Charles S Springer Jr

List of Publications by Year
in descending order

89	5,107	81900 39	88630 70
papers	citations	h-index	g-index

94	94	94	3929
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Magnetic field and tissue dependencies of human brain longitudinal1H2O relaxation in vivo. Magnetic Resonance in Medicine, 2007, 57, 308-318.	3.0	546
2	Bulk magnetic susceptibility shifts in nmr studies of compartmentalized samples: use of paramagnetic reagents. Magnetic Resonance in Medicine, 1990, 13, 239-262.	3.0	359
3	Determination of the MRI contrast agent concentration time course in vivo following bolus injection: Effect of equilibrium transcytolemmal water exchange. Magnetic Resonance in Medicine, 2000, 44, 563-574.	3.0	199
4	Equilibrium transcytolemmal water-exchange kinetics in skeletal muscle in vivo. Magnetic Resonance in Medicine, 1999, 42, 467-478.	3.0	192
5	Variation of the relaxographic ?shutter-speed? for transcytolemmal water exchange affects the CR bolus-tracking curve shape. Magnetic Resonance in Medicine, 2003, 50, 1151-1169.	3.0	171
6	A comprehensive approach to the analysis and interpretation of the resonances of spins 3/2 from living systems. NMR in Biomedicine, 1991, 4, 209-226.	2.8	155
7	Equilibrium water exchange between the intra- and extracellular spaces of mammalian brain. Magnetic Resonance in Medicine, 2003, 50, 493-499.	3.0	147
8	A unified magnetic resonance imaging pharmacokinetic theory: Intravascular and extracellular contrast reagents. Magnetic Resonance in Medicine, 2005, 54, 1351-1359.	3.0	141
9	In vivo MR imaging and spectroscopy using hyperpolarized129Xe. Magnetic Resonance in Medicine, 1996, 36, 183-191.	3.0	138
10	Two-dimensional inverse Laplace transform NMR: altered relaxation times allow detection of exchange correlation. Journal of the American Chemical Society, 1993, 115, 7761-7764.	13.7	128
11	The intrinsic structural asymmetry of highly curved phospholipid bilayer membranes. Biochimica Et Biophysica Acta - Biomembranes, 1977, 470, 161-169.	2.6	102
12	The molecular environment of intracellular sodium:23Na NMR relaxation. NMR in Biomedicine, 1991, 4, 227-245.	2.8	97
13	Myelin water mapping by spatially regularized longitudinal relaxographic imaging at high magnetic fields. Magnetic Resonance in Medicine, 2014, 71, 375-387.	3.0	97
14	Early Prediction and Evaluation of Breast Cancer Response to Neoadjuvant Chemotherapy Using Quantitative DCE-MRI. Translational Oncology, 2016, 9, 8-17.	3.7	94
15	Effects of equilibrium exchange on diffusion-weighted NMR signals: The diffusigraphic ?shutter-speed?. Magnetic Resonance in Medicine, 2003, 49, 450-458.	3.0	89
16	Discrimination of Benign and Malignant Breast Lesions by Using Shutter-Speed Dynamic Contrast-enhanced MR Imaging. Radiology, 2011, 261, 394-403.	7.3	87
17	Simultaneous measurement of arterial input function and tumor pharmacokinetics in mice by dynamic contrast enhanced imaging: Effects of transcytolemmal water exchange. Magnetic Resonance in Medicine, 2004, 52, 248-257.	3.0	86
18	Evidence for shutter-speed variation in CR bolus-tracking studies of human pathology. NMR in Biomedicine, 2005, 18, 173-185.	2.8	85

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19	The magnetic resonance shutter speed discriminates vascular properties of malignant and benign breast tumors in vivo. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 17943-17948.	7.1	85
20	T1Ï•MRI contrast in the human brain: Modulation of the longitudinal rotating frame relaxation shutter-speed during an adiabatic RF pulse. Journal of Magnetic Resonance, 2006, 181, 135-147.	2.1	81
21	Intratumor mapping of intracellular water lifetime: metabolic images of breast cancer?. NMR in Biomedicine, 2014, 27, 760-773.	2.8	75
22	Threeâ€compartment T₁ relaxation model for intracellular paramagnetic contrast agents. Magnetic Resonance in Medicine, 2009, 61, 1049-1058.	3.0	73
23	Two-dimensional double-quantum NMR spectroscopy of isolated spin 3/2 systems: sodium-23 examples. Journal of the American Chemical Society, 1988, 110, 674-681.	13.7	70
24	Direct High-resolution Nuclear Magnetic Resonance Studies of Cation Transport in Vivo. Biophysical Journal, 1982, 38, 323-326.	0.5	69
25	Dynamic NMR effects in breast cancer dynamic-contrast-enhanced MRI. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 17937-17942.	7.1	69
26	Susceptibility changes following bolus injections. Magnetic Resonance in Medicine, 1993, 29, 700-708.	3.0	67
27	Shutter-speed analysis of contrast reagent bolus-tracking data: Preliminary observations in benign and malignant breast disease. Magnetic Resonance in Medicine, 2005, 53, 724-729.	3.0	67
28	Toward 20ÂT magnetic resonance for human brain studies: opportunities for discovery and neuroscience rationale. Magnetic Resonance Materials in Physics, Biology, and Medicine, 2016, 29, 617-639.	2.0	66
29	Extracellular volume and transsarcolemmal proton movement during ischemia and reperfusion: A31P NMR spectroscopic study of the isovolumic rat heart. NMR in Biomedicine, 1993, 6, 278-286.	2.8	61
30	Mapping human brain capillary water lifetime: highâ€resolution metabolic neuroimaging. NMR in Biomedicine, 2015, 28, 607-623.	2.8	58
31	Exchange-influencedT2Ïcontrast in human brain images measured with adiabatic radio frequency pulses. Magnetic Resonance in Medicine, 2005, 53, 823-829.	3.0	53
32	Active Trans-Plasma Membrane Water Cycling in Yeast Is Revealed by NMR. Biophysical Journal, 2011, 101, 2833-2842.	0.5	50
33	Aqueous shift reagents for high-resolution cationic nuclear magnetic resonance. 2. Magnesium-25, potassium-39, and sodium-23 resonances shifted by chelidamate complexes of dysprosium(III) and thulium(III). Inorganic Chemistry, 1983, 22, 2388-2392.	4.0	48
34	Dynamic-contrast-enhanced-MRI with extravasating contrast reagent: Rat cerebral glioma blood volume determination. Journal of Magnetic Resonance, 2010, 206, 190-199.	2.1	47
35	Fast, Na⁺/K⁺ pump driven, steadyâ€state transcytolemmal water exchange in neuronal tissue: A study of rat brain cortical cultures. Magnetic Resonance in Medicine, 2018, 79, 3207-3217.	3.0	47
36	Evidence for cooperative effects in the binding of polyvalent metal ions to pure phosphatidylcholine bilayer vesicle surfaces. Biochimica Et Biophysica Acta - Biomembranes, 1981, 648, 28-48.	2.6	46

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37	31P and23Na NMR spectroscopy of normal and ischemic rat skeletal muscle. Use of a shift reagentin vivo. NMR in Biomedicine, 1990, 3, 47-58.	2.8	46
38	Aqueous shift reagents for high-resolution cationic nuclear magnetic resonance. III. Dy(TTHA)3â^', Tm(TTHA)3â^', and Tm(PPP)27â^'. Journal of Magnetic Resonance, 1984, 56, 33-47.	0.5	43
39	Using 1H2O MR to measure and map sodium pump activity in vivo. Journal of Magnetic Resonance, 2018, 291, 110-126.	2.1	43
40	Sodium MRI revisited. Magnetic Resonance in Medicine, 2019, 82, 521-524.	3.0	42
41	Deconvolution of Compartmental Water Diffusion Coefficients in Yeast-Cell Suspensions Using Combined T1 and Diffusion Measurements. Journal of Magnetic Resonance, 2002, 156, 52-63.	2.1	41
42	Firstâ€pass dynamic contrastâ€enhanced MRI with extravasating contrast reagent: evidence for human myocardial capillary recruitment in adenosineâ€induced hyperemia. NMR in Biomedicine, 2009, 22, 148-157.	2.8	39
43	Physicochemical Principles Influencing Magnetopharmaceuticals. , 1994, , 75-99.		38
44	Abnormal brain activation to visual stimulation in cocaine abusers. Life Sciences, 2003, 73, 1953-1961.	4.3	37
45	Aqueous shift reagents for high-resolution cation NMR. VI. Titration curves forin vivo23Na and1H2O MRS obtained from rat blood. NMR in Biomedicine, 1993, 6, 7-20.	2.8	35
46	The Evaluation of Esophageal Adenocarcinoma Using Dynamic Contrast-Enhanced Magnetic Resonance Imaging. Journal of Gastrointestinal Surgery, 2008, 12, 166-175.	1.7	35
47	Feasibility of shutterâ€speed DCEâ€MRI for improved prostate cancer detection. Magnetic Resonance in Medicine, 2013, 69, 171-178.	3.0	35
48	Sodium transport and phosphorus metabolism in sodium-loaded yeast: simultaneous observation with sodium-23 and phosphorus-31 NMR spectroscopy in vivo. Biochemistry, 1987, 26, 4953-4962.	2.5	34
49	Complexes of nucleophiles with rare earth chelates. II. Self association and adduct formation of the lanthanide tris(1,1,1,2,2,3,3-heptafluoro-7,7-dimethyl-4,6-octanedionate) chelates proseodymium(fod)3 and europium(fod)3. Inorganic Chemistry, 1974, 13, 880-885.	4.0	33
50	Relative sensitivities of DCE-MRI pharmacokinetic parameters to arterial input function (AIF) scaling. Journal of Magnetic Resonance, 2016, 269, 104-112.	2.1	33
51	Increasing the time resolution of dynamic nuclear magnetic resonance spectroscopy through the use of lanthanide shift reagents. Journal of the American Chemical Society, 1973, 95, 6227-6232.	13.7	30
52	Cell membrane water exchange effects in prostate DCE-MRI. Journal of Magnetic Resonance, 2012, 218, 77-85.	2.1	30
53	Aqueous shift reagents for high-resolution cationic nuclear magnetic resonance. Journal of Magnetic Resonance, 1982, 46, 348-353.	0.5	25
54	Human wholeâ€blood ¹H₂O longitudinal relaxation with normal and highâ€relaxivity contrast reagents: Influence of transâ€cellâ€membrane water exchange. Magnetic Resonance in Medicine, 2014, 72, 1746-1754.	3.0	25

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55	Using Flow Relaxography to Elucidate Flow Relaxivity. Journal of Magnetic Resonance, 1999, 136, 102-113.	2.1	24
56	Transmembrane Ion Pumping: High Resolution Cation NMR Spectroscopy. Annals of the New York Academy of Sciences, 1987, 508, 130-148.	3.8	22
57	Human whole blood ¹H₂O transverse relaxation with gadoliniumâ€based contrast reagents: Magnetic susceptibility and transmembrane water exchange. Magnetic Resonance in Medicine, 2017, 77, 2015-2027.	3.0	22
58	NMR shutterâ€speed elucidates apparent population inversion of ¹H₂O signals due to active transmembrane water cycling. Magnetic Resonance in Medicine, 2019, 82, 411-424.	3.0	22
59	Magnetic susceptibility shift selected imaging: MESSI. Magnetic Resonance in Medicine, 1990, 16, 80-90.	3.0	21
60	Brain active transmembrane water cycling measured by MR isÂassociated with neuronal activity. Magnetic Resonance in Medicine, 2019, 81, 1280-1295.	3.0	21
61	Chiral chelates with chiral ligands. Stereoisomers of tris[(+)-3-acetylcamphorato]cobalt(III). Inorganic Chemistry, 1971, 10, 1242-1250.	4.0	20
62	Measurements of human brain ethanolT2 by spectroscopic imaging at 4 T. Magnetic Resonance in Medicine, 2000, 44, 35-40.	3.0	20
63	Magnetic susceptibility shift selected imaging (MESSI) and localized1H2O spectroscopy in living plant tissues. NMR in Biomedicine, 2000, 13, 392-397.	2.8	18
64	Shutterâ€Speed DCEâ€MRI Analyses of Human Glioblastoma Multiforme (GBM) Data. Journal of Magnetic Resonance Imaging, 2020, 52, 850-863.	3.4	18
65	Ionophore-catalyzed cation transport between phospholipid inverted micelles manifest in DNMR. Biophysical Chemistry, 1981, 14, 375-388.	2.8	17
66	Aqueous shift reagents for high-resolution cation NMR spectroscopy. 4. [o-Bis((3-tripolyphosphato)propyloxy)benzene(-)]dysprosate(5-). Inorganic Chemistry, 1990, 29, 660-667.	4.0	16
67	Intimate combination of low- and high-resolution image data: I. real-space PET and1H2O MRI, PETAMRI. Magnetic Resonance in Medicine, 1999, 42, 345-360.	3.0	15
68	Interaction of antibiotic lasalocid A (X537A) with praseodymium(III) in methanol. Bioinorganic Chemistry, 1978, 9, 101-122.	1.1	14
69	4.0 T Water Proton T1 Relaxation Times in Normal Human Brain and During Acute Ethanol Intoxication. Alcoholism: Clinical and Experimental Research, 2000, 24, 830-836.	2.4	14
70	25Mg NMR Studies of magnesium binding to erythrocyte constituents. Journal of Inorganic Biochemistry, 1991, 44, 79-87.	3.5	13
71	Discrimination of intra- and extracellular 23Na+ signals in yeast cell suspensions using longitudinal magnetic resonance relaxography. Journal of Magnetic Resonance, 2010, 205, 28-37.	2.1	13
72	Hyperfine shift NMR studies of hydrated phospholipid inverted micelles. Chemistry and Physics of Lipids, 1979, 23, 23-40.	3.2	11

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73	The effects of equilibrium transcytolemmal water exchange on the determination of contrast reagent concentration in vivo. Magnetic Resonance in Medicine, 2002, 47, 422-424.	3.0	11
74	Direct measurement of enantiomerization of labile aluminium(III)Î²-diketonates. Challenge, 1971, .	0.4	9
75	Resting brain metabolic activity in a 4 Tesla magnetic field. Magnetic Resonance in Medicine, 2000, 44, 701-705.	3.0	8
76	Pharmaco-thermodynamics of deuterium-induced oedema in living rat brain via1H2O MRI: implications for boron neutron capture therapy of malignant brain tumours. Physics in Medicine and Biology, 2005, 50, 2127-2139.	3.0	7
77	Na⁺/Ca²⁺â€exchangerâ€mediated Mn²⁺â€enhanced ¹H₂O MRI in hypoxic, perfused rat myocardium. Contrast Media and Molecular Imaging, 2007, 2, 248-257.	0.8	7
78	Observation of Reduced Homeostatic Metabolic Activity and/or Coupling in White Matter Aging. Journal of Neuroimaging, 2020, 30, 658-665.	2.0	7
79	DCE-MRI of Brain Fluid Barriers: In Vivo Water Cycling at the Human Choroid Plexus. Tissue Barriers, 2022, 10, 1963143.	3.2	6
80	Synergistic Antivascular and Antitumor Efficacy with Combined Cediranib and SC6889 in Intracranial Mouse Glioma. PLoS ONE, 2015, 10, e0144488.	2.5	6
81	Metabolic activity diffusion imaging (MADI): I. Metabolic, cytometric modeling and simulations. NMR in Biomedicine, 2023, 36, .	2.8	6
82	Gray matter bloodâ€brain barrier water exchange dynamics are reduced in progressive multiple sclerosis. Journal of Neuroimaging, 2021, 31, 1111-1118.	2.0	5
83	Metabolic activity diffusion imaging (MADI): II. Noninvasive, highâ€resolution human brain mapping of sodium pump flux and cell metrics. NMR in Biomedicine, 2023, 36, .	2.8	5
84	Magnetic field dependence of 23Na NMR spectra of rat skeletal muscle infused with shift reagent in Vivo. Journal of Magnetic Resonance, 1989, 83, 138-145.	0.5	4
85	Metabolic imaging of in vivo myocardium. Journal of Cardiovascular Magnetic Resonance, 2015, 17, P251.	3.3	2
86	Hyperfine Induced Splitting of Free Solute Nuclear Magnetic Resonances in Small Phospholipid Vesicle Preparations. ACS Symposium Series, 1976, , 483-498.	0.5	1
87	Two-dimensional multiple-quantum NMR spectroscopy of isolated half-integer spin systems. II. 35Cl examples. Journal of Magnetic Resonance, 1989, 83, 279-298.	0.5	1
88	Aqueous shift reagents for high-resolution cation NMR. V. Thermodynamics of interaction of DyTTHA3â^' with Na+, K+, Mg 2+ , and Ca 2+. Journal of Magnetic Resonance, 1990, 87, 287-303.	0.5	1
89	Bayesian image decomposition applied to relaxographic imaging. International Journal of Imaging Systems and Technology, 2005, 15, 2-9.	4.1	1