterium-labeled liver glycogen <i>in vivo</i> . <i>Magnetic Resonance in Medicine</i> , 2021, 86, 62-68.	3.0	22
12	Deuterium metabolic imaging – Back to the future. <i>Journal of Magnetic Resonance</i> , 2021, 326, 106932.	2.1	51
13	Simultaneous Recording of the Uptake and Conversion of Glucose and Choline in Tumors by Deuterium Metabolic Imaging. <i>Cancers</i> , 2021, 13, 4034.	3.7	17
14	Deuterium Metabolic Imaging of the Healthy and Diseased Brain. <i>Neuroscience</i> , 2021, 474, 94-99.	2.3	22
15	Metabolic underpinnings of activated and deactivated cortical areas in human brain. <i>Journal of Cerebral Blood Flow and Metabolism</i> , 2021, 41, 986-1000.	4.3	16
16	Water and lipid suppression techniques for advanced ¹ H MRS and MRSI of the human brain: Experts' consensus recommendations. <i>NMR in Biomedicine</i> , 2021, 34, e4459.	2.8	34
17	Deuterium metabolic imaging in the human brain at 9.4 Tesla with high spatial and temporal resolution. <i>NeuroImage</i> , 2021, 244, 118639.	4.2	34
18	ECLIPSE utilizing gradient-modulated offset-independent adiabaticity (GOIA) pulses for highly selective human brain proton MRSI. <i>NMR in Biomedicine</i> , 2021, 34, e4415.	2.8	2

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19	On the magnetic field dependence of deuterium metabolic imaging. <i>NMR in Biomedicine</i> , 2020, 33, e4235.	2.8	46
20	Robust outer volume suppression utilizing elliptical pulsed second order fields (ECLIPSE) for human brain proton MRSI. <i>Magnetic Resonance in Medicine</i> , 2020, 83, 1539-1552.	3.0	7
21	Dynamic multicoil technique (DYNAMITE) MRI on human brain. <i>Magnetic Resonance in Medicine</i> , 2020, 84, 2953-2963.	3.0	5
22	In vivo MRS measurement of 2-hydroxyglutarate in patient-derived IDH mutant xenograft mouse models versus glioma patients. <i>Magnetic Resonance in Medicine</i> , 2020, 84, 1152-1160.	3.0	11
23	In vivo ¹³ C and ¹ H- ¹³ C MRS studies of neuroenergetics and neurotransmitter cycling, applications to neurological and psychiatric disease and brain cancer. <i>NMR in Biomedicine</i> , 2019, 32, e4172.	2.8	34
24	Functional MRS with J-edited lactate in human motor cortex at 4T. <i>NeuroImage</i> , 2019, 184, 101-108.	4.2	24
25	Combined imaging and shimming with the dynamic multicoil technique. <i>Magnetic Resonance in Medicine</i> , 2019, 81, 1424-1433.	3.0	6
26	Quantification of glutathione transverse relaxation time T ₂ using echo time extension with variable refocusing selectivity and symmetry in the human brain at 7 Tesla. <i>Journal of Magnetic Resonance</i> , 2018, 290, 1-11.	2.1	15
27	Minimum echo time PRESS-based proton observed carbon edited (¹³ C MRS) in rat brain using simultaneous editing and localization pulses. <i>Magnetic Resonance in Medicine</i> , 2018, 80, 1279-1288.	3.0	1
28	Measurement of lipid composition in human skeletal muscle and adipose tissue with ¹ H-MRS homonuclear spectral editing. <i>Magnetic Resonance in Medicine</i> , 2018, 79, 619-627.	3.0	7
29	Selective proton-observed, carbon-edited (selPOCE) MRS method for measurement of glutamate and glutamine ¹³ C-labeling in the human frontal cortex. <i>Magnetic Resonance in Medicine</i> , 2018, 80, 11-20.	3.0	19
30	Elliptical localization with pulsed second order fields (ECLIPSE) for robust lipid suppression in proton MRSI. <i>NMR in Biomedicine</i> , 2018, 31, e3949.	2.8	15
31	The effects of ketamine on prefrontal glutamate neurotransmission in healthy and depressed subjects. <i>Neuropsychopharmacology</i> , 2018, 43, 2154-2160.	5.4	146
32	Deuterium metabolic imaging (DMI) for MRI-based 3D mapping of metabolism in vivo. <i>Science Advances</i> , 2018, 4, eaat7314.	10.3	194
33	Hypofrontality and Posterior Hyperactivity in Early Schizophrenia: Imaging and Behavior in a Preclinical Model. <i>Biological Psychiatry</i> , 2017, 81, 503-513.	1.3	22
34	2-Hydroxyglutarate produced by neomorphic IDH mutations suppresses homologous recombination and induces PARP inhibitor sensitivity. <i>Science Translational Medicine</i> , 2017, 9, .	12.4	420
35	Elevated Î±-Hydroxybutyrate and Branched-Chain Amino Acid Levels Predict Deterioration of Glycemic Control in Adolescents. <i>Journal of Clinical Endocrinology and Metabolism</i> , 2017, 102, 2473-2481.	3.6	62
36	The public multicoil information (PUMCIN) policy. <i>Magnetic Resonance in Medicine</i> , 2017, 78, 2042-2047.	3.0	8

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37	Comparison of direct ^{13}C and indirect ^1H - ^{13}C MR detection methods for the study of dynamic metabolic turnover in the human brain. <i>Journal of Magnetic Resonance</i> , 2017, 283, 33-44.	2.1	12
38	B_0 magnetic field homogeneity and shimming for in vivo magnetic resonance spectroscopy. <i>Analytical Biochemistry</i> , 2017, 529, 17-29.	2.4	76
39	Detection of cerebral NAD ⁺ in humans at 7T. <i>Magnetic Resonance in Medicine</i> , 2017, 78, 828-835.	3.0	38
40	Reproducibility measurement of glutathione, GABA, and glutamate: Towards in vivo neurochemical profiling of multiple sclerosis with MR spectroscopy at 7T. <i>Journal of Magnetic Resonance Imaging</i> , 2017, 45, 187-198.	3.4	75
41	“What to eat or what not to eat” that is still the question” Reply. <i>Neuro-Oncology</i> , 2017, 19, 596-597.	1.2	1
42	Proton observed phosphorus editing (POPE) for in vivo detection of phospholipid metabolites. <i>NMR in Biomedicine</i> , 2016, 29, 1222-1230.	2.8	10
43	Dynamic multi-coil tailored excitation for transmit B_1 correction at 7 Tesla. <i>Magnetic Resonance in Medicine</i> , 2016, 76, 83-93.	3.0	6
44	A ketogenic diet increases transport and oxidation of ketone bodies in RG2 and 9L gliomas without affecting tumor growth. <i>Neuro-Oncology</i> , 2016, 18, 1079-1087.	1.2	72
45	Brain region and activity-dependent properties of M for calibrated fMRI. <i>NeuroImage</i> , 2016, 125, 848-856.	4.2	26
46	CHAPTER 4. B_0 Shimming Technology. <i>New Developments in NMR</i> , 2016, , 166-207.	0.1	16
47	Quantum coherence spectroscopy to measure dietary fat retention in the liver. <i>JCI Insight</i> , 2016, 1, e84671.	5.0	14
48	High-sensitivity, broadband decoupled ^{13}C MR spectroscopy in humans at 7T using two-dimensional heteronuclear single quantum coherence. <i>Magnetic Resonance in Medicine</i> , 2015, 74, 903-914.	3.0	18
49	Dynamic multi-coil technique (DYNAMITE) shimming for echo-planar imaging of the human brain at 7 Tesla. <i>NeuroImage</i> , 2015, 105, 462-472.	4.2	63
50	Quantification of ^1H NMR spectra from human plasma. <i>Metabolomics</i> , 2015, 11, 1702-1707.	3.0	19
51	Superconductor Analog-to-Digital Converter for High-Resolution Magnetic Resonance Imaging. <i>IEEE Transactions on Applied Superconductivity</i> , 2015, 25, 1-5.	1.7	11
52	Multi-slice MRI with the dynamic multi-coil technique. <i>NMR in Biomedicine</i> , 2015, 28, 1526-1534.	2.8	15
53	Effects of β -Aminobutyric acid transporter 1 inhibition by tiagabine on brain glutamate and β -Aminobutyric acid metabolism in the anesthetized rat. <i>In vivo</i> . <i>Journal of Neuroscience Research</i> , 2015, 93, 1101-1108.	2.9	16
54	Intramolecular zero-quantum coherence 2D NMR spectroscopy of lipids in the human breast at 7 T. <i>Magnetic Resonance in Medicine</i> , 2014, 71, 451-457.	3.0	18

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55	Detection of cerebral NAD ⁺ by <i>in vivo</i> ¹ H NMR spectroscopy. NMR in Biomedicine, 2014, 27, 802-809.	2.8	47
56	DYNAMIC Multi-coil TEchnique (DYNAMITE) shimming of the rat brain at 11.7%T. NMR in Biomedicine, 2014, 27, 897-906.	2.8	30
57	Quantification of High-Resolution ¹ H- ¹³ C NMR Spectra from Rat Brain Extracts. Analytical Chemistry, 2014, 86, 5032-5038.	6.5	24
58	Multi-coil magnetic field modeling. Journal of Magnetic Resonance, 2013, 236, 95-104.	2.1	34
59	Multislice ¹ H MRSI of the human brain at 7 T using dynamic <i>B</i> ₀ and <i>B</i> ₁ shimming. Magnetic Resonance in Medicine, 2012, 68, 662-670.	3.0	62
60	Dynamic multi-coil shimming of the human brain at 7T. Journal of Magnetic Resonance, 2011, 212, 280-288.	2.1	126
61	Quantification of High-Resolution ¹ H NMR Spectra from Rat Brain Extracts. Analytical Chemistry, 2011, 83, 216-224.	6.5	49
62	Multicoil shimming of the mouse brain. Magnetic Resonance in Medicine, 2011, 66, 893-900.	3.0	45
63	State of the art direct ¹³ C and indirect ¹ Hâ€{ ¹³ C} NMR spectroscopy <i>in vivo</i> . A practical guide. NMR in Biomedicine, 2011, 24, 958-972.	2.8	101
64	¹³ C MRS studies of neuroenergetics and neurotransmitter cycling in humans. NMR in Biomedicine, 2011, 24, 943-957.	2.8	249
65	Cortical Substrate Oxidation during Hyperketonemia in the Fasted Anesthetized Rat <i>in Vivo</i> . Journal of Cerebral Blood Flow and Metabolism, 2011, 31, 2313-2323.	4.3	28
66	Dynamic shimming of the human brain at 7 T. Concepts in Magnetic Resonance Part B, 2010, 37B, 116-128.	0.7	67
67	Magnetic field homogenization of the human prefrontal cortex with a set of localized electrical coils. Magnetic Resonance in Medicine, 2010, 63, 171-180.	3.0	58
68	Magnetic field modeling with a set of individual localized coils. Journal of Magnetic Resonance, 2010, 204, 281-289.	2.1	76
69	<i>In vivo</i> neurochemical profiling of rat brain by ¹ Hâ€{ ¹³ C} NMR spectroscopy: cerebral energetics and glutamatergic/GABAergic neurotransmission. Journal of Neurochemistry, 2010, 112, 24-33.	3.9	41
70	Altered Brain Mitochondrial Metabolism in Healthy Aging as Assessed by <i>in vivo</i> Magnetic Resonance Spectroscopy. Journal of Cerebral Blood Flow and Metabolism, 2010, 30, 211-221.	4.3	223
71	Evaluation of Cerebral Acetate Transport and Metabolic Rates in the Rat Brain <i>in vivo</i> Using ¹ H- ¹³ C-NMR. Journal of Cerebral Blood Flow and Metabolism, 2010, 30, 1200-1213.	4.3	78
72	Recurrent Antecedent Hypoglycemia Alters Neuronal Oxidative Metabolism <i>In Vivo</i> . Diabetes, 2009, 58, 1266-1274.	0.6	38

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73	<i>In situ</i> 3D magnetic resonance metabolic imaging of microwave-irradiated rodent brain: a new tool for metabolomics research. <i>Journal of Neurochemistry</i> , 2009, 109, 494-501.	3.9	40
74	Natural abundance ¹⁷ O NMR spectroscopy of rat brain in vivo. <i>Journal of Magnetic Resonance</i> , 2008, 193, 63-67.	2.1	20
75	Chronic Riluzole Treatment Increases Glucose Metabolism in Rat Prefrontal Cortex and Hippocampus. <i>Journal of Cerebral Blood Flow and Metabolism</i> , 2008, 28, 1892-1897.	4.3	42
76	¹ H/ ¹³ C MR spectroscopic imaging of regionally specific metabolic alterations after experimental stroke. <i>Brain</i> , 2008, 131, 2209-2219.	7.6	33
77	Dynamically shimmed multivoxel ¹ H magnetic resonance spectroscopy and multislice magnetic resonance spectroscopic imaging of the human brain. <i>Magnetic Resonance in Medicine</i> , 2007, 57, 587-591.	3.0	40
78	Adiabatic refocusing pulses for volume selection in magnetic resonance spectroscopic imaging. <i>Magnetic Resonance in Medicine</i> , 2007, 57, 548-553.	3.0	26
79	High resolution NMR spectroscopy of rat brain in vivo through indirect zero-quantum-coherence detection. <i>Journal of Magnetic Resonance</i> , 2007, 187, 320-326.	2.1	30
80	Measurements of the anaplerotic rate in the human cerebral cortex using ¹³ C magnetic resonance spectroscopy and [¹⁻¹³ C] and [²⁻¹³ C] glucose. <i>Journal of Neurochemistry</i> , 2007, 100, 73-86.	3.9	82
81	Acute regulation of steady-state GABA levels following GABA-transaminase inhibition in rat cerebral cortex. <i>Neurochemistry International</i> , 2006, 48, 508-514.	3.8	40
82	Evidence that GAD65 mediates increased GABA synthesis during intense neuronal activity in vivo. <i>Journal of Neurochemistry</i> , 2006, 97, 385-396.	3.9	107
83	Dynamic shim updating on the human brain. <i>Journal of Magnetic Resonance</i> , 2006, 180, 286-296.	2.1	70
84	High magnetic field water and metabolite proton T ₁ and T ₂ relaxation in rat brain in vivo. <i>Magnetic Resonance in Medicine</i> , 2006, 56, 386-394.	3.0	271
85	In Vivo NMR Spectroscopy - Techniques; Direct Detection; MRS; Kinetics and Labels; Fluxes; Concentrations. , 2005, , 7-29.		1
86	Cerebral pyruvate carboxylase flux is unaltered during bicuculline-seizures. <i>Journal of Neuroscience Research</i> , 2005, 79, 128-138.	2.9	41
87	Theoretical and experimental evaluation of broadband decoupling techniques for in vivo nuclear magnetic resonance spectroscopy. <i>Magnetic Resonance in Medicine</i> , 2005, 53, 1297-1306.	3.0	39
88	Techniques-MRS, fMRI, ¹³ C NMR, Indirect Detection of ¹³ C. , 2005, , 31-52.		0
89	The contribution of GABA to glutamate/glutamine cycling and energy metabolism in the rat cortex in vivo. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2005, 102, 5588-5593.	7.1	308
90	Regional glucose metabolism and glutamatergic neurotransmission in rat brain in vivo. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2004, 101, 12700-12705.	7.1	88

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91	Glutamatergic Neurotransmission and Neuronal Glucose Oxidation are Coupled during Intense Neuronal Activation. <i>Journal of Cerebral Blood Flow and Metabolism</i> , 2004, 24, 972-985.	4.3	141
92	Detection of [1,6- ¹³ C]-glucose metabolism in rat brain by in vivo ¹ H-[¹³ C]-NMR spectroscopy. <i>Magnetic Resonance in Medicine</i> , 2003, 49, 37-46.	3.0	86
93	Dynamic shim updating (DSU) for multislice signal acquisition. <i>Magnetic Resonance in Medicine</i> , 2003, 49, 409-416.	3.0	71
94	Adiabatic RARE imaging. <i>NMR in Biomedicine</i> , 2003, 16, 29-35.	2.8	15
95	In vivo ¹ H-[¹³ C]-NMR spectroscopy of cerebral metabolism. <i>NMR in Biomedicine</i> , 2003, 16, 339-357.	2.8	134
96	Quantitative ¹ H NMR Spectroscopy of Blood Plasma Metabolites. <i>Analytical Chemistry</i> , 2003, 75, 2100-2104.	6.5	84
97	A comparison of ¹³ C NMR measurements of the rates of glutamine synthesis and the tricarboxylic acid cycle during oral and intravenous administration of [1- ¹³ C]glucose. <i>Brain Research Protocols</i> , 2003, 10, 181-190.	1.6	70
98	[2,4- ¹³ C]- ¹ H ² -Hydroxybutyrate Metabolism in Human Brain. <i>Journal of Cerebral Blood Flow and Metabolism</i> , 2002, 22, 890-898.	4.3	83
99	Single-shot diffusion trace ¹ H NMR spectroscopy. <i>Magnetic Resonance in Medicine</i> , 2001, 45, 741-748.	3.0	48
100	Diffusion NMR spectroscopy. <i>NMR in Biomedicine</i> , 2001, 14, 94-111.	2.8	172
101	Detection of ¹³ -Aminobutyric Acid (GABA) by Longitudinal Scalar Order Difference Editing. <i>Journal of Magnetic Resonance</i> , 2001, 152, 124-131.	2.1	30
102	In vivo detection and quantification of scalar coupled ¹ H NMR resonances. <i>Concepts in Magnetic Resonance</i> , 2001, 13, 32-76.	1.3	54
103	Differentiation of Glucose Transport in Human Brain Gray and White Matter. <i>Journal of Cerebral Blood Flow and Metabolism</i> , 2001, 21, 483-492.	4.3	90
104	In Vivo ³¹ P-NMR Diffusion Spectroscopy of ATP and Phosphocreatine in Rat Skeletal Muscle. <i>Biophysical Journal</i> , 2000, 78, 1657-1664.	0.5	118
105	Changes in the Diffusion of Water and Intracellular Metabolites after Excitotoxic Injury and Global Ischemia in Neonatal Rat Brain. <i>Journal of Cerebral Blood Flow and Metabolism</i> , 1999, 19, 341-349.	4.3	92
106	In vivo observation of lactate methyl proton magnetization transfer in rat C6 glioma. <i>Magnetic Resonance in Medicine</i> , 1999, 41, 676-685.	3.0	24
107	Off-resonance metabolite magnetization transfer measurements on rat brain in situ. <i>Magnetic Resonance in Medicine</i> , 1999, 41, 1136-1144.	3.0	55
108	Adiabatic water suppression using frequency selective excitation. <i>Magnetic Resonance in Medicine</i> , 1998, 40, 690-696.	3.0	58

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109	Adiabatic rf pulses: Applications toin vivo NMR. Concepts in Magnetic Resonance, 1997, 9, 247-268.	1.3	62
110	In Vivo NMR Spectroscopyâ€“ Static Aspects. , 0, , 43-110.		7
111	In Vivo NMR Spectroscopyâ€“ Dynamic Aspects. , 0, , 111-190.		1