

# Gil Navon

## List of Publications by Year in descending order

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111  
papers

3,411  
citations

159358

30  
h-index

168136

53  
g-index

115  
all docs

115  
docs citations

115  
times ranked

2677  
citing authors

#	ARTICLE	IF	CITATIONS
1	Assessment of glycosaminoglycan concentration <i>in vivo</i> by chemical exchange-dependent saturation transfer (gagCEST). Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 2266-2270.	3.3	511
2	Neotendon formation induced by manipulation of the Smad8 signalling pathway in mesenchymal stem cells. Journal of Clinical Investigation, 2006, 116, 940-952.	3.9	221
3	Multiquantum filters and order in tissues. NMR in Biomedicine, 2001, 14, 112-132.	1.6	139
4	NMR Spectroscopy of Bilirubin and its Derivatives. Israel Journal of Chemistry, 1983, 23, 177-186.	1.0	111
5	Molecular imaging of tumors and metastases using chemical exchange saturation transfer (CEST) MRI. Scientific Reports, 2013, 3, 3045.	1.6	101
6	A Study of Dipolar Interactions and Dynamic Processes of Water Molecules in Tendon by <sup>1</sup> H and <sup>2</sup> H Homonuclear and Heteronuclear Multiple-Quantum-Filtered NMR Spectroscopy. Journal of Magnetic Resonance, 1999, 137, 295-310.	1.2	81
7	NMR relaxation studies of intracellular Na <sup>+</sup> in red blood cells. Biophysical Chemistry, 1984, 20, 275-283.	1.5	71
8	Assessment of glycosaminoglycan concentration changes in the intervertebral disc via chemical exchange saturation transfer. NMR in Biomedicine, 2012, 25, 255-261.	1.6	70
9	Functional molecular imaging of tumors by chemical exchange saturation transfer MRI of <sup>3</sup> α-O-Methyl-α-D-glucose. Magnetic Resonance in Medicine, 2014, 72, 1375-1380.	1.9	70
10	Selective Enhancement of NMR Signals for $\beta$ -Cyclodextrin with Laser-Polarized Xenon. Angewandte Chemie International Edition in English, 1997, 36, 2368-2370.	4.4	67
11	Glucosamine and N-acetyl glucosamine as new CEST MRI agents for molecular imaging of tumors. Scientific Reports, 2016, 6, 32648.	1.6	58
12	<sup>31</sup> P NMR and triple quantum filtered <sup>23</sup> Na NMR studies of the effects of inhibition of Na <sup>+</sup> /H <sup>+</sup> exchange on intracellular sodium and pH in working and ischemic hearts. Magnetic Resonance in Medicine, 1994, 32, 556-564.	1.9	57
13	Multiple Quantum Filtered NMR Studies of the Interaction between Collagen and Water in the Tendon. Journal of the American Chemical Society, 2002, 124, 3125-3132.	6.6	57
14	NMR Studies of the Equilibria and Reaction Rates in Aqueous Solutions of Formaldehyde. Journal of Physical Chemistry B, 2015, 119, 4479-4487.	1.2	53
15	Quantification of hydroxyl exchange of <sup>13</sup> C-Glucose at physiological conditions for optimization of glucoCEST MRI at 3, 7 and 9.4 Tesla. NMR in Biomedicine, 2019, 32, e4113.	1.6	49
16	Multinuclear NMR and microscopic MRI studies of the articular cartilage nanostructure. NMR in Biomedicine, 2006, 19, 877-893.	1.6	48
17	Complete elimination of the extracellular <sup>23</sup> Na NMR signal in triple quantum filtered spectra of rat hearts in the presence of shift reagents. Magnetic Resonance in Medicine, 1993, 30, 503-506.	1.9	47
18	Mapping the fiber orientation in articular cartilage at rest and under pressure studied by <sup>2</sup> H double quantum filtered MRI. Magnetic Resonance in Medicine, 2002, 48, 322-330.	1.9	46

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19	CEST MRI of 3-methylglucose on different breast cancer models. <i>Magnetic Resonance in Medicine</i> , 2018, 79, 1061-1069.	1.9	44
20	In vivo <sup>23</sup> Na NMR studies of myotonic dystrophy. <i>Magnetic Resonance in Medicine</i> , 1997, 37, 192-196.	1.9	40
21	Collagen Fibers as a Chiral Agent: A Demonstration of Stereochemistry Effects. <i>Journal of the American Chemical Society</i> , 2006, 128, 15956-15957.	6.6	40
22	Multinuclear NMR and MRI studies of the maturation of pig articular cartilage. <i>Magnetic Resonance in Medicine</i> , 2006, 55, 532-540.	1.9	40
23	Observation of a <sup>1</sup> H double quantum filtered signal of water in biological tissues. <i>Magnetic Resonance in Medicine</i> , 1998, 39, 11-17.	1.9	38
24	A new method for proton detection of H <sub>2</sub> O with potential applications for functional MRI. <i>Magnetic Resonance in Medicine</i> , 1994, 32, 789-793.	1.9	37
25	The effect of detachment of the articular cartilage from its calcified zone on the cartilage microstructure, assessed by <sup>2</sup> H-spectroscopic double quantum filtered MRI. <i>Journal of Orthopaedic Research</i> , 2005, 23, 109-117.	1.2	37
26	Proton double-quantum filtered MRI – A new method for imaging ordered tissues. <i>Magnetic Resonance in Medicine</i> , 1998, 40, 720-726.	1.9	36
27	Discrimination between the Different Compartments in Sciatic Nerve by <sup>2</sup> H Double-Quantum-Filtered NMR. <i>Journal of Magnetic Resonance</i> , 1997, 129, 98-104.	1.2	35
28	Quantification of the Contribution of Extracellular Sodium to <sup>23</sup> Na Multiple-Quantum-Filtered NMR Spectra of Suspensions of Human Red Blood Cells. <i>Journal of Magnetic Resonance</i> , 1998, 131, 92-96.	1.2	35
29	<sup>23</sup> Na Multiple-Quantum-Filtered NMR Study of the Effect of the Cytoskeleton Conformation on the Anisotropic Motion of Sodium Ions in Red Blood Cells. <i>Journal of Magnetic Resonance Series B</i> , 1996, 110, 16-25.	1.6	33
30	The formation of a second-rank tensor in <sup>23</sup> Na double-quantum-filtered NMR as an indicator for order in a biological tissue. <i>Journal of Magnetic Resonance</i> , 1992, 98, 223-229.	0.5	32
31	Nearly 106-fold enhancements in intermolecular <sup>1</sup> H double-quantum NMR experiments by nuclear hyperpolarization. <i>Journal of Magnetic Resonance</i> , 2009, 200, 142-146.	1.2	32
32	Sodium-23 NMR relaxation times in body fluids. <i>Magnetic Resonance in Medicine</i> , 1986, 3, 927-934.	1.9	31
33	Continuous Monitoring of Intracellular Volumes in Isolated Rat Hearts during Normothermic Perfusion and Ischemia. <i>Journal of Magnetic Resonance</i> , 1997, 124, 42-50.	1.2	29
34	Determination of absolute values of dipolar cross-relaxation rates for ligands bound to macromolecules using double-selective T <sub>1</sub> . <i>Magnetic Resonance in Chemistry</i> , 1992, 30, 461-465.	1.1	27
35	Intracellular Volume Measurement and Detection of Edema: Multinuclear NMR Studies of Intact Rat Hearts during Normothermic Ischemia. <i>Magnetic Resonance in Medicine</i> , 1995, 33, 515-520.	1.9	27
36	Changes in axonal morphology in experimental autoimmune neuritis as studied by high-b-value q-space <sup>1</sup> H and <sup>2</sup> H DQF diffusion magnetic resonance spectroscopy. <i>Magnetic Resonance in Medicine</i> , 2002, 48, 71-81.	1.9	27

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37	Effect of covalency on the electron-nuclear dipolar relaxation in paramagnetic complexes. Journal of Chemical Physics, 1975, 62, 1021-1026.	1.2	26
38	Monitoring the transport and phosphorylation of 2-deoxy-D-glucose in tumor cells in vivo and in vitro by $^{13}\text{C}$ nuclear magnetic resonance spectroscopy. FEBS Letters, 1989, 247, 86-90.	1.3	25
39	Chemical exchange saturation transfer by intermolecular double-quantum coherence. Journal of Magnetic Resonance, 2008, 194, 29-32.	1.2	25
40	$^1\text{H}$ double-quantum-filtered MR imaging as a new tool for assessment of healing of the ruptured Achilles tendon. Magnetic Resonance in Medicine, 1999, 42, 884-889.	1.9	24
41	Molecular imaging of tumors by chemical exchange saturation transfer MRI of glucose analogs. Quantitative Imaging in Medicine and Surgery, 2019, 9, 1731-1746.	1.1	24
42	Proton magnetic relaxation in solutions of manganese-carbonic anhydrase. FEBS Letters, 1973, 30, 351-354.	1.3	23
43	The effect of spin delocalization on the proton magnetic relaxation in transition metal hexaaquo ions. Journal of Chemical Physics, 1978, 68, 3074-3077.	1.2	23
44	Carbon-13 nuclear magnetic resonance study of the motional behaviour of bilirubin and of some of its derivatives. Magnetic Resonance in Chemistry, 1981, 17, 79-87.	0.7	23
45	Inhibition of Sodium Influx and Improved Preservation of Rat Hearts During Hypothermic Ischemia by Furosemide and Bumetanide: A $^{23}\text{Na}$ - and $^{31}\text{P}$ -NMR Study. Journal of Molecular and Cellular Cardiology, 1993, 25, 1403-1411.	0.9	23
46	Imaging $\text{H}_2^{17}\text{O}$ distribution in a phantom and measurement of metabolically produced $\text{H}_2^{17}\text{O}$ in live mice by proton NMR. , 1997, 10, 333-340.		23
47	Nuclear magnetic resonance line shapes of exchanging spin $3/2$ nuclei. Journal of Chemical Physics, 1988, 89, 5584-5588.	1.2	22
48	Nuclear magnetic resonance line shapes of double and triple quantum coherences of spin $3/2$ nuclei. Journal of Chemical Physics, 1991, 95, 7114-7118.	1.2	22
49	Intermittent Ischemia: Energy Metabolism, Cellular Volume Regulation, Adenosine and Insights into Preconditioning. Journal of Molecular and Cellular Cardiology, 1997, 29, 1715-1730.	0.9	22
50	The determination of intracellular water space by NMR. FEBS Letters, 1985, 193, 75-78.	1.3	21
51	In vivo observation of anisotropic motion of brain water using $^2\text{H}$ double quantum filtered NMR spectroscopy. Magnetic Resonance in Medicine, 1997, 37, 197-203.	1.9	21
52	Anisotropic and restricted diffusion of water in the sciatic nerve: $^2\text{H}$ double-quantum-filtered NMR study. Magnetic Resonance in Medicine, 1999, 42, 461-466.	1.9	21
53	A new method for suppressing the central transition in $l=3/2$ NMR spectra with a demonstration for $^{23}\text{Na}$ in bovine articular cartilage. Journal of Magnetic Resonance, 2003, 165, 276-281.	1.2	21
54	Sialo-CEST: chemical exchange saturation transfer NMR of oligo- and poly-sialic acids and the assignment of their hydroxyl groups using selective- and HSQC-TOCSY. Carbohydrate Research, 2014, 389, 165-173.	1.1	21

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55	New MRI method with contrast based on the macromolecular characteristics of tissues. <i>Magnetic Resonance in Medicine</i> , 2003, 50, 229-234.	1.9	20
56	Sodium NMR/MRI for anisotropic systems. <i>NMR in Biomedicine</i> , 2016, 29, 144-152.	1.6	20
57	Nuclear Magnetic Resonance (NMR) Analysis of Ligand Receptor Interactions: The Cholinergic System – A Model. <i>Critical Reviews in Biochemistry and Molecular Biology</i> , 1996, 31, 273-301.	2.3	19
58	Enhancement of magnetization transfer effects by inter-molecular multiple quantum filtered NMR. <i>Journal of Magnetic Resonance</i> , 2008, 190, 149-153.	1.2	19
59	Measurement of strain exerted on blood vessel walls by double-quantum-filtered $^2\text{H}$ NMR. <i>Magnetic Resonance in Medicine</i> , 1997, 37, 69-75.	1.9	18
60	Double quantum transition as the origin of the central dip in the z-spectrum of HDO in variably stretched gel. <i>Journal of Magnetic Resonance</i> , 2009, 198, 197-203.	1.2	17
61	Proton NMR and covalency parameters of ruthenium(III) hexaammine. <i>Journal of Chemical Physics</i> , 1973, 59, 5585-5590.	1.2	16
62	Single and Multiple Quantum NMR Relaxation Times of Sodium and Potassium in Red Blood Cells. <i>Israel Journal of Chemistry</i> , 1992, 32, 299-304.	1.0	15
63	Comparison of action of the anti-neoplastic drug lonidamine on drug-sensitive and drug-resistant human breast cancer cells: $^{31}\text{P}$ and $^{13}\text{C}$ nuclear magnetic resonance studies. <i>Breast Cancer Research and Treatment</i> , 1997, 43, 15-25.	1.1	15
64	NMR Spectroscopic Characterization of Sarcolemmal Permeability During Myocardial Ischemia and Reperfusion. <i>Journal of Molecular and Cellular Cardiology</i> , 2001, 33, 1421-1433.	0.9	15
65	<i>In vivo</i> assessment of aged human skin with a unilateral NMR scanner. <i>NMR in Biomedicine</i> , 2015, 28, 656-666.	1.6	15
66	Hyperpolarized $^{6}\text{Li}$ as a probe for hemoglobin oxygenation level. <i>Contrast Media and Molecular Imaging</i> , 2016, 11, 41-46.	0.4	15
67	Teriparatide attenuates scarring around murine cranial bone allograft via modulation of angiogenesis. <i>Bone</i> , 2017, 97, 192-200.	1.4	15
68	Differences in metabolite content between intact pancreases and their perchloric acid extracts. A $^2\text{D}^1\text{H}/^31\text{P}$ correlation NMR study. <i>NMR in Biomedicine</i> , 1990, 3, 220-226.	1.6	14
69	Acetylcholine interactions with tryptophan-184 of the $\hat{1}\pm$ -subunit of the nicotinic acetylcholine receptor revealed by transferred nuclear Overhauser effect. <i>FEBS Letters</i> , 1991, 291, 225-228.	1.3	14
70	Magnetization transfer based contrast for imaging denatured collagen. <i>Journal of Magnetic Resonance Imaging</i> , 2008, 27, 1155-1163.	1.9	14
71	Spectroscopic and solution properties of the cobalt(III) hexaimidazole ion. <i>Inorganic Chemistry</i> , 1989, 28, 1405-1407.	1.9	13
72	Sodium Ion Transport in Rat Hearts during Cold Ischemic Storage: $^{23}\text{Na}$ and $^{31}\text{P}$ NMR Study. <i>Magnetic Resonance in Medicine</i> , 1992, 28, 249-263.	1.9	13

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73	Intracellular Volumes and Membrane Permeability in Rat Hearts During Prolonged Hypothermic Preservation with St Thomas and University of Wisconsin Solutions. <i>Journal of Molecular and Cellular Cardiology</i> , 1998, 30, 1329-1339.	0.9	12
74	Evaluation of collagen fiber maturation and ordering in regenerating tendons employing H-1 double quantum filtered NMR spectroscopy. <i>Journal of Orthopaedic Research</i> , 2003, 21, 149-156.	1.2	12
75	Characterization and mapping of dipolar interactions within macromolecules in tissues using a combination of DQF, MT and UTE MRI. <i>NMR in Biomedicine</i> , 2012, 25, 1152-1159.	1.6	12
76	NMR studies of proton exchange kinetics in aqueous formaldehyde solutions. <i>Journal of Magnetic Resonance</i> , 2014, 242, 107-112.	1.2	12
77	Kinetic and Magnetic Properties of Cobalt(III) Ion in the Active Site of Carbonic Anhydrase. <i>FEBS Journal</i> , 1979, 93, 313-322.	0.2	10
78	<sup>23</sup> Na and <sup>2</sup> H magnetic resonance studies of osteoarthritic and osteoporotic articular cartilage. <i>Magnetic Resonance in Medicine</i> , 2010, 64, 653-661.	1.9	10
79	Nuclear-Magnetic-Resonance Studies of Carboxypeptidase B. Binding of Inhibitors to the Manganese Enzyme. <i>FEBS Journal</i> , 1975, 52, 487-492.	0.2	9
80	Carbon-13 NMR Spectrum of Bilirubin. <i>Spectroscopy Letters</i> , 1977, 10, 881-892.	0.5	9
81	Selektive NMR-Signalverstärkung bei <sup>13</sup> C-Cyclodextrin durch laserpolarisiertes Xenon. <i>Angewandte Chemie</i> , 1997, 109, 2464-2466.	1.6	9
82	Nuclear magnetic resonance parameters for monitoring coagulation of liver tissue. <i>Magnetic Resonance in Medicine</i> , 2005, 54, 1082-1086.	1.9	9
83	The effect of decalcification on the microstructure of articular cartilage assessed by <sup>2</sup> H double quantum filtered spectroscopic MRI. <i>Magnetic Resonance Materials in Physics, Biology, and Medicine</i> , 2005, 18, 231-237.	1.1	9
84	Optic nerve: Separating compartments based on <sup>23</sup> Na TQF spectra and TQF-diffusion anisotropy. <i>Journal of Magnetic Resonance</i> , 2013, 231, 61-65.	1.2	9
85	Molecular imaging of cancer by glucosamine chemical exchange saturation transfer MRI: A preclinical study. <i>NMR in Biomedicine</i> , 2021, 34, e4431.	1.6	9
86	On the assignment of the carbon-13 NMR spectrum of bilirubin. <i>Magnetic Resonance in Chemistry</i> , 1980, 13, 59-62.	0.7	8
87	Comparison of the effects of mechanical and osmotic pressures on the collagen fiber architecture of intact and proteoglycan-depleted articular cartilage. <i>European Biophysics Journal</i> , 2007, 36, 529-538.	1.2	8
88	3-O-Methyl-d-glucose mutarotation and proton exchange rates assessed by <sup>13</sup> C, <sup>1</sup> H NMR and by chemical exchange saturation transfer and spin lock measurements. <i>Journal of Biomolecular NMR</i> , 2018, 72, 93-103.	1.6	8
89	Monitoring of the effect of intervertebral disc nucleus pulposus ablation by MRI. <i>NMR in Biomedicine</i> , 2010, 23, 554-562.	1.6	7
90	What do we know about dynamic glucose-enhanced (DGE) MRI and how close is it to the clinics? Horizon 2020 GLINT consortium report. <i>Magnetic Resonance Materials in Physics, Biology, and Medicine</i> , 2022, 35, 87-104.	1.1	7

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91	Breast cancer imaging with glucosamine CEST (chemical exchange saturation transfer) MRI: first human experience. <i>European Radiology</i> , 2022, 32, 7365-7373.	2.3	7
92	An observation of $^{23}\text{Na}$ NMR triple-quantum dynamic shift in solution. <i>Journal of Magnetic Resonance</i> , 1991, 94, 439-444.	0.5	6
93	A new MRI method, tested <i>in vitro</i> for the assessment of thermal coagulation and demonstrated <i>in vivo</i> on focused ultrasound ablation. <i>NMR in Biomedicine</i> , 2008, 21, 637-643.	1.6	6
94	DQF-MT MRI of connective tissues: application to tendon and muscle. <i>Magnetic Resonance Materials in Physics, Biology, and Medicine</i> , 2013, 26, 203-214.	1.1	6
95	Efficient Limitation of Intracellular Edema and Sodium Accumulation by Cardioplegia is Dissociated from Recovery of Rat Hearts from Cold Ischemic Storage. <i>Journal of Molecular and Cellular Cardiology</i> , 1999, 31, 1795-1808.	0.9	5
96	Measurements of intracellular volumes by $^{59}\text{Co}$ and $^2\text{H}/^1\text{H}$ NMR and their physiological applications. <i>NMR in Biomedicine</i> , 2005, 18, 104-110.	1.6	5
97	Collagen Composition and Content-Dependent Contrast in Porcine Annulus Fibrosus Achieved by Using Double Quantum and Magnetization Transfer Filtered UTE MRI. <i>Magnetic Resonance in Medicine</i> , 2014, 71, 388-393.	1.9	5
98	Rapid method for assessing relative tissue stiffness using MR acoustic radiation force imaging. <i>International Journal of Imaging Systems and Technology</i> , 2014, 24, 103-110.	2.7	4
99	NMR Imaging of Rigid Biological Tissues. , 0, , 445-457.		3
100	Magnetic alignment and quadrupolar/paramagnetic cross-correlation in complexes of Na with $\text{LnDOTP}^{5-}$ . <i>Journal of Magnetic Resonance</i> , 2012, 216, 114-120.	1.2	3
101	New insight into the organization of myelin water using deuterium NMR. <i>Magnetic Resonance in Medicine</i> , 2020, 84, 535-541.	1.9	3
102	The carbon-13 NMR spectrum of dimethoxybilirubin dimethyl ester. <i>Magnetic Resonance in Chemistry</i> , 1980, 14, 319-321.	0.7	2
103	An apparatus for applying a mechanical massage to rat hearts inside a wide-bore NMR spectrometer. <i>Magnetic Resonance in Medicine</i> , 1990, 15, 392-396.	1.9	2
104	$^{23}\text{Na}$ , $^{59}\text{Co}$ and $^2\text{H}$ NMR studies of experimental acute pancreatitis. <i>NMR in Biomedicine</i> , 1991, 4, 182-186.	1.6	2
105	Excretion of a Phosphorus-Containing Carbohydrate by <i>Streptomyces</i> sp. A50. <i>Journal of Natural Products</i> , 2001, 64, 1538-1540.	1.5	2
106	Identification of water compartments in spinal cords by $^2\text{H}$ double quantum filtered NMR. <i>NMR in Biomedicine</i> , 2021, 34, e4452.	1.6	2
107	Deuterium double quantum-filtered NMR studies of peripheral and optic nerves. <i>Magnetic Resonance Materials in Physics, Biology, and Medicine</i> , 2021, 34, 889-902.	1.1	1
108	An <i>in vivo</i> implementation of the MEX MRI for myelin fraction of mice brain. <i>Magnetic Resonance Materials in Physics, Biology, and Medicine</i> , 2022, 35, 267-276.	1.1	1

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109	Quantitative Magnetization <sc>EXchange MRI</sc> Measurement of Liver Fibrosis Model in Rodents. Journal of Magnetic Resonance Imaging, 2022, , .	1.9	1
110	Phosphate buffer-catalyzed kinetics of mutarotation of glucosamine investigated by NMR spectroscopy. Carbohydrate Research, 2022, 517, 108581.	1.1	1
111	<sup>2</sup> H Double Quantum Filtered NMR Histology and Diffusion Measurements in Isolated Nerves and Blood Vessels. , 0, , 307-321.		0