Andreas Nieder

List of Publications by Year in Descending Order

128 papers	7,666 citations	47 h-index	86 g-index
134 ext. papers	8,906 ext. citations	8.1 avg, IF	7.13 L-index

#	Paper	IF	Citations
128	Neuronal codes for arithmetic rule processing in the human brain.. *Current Biology*, **2022**,	6.3	2
127	Cell-type specific pallial circuits shape categorical tuning responses in the crow telencephalon.. *Communications Biology*, **2022**, 5, 269	6.7	0
126	The evolution of quantitative sensitivity.. *Philosophical Transactions of the Royal Society B: Biological Sciences*, **2022**, 377, 20200529	5.8	2
125	Working memory capacity of crows and monkeys arises from similar neuronal computations. *ELife*, **2021**, 10,	8.9	4
124	Spontaneous representation of numerosity zero in a deep neural network for visual object recognition. *IScience*, **2021**, 24, 103301	6.1	1
123	Consciousness without cortex. *Current Opinion in Neurobiology*, **2021**, 71, 69-76	7.6	1
122	Neuroethology of number sense across the animal kingdom. *Journal of Experimental Biology*, **2021**, 224,	3	5
121	Behavioral and Neuronal Representation of Numerosity Zero in the Crow. *Journal of Neuroscience*, **2021**, 41, 4889-4896	6.6	6
120	The Evolutionary History of Brains for Numbers. *Trends in Cognitive Sciences*, **2021**, 25, 608-621	14	7
119	A histological study of the song system of the carrion crow (Corvus corone). *Journal of Comparative Neurology*, **2021**, 529, 2576-2595	3.4	4
118	Neural Code of Motor Planning and Execution during Goal-Directed Movements in Crows. *Journal of Neuroscience*, **2021**, 41, 4060-4072	6.6	5
117	Distinct neural networks for the volitional control of vocal and manual actions in the monkey homologue of Broca's area. *ELife*, **2021**, 10,	8.9	5
116	Feature-based attention processes in primate prefrontal cortex do not rely on feature similarity. *Cell Reports*, **2021**, 36, 109470	10.6	0
115	Categorical Auditory Working Memory in Crows. *IScience*, **2020**, 23, 101737	6.1	1
114	Parting self from others: Individual and self-recognition in birds. *Neuroscience and Biobehavioral Reviews*, **2020**, 116, 99-108	9	10
113	Format-dependent and format-independent representation of sequential and simultaneous numerosity in the crow endbrain. *Nature Communications*, **2020**, 11, 686	17.4	16
112	Spatial Neuronal Integration Supports a Global Representation of Visual Numerosity in Primate Association Cortices. *Journal of Cognitive Neuroscience*, **2020**, 32, 1184-1197	3.1	8

111	Blockage of NMDA- and GABA(A) Receptors Improves Working Memory Selectivity of Primate Prefrontal Neurons. *Journal of Neuroscience*, **2020**, 40, 1527-1537	6.6	5
110	Carrion crows (Corvus corone corone) fail the mirror mark test yet again. *Journal of Comparative Psychology (Washington, D C: 1983)*, **2020**,	2.1	12
109	Dopamine Gates Visual Signals in Monkey Prefrontal Cortex Neurons. *Cell Reports*, **2020**, 30, 164-172.e4	10.6	6
108	The neurobiology of innate, volitional and learned vocalizations in mammals and birds. *Philosophical Transactions of the Royal Society B: Biological Sciences*, **2020**, 375, 20190054	5.8	36
107	Neural constraints on human number concepts. *Current Opinion in Neurobiology*, **2020**, 60, 28-36	7.6	11
106	The Adaptive Value of Numerical Competence. *Trends in Ecology and Evolution*, **2020**, 35, 605-617	10.9	32
105	Absolute Numerosity Discrimination as a Case Study in Comparative Vertebrate Intelligence. *Frontiers in Psychology*, **2020**, 11, 1843	3.4	5
104	A neural correlate of sensory consciousness in a corvid bird. *Science*, **2020**, 369, 1626-1629	33.3	50
103	Volitional control of vocalizations in corvid songbirds. *PLoS Biology*, **2019**, 17, e3000375	9.7	14
102	Dopamine and Cognitive Control in Prefrontal Cortex. *Trends in Cognitive Sciences*, **2019**, 23, 213-234	14	126
101	Number detectors spontaneously emerge in a deep neural network designed for visual object recognition. *Science Advances*, **2019**, 5, eaav7903	14.3	36
100	Working memory representation of empty sets in the primate parietal and prefrontal cortices. *Cortex*, **2019**, 114, 102-114	3.8	5
99	Neuronal Correlates of Spatial Working Memory in the Endbrain of Crows. *Current Biology*, **2019**, 29, 2616-2624.e4	6.3	22
98	A Brain for Numbers **2019**,		23
97	Dopamine Receptors Influence Internally Generated Oscillations during Rule Processing in Primate Prefrontal Cortex. *Journal of Cognitive Neuroscience*, **2018**, 30, 770-784	3.1	4
96	Neurons in the Endbrain of Numerically Naive Crows Spontaneously Encode Visual Numerosity. *Current Biology*, **2018**, 28, 1090-1094.e4	6.3	30
95	Neurons in the Hippocampus of Crows Lack Responses to Non-spatial Abstract Categories. *Frontiers in Systems Neuroscience*, **2018**, 12, 33	3.5	6
94	Primate Social Communication Goes Interactive. *Neuron*, **2018**, 99, 250-253	13.9	1

93	Structuring of Abstract Working Memory Content by Fronto-parietal Synchrony in Primate Cortex. *Neuron*, **2018**, 99, 588-597.e5	13.9	28
92	Honey bees zero in on the empty set. *Science*, **2018**, 360, 1069-1070	33.3	11
91	Neurons in the crow nidopallium caudolaterale encode varying durations of visual working memory periods. *Experimental Brain Research*, **2018**, 236, 215-226	2.3	7
90	Single Neurons in the Human Brain Encode Numbers. *Neuron*, **2018**, 100, 753-761.e4	13.9	45
89	Inside the corvid brain Probing the physiology of cognition in crows. *Current Opinion in Behavioral Sciences*, **2017**, 16, 8-14	4	37
88	Number Faculty Is Rooted in Our Biological Heritage. *Trends in Cognitive Sciences*, **2017**, 21, 403-404	14	20
87	Modality-invariant audio-visual association coding in crow endbrain neurons. *Neurobiology of Learning and Memory*, **2017**, 137, 65-76	3.1	9
86	Learning Recruits Neurons Representing Previously Established Associations in the Corvid Endbrain. *Journal of Cognitive Neuroscience*, **2017**, 29, 1712-1724	3.1	2
85	Number faculty is alive and kicking: On number discriminations and number neurons. *Behavioral and Brain Sciences*, **2017**, 40, e181	0.9	3
84	Comparison of visual receptive fields in the dorsolateral prefrontal cortex and ventral intraparietal area in macaques. *European Journal of Neuroscience*, **2017**, 46, 2702-2712	3.5	3
83	Serotonin Decreases the Gain of Visual Responses in Awake Macaque V1. *Journal of Neuroscience*, **2017**, 37, 11390-11405	6.6	31
82	A random-matrix theory of the number sense. *Philosophical Transactions of the Royal Society B: Biological Sciences*, **2017**, 373,	5.8	10
81	Evolution of cognitive and neural solutions enabling numerosity judgements: lessons from primates and corvids. *Philosophical Transactions of the Royal Society B: Biological Sciences*, **2017**, 373,	5.8	34
80	Comparing the face inversion effect in crows and humans. *Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology*, **2017**, 203, 1017-1027	2.3	10
79	Visual Receptive Field Heterogeneity and Functional Connectivity of Adjacent Neurons in Primate Frontoparietal Association Cortices. *Journal of Neuroscience*, **2017**, 37, 8919-8928	6.6	5
78	Functional Specialization of the Primate Frontal Lobe during Cognitive Control of Vocalizations. *Cell Reports*, **2017**, 21, 2393-2406	10.6	22
77	Encoding of global visual motion in the nidopallium caudolaterale of behaving crows. *European Journal of Neuroscience*, **2017**, 45, 267-277	3.5	5
76	Magnitude Codes for Cross-Modal Working Memory in the Primate Frontal Association Cortex. *Frontiers in Neuroscience*, **2017**, 11, 202	5.1	12

75	Spatially Tuned Neurons in Corvid Nidopallium Caudolaterale Signal Target Position During Visual Search. *Cerebral Cortex*, **2017**, 27, 1103-1112	5.1	15
74	Dopamine D2 Receptors Enhance Population Dynamics in Primate Prefrontal Working Memory Circuits. *Cerebral Cortex*, **2017**, 27, 4423-4435	5.1	19
73	Single-cell coding of sensory, spatial and numerical magnitudes in primate prefrontal, premotor and cingulate motor cortices. *Experimental Brain Research*, **2016**, 234, 241-54	2.3	37
72	Dual Neural Network Model for the Evolution of Speech and Language. *Trends in Neurosciences*, **2016**, 39, 813-829	13.3	79
71	Sensory and Working Memory Representations of Small and Large Numerosities in the Crow Endbrain. *Journal of Neuroscience*, **2016**, 36, 12044-12052	6.6	37
70	Developmental changes of cognitive vocal control in monkeys. *Journal of Experimental Biology*, **2016**, 219, 1744-9	3	25
69	Numerosity representations in crows obey the Weber-Fechner law. *Proceedings of the Royal Society B: Biological Sciences*, **2016**, 283, 20160083	4.4	61
68	Cell-type-specific modulation of targets and distractors by dopamine D1 receptors in primate prefrontal cortex. *Nature Communications*, **2016**, 7, 13218	17.4	24
67	Neuronal Representation of Numerosity Zero in the Primate Parieto-Frontal Number Network. *Current Biology*, **2016**, 26, 1285-94	6.3	73
66	The neuronal code for number. *Nature Reviews Neuroscience*, **2016**, 17, 366-82	13.5	216
65	Representing Something Out of Nothing: The Dawning of Zero. *Trends in Cognitive Sciences*, **2016**, 20, 830-842	14	39
64	Neurons selective to the number of visual items in the corvid songbird endbrain. *Proceedings of the National Academy of Sciences of the United States of America*, **2015**, 112, 7827-32	11.5	129
63	Differential impact of behavioral relevance on quantity coding in primate frontal and parietal neurons. *Current Biology*, **2015**, 25, 1259-69	6.3	72
62	Associative learning rapidly establishes neuronal representations of upcoming behavioral choices in crows. *Proceedings of the National Academy of Sciences of the United States of America*, **2015**, 112, 15208-13	11.5	43
61	Audio-vocal interaction in single neurons of the monkey ventrolateral prefrontal cortex. *Journal of Neuroscience*, **2015**, 35, 7030-40	6.6	47
60	Cross-Modal Associative Mnemonic Signals in Crow Endbrain Neurons. *Current Biology*, **2015**, 25, 2196-201	6.3	43
59	Complementary roles for primate frontal and parietal cortex in guarding working memory from distractor stimuli. *Neuron*, **2014**, 83, 226-37	13.9	80
58	Neuronal correlates of visual working memory in the corvid endbrain. *Journal of Neuroscience*, **2014**, 34, 7778-86	6.6	84

57	The long and the short of it: rule-based relative length discrimination in carrion crows, Corvus corone. *Behavioural Processes*, **2014**, 107, 142-9	1.6	21
56	Rule activity related to spatial and numerical magnitudes: comparison of prefrontal, premotor, and cingulate motor cortices. *Journal of Cognitive Neuroscience*, **2014**, 26, 1000-12	3.1	7
55	Stable numerosity representations irrespective of magnitude context in macaque prefrontal cortex. *European Journal of Neuroscience*, **2014**, 39, 866-74	3.5	5
54	Dopamine receptors differentially enhance rule coding in primate prefrontal cortex neurons. *Neuron*, **2014**, 84, 1317-28	13.9	65
53	Ethograms indicate stable well-being during prolonged training phases in rhesus monkeys used in neurophysiological research. *Laboratory Animals*, **2014**, 48, 82-7	2.6	7
52	Dopamine regulates two classes of primate prefrontal neurons that represent sensory signals. *Journal of Neuroscience*, **2013**, 33, 13724-34	6.6	47
51	Abstract rule neurons in the endbrain support intelligent behaviour in corvid songbirds. *Nature Communications*, **2013**, 4, 2878	17.4	89
50	Single neurons in monkey prefrontal cortex encode volitional initiation of vocalizations. *Nature Communications*, **2013**, 4, 2409	17.4	90
49	Coding of abstract quantity by Wumber neuronsWof the primate brain. *Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology*, **2013**, 199, 1-16	2.3	55
48	Representation of abstract quantitative rules applied to spatial and numerical magnitudes in primate prefrontal cortex. *Journal of Neuroscience*, **2013**, 33, 7526-34	6.6	55
47	Cognitive control of distinct vocalizations in rhesus monkeys. *Journal of Cognitive Neuroscience*, **2013**, 25, 1692-701	3.1	82
46	Neuronal correlates of a visual "sense of number" in primate parietal and prefrontal cortices. *Proceedings of the National Academy of Sciences of the United States of America*, **2013**, 110, 11187-92	11.5	129
45	Comparison of abstract decision encoding in the monkey prefrontal cortex, the presupplementary, and cingulate motor areas. *Journal of Neurophysiology*, **2013**, 110, 19-32	3.2	11
44	Relating magnitudes: the brainWcode for proportions. *Trends in Cognitive Sciences*, **2012**, 16, 157-66	14	105
43	Neurobiologische Grundlagen der Verarbeitung von Anzahlen und Proportionen im Primatengehirn. *E-Neuroforum*, **2012**, 18, 196-203		1
42	Active encoding of decisions about stimulus absence in primate prefrontal cortex neurons. *Proceedings of the National Academy of Sciences of the United States of America*, **2012**, 109, 6289-94	11.5	54
41	Supramodal numerosity selectivity of neurons in primate prefrontal and posterior parietal cortices. *Proceedings of the National Academy of Sciences of the United States of America*, **2012**, 109, 11860-5	11.5	148
40	Numerical rule coding in the prefrontal, premotor, and posterior parietal cortices of macaques. *Journal of Neuroscience*, **2012**, 32, 6621-30	6.6	50

39	Ontogeny of object permanence and object tracking in the carrion crow, Corvus corone. *Animal Behaviour*, **2011**, 82, 359-367	2.8	58
38	The Neural Code for Number **2011**, 103-118		4
37	Representations of visual proportions in the primate posterior parietal and prefrontal cortices. *European Journal of Neuroscience*, **2010**, 32, 1380-7	3.5	30
36	Basic mathematical rules are encoded by primate prefrontal cortex neurons. *Proceedings of the National Academy of Sciences of the United States of America*, **2010**, 107, 2277-82	11.5	81
35	Numerical values leave a semantic imprint on associated signs in monkeys. *Journal of Cognitive Neuroscience*, **2010**, 22, 174-83	3.1	9
34	Comparison of length judgments and the MÜller-Lyer illusion in monkeys and humans. *Experimental Brain Research*, **2010**, 207, 221-31	2.3	48
33	Compressed scaling of abstract numerosity representations in adult humans and monkeys. *Journal of Cognitive Neuroscience*, **2009**, 21, 333-46	3.1	54
32	Notation-independent representation of fractions in the human parietal cortex. *Journal of Neuroscience*, **2009**, 29, 4652-7	6.6	109
31	Prefrontal cortex and the evolution of symbolic reference. *Current Opinion in Neurobiology*, **2009**, 19, 99-108	7.6	88
30	Tuning to non-symbolic proportions in the human frontoparietal cortex. *European Journal of Neuroscience*, **2009**, 30, 1432-42	3.5	110
29	Representation of number in the brain. *Annual Review of Neuroscience*, **2009**, 32, 185-208	17	585
28	Contributions of primate prefrontal and posterior parietal cortices to length and numerosity representation. *Journal of Neurophysiology*, **2009**, 101, 2984-94	3.2	124
27	Behavioral and prefrontal representation of spatial proportions in the monkey. *Current Biology*, **2008**, 18, 1420-5	6.3	93
26	The ABC of cardinal and ordinal number representations. *Trends in Cognitive Sciences*, **2008**, 12, 41-3	14	32
25	Complementary contributions of prefrontal neuron classes in abstract numerical categorization. *Journal of Neuroscience*, **2008**, 28, 7737-47	6.6	63
24	Semantic associations between signs and numerical categories in the prefrontal cortex. *PLoS Biology*, **2007**, 5, e294	9.7	122
23	A labeled-line code for small and large numerosities in the monkey prefrontal cortex. *Journal of Neuroscience*, **2007**, 27, 5986-93	6.6	164
22	Neuronal population coding of continuous and discrete quantity in the primate posterior parietal cortex. *Proceedings of the National Academy of Sciences of the United States of America*, **2007**, 104, 14513-8	11.5	211

21	Representation of Numerical Information in the Brain **2007**, 271-283		
20	Temporal and spatial enumeration processes in the primate parietal cortex. *Science*, **2006**, 313, 1431-5	33.3	283
19	Temporal and spatial enumeration processes in the primate parietal cortex. *E-Neuroforum*, **2006**, 12, 267-269		
18	Counting on neurons: the neurobiology of numerical competence. *Nature Reviews Neuroscience*, **2005**, 6, 177-90	13.5	406
17	A parieto-frontal network for visual numerical information in the monkey. *Proceedings of the National Academy of Sciences of the United States of America*, **2004**, 101, 7457-62	11.5	402
16	Analog numerical representations in rhesus monkeys: evidence for parallel processing. *Journal of Cognitive Neuroscience*, **2004**, 16, 889-901	3.1	93
15	The number domain- can we count on parietal cortex?. *Neuron*, **2004**, 44, 407-9	13.9	75
14	Neural correlates of categories and concepts. *Current Opinion in Neurobiology*, **2003**, 13, 198-203	7.6	131
13	Stereoscopic vision: solving the correspondence problem. *Current Biology*, **2003**, 13, R394-6	6.3	4
12	Interrelation of kinetic and stereoscopic depth: behavior and physiology in vertebrates. *Behavioural Processes*, **2003**, 64, 13-16	1.6	1
11	Coding of cognitive magnitude: compressed scaling of numerical information in the primate prefrontal cortex. *Neuron*, **2003**, 37, 149-57	13.9	400
10	Representation of the quantity of visual items in the primate prefrontal cortex. *Science*, **2002**, 297, 1708-11	33.3	615
9	Release from masking in fluctuating background noise in a songbird auditory forebrain. *NeuroReport*, **2001**, 12, 1825-9	1.7	12
8	Signal detection in amplitude-modulated maskers. II. Processing in the songbird auditory forebrain. *European Journal of Neuroscience*, **2001**, 13, 1033-44	3.5	27
7	Hierarchical processing of horizontal disparity information in the visual forebrain of behaving owls. *Journal of Neuroscience*, **2001**, 21, 4514-22	6.6	44
6	Encoding of both vertical and horizontal disparity in random-dot stereograms by Wulst neurons of awake barn owls. *Visual Neuroscience*, **2001**, 18, 541-7	1.7	24
5	Miniature stereo radio transmitter for simultaneous recording of multiple single-neuron signals from behaving owls. *Journal of Neuroscience Methods*, **2000**, 101, 157-64	3	55
4	Horizontal-disparity tuning of neurons in the visual forebrain of the behaving barn owl. *Journal of Neurophysiology*, **2000**, 83, 2967-79	3.2	47

3	Perception and neuronal coding of subjective contours in the owl. *Nature Neuroscience*, **1999**, 2, 660-3	25.5	88
2	Adjustable frequency selectivity of auditory forebrain neurons recorded in a freely moving songbird via radiotelemetry. *Hearing Research*, **1999**, 127, 41-54	3.9	34
1	Working memory capacity of crows and monkeys arises from similar neuronal computations		1