Gabriel B Mindlin

List of Publications by Year
in descending order

108 papers	2,539 citations	218592 26 h-index	223716 46 g-index
111 all docs	111 docs citations	111 times ranked	1344 citing authors

#	Article	IF	Citations
1	Topological analysis and synthesis of chaotic time series. Physica D: Nonlinear Phenomena, 1992, 58, 229-242.	1.3	190
2	Elemental gesture dynamics are encoded by song premotor cortical neurons. Nature, 2013, 495, 59-64.	13.7	159
3	Classification of strange attractors by integers. Physical Review Letters, 1990, 64, 2350-2353.	2.9	140
4	Topological analysis of chaotic time series data from the Belousov-Zhabotinskii reaction. Journal of Nonlinear Science, 1991, 1, 147-173.	1.0	123
5	Simple Motor Gestures for Birdsongs. Physical Review Letters, 2001, 87, 208101.	2.9	115
6	Spontaneous symmetry breaking in a laser: The experimental side. Physical Review Letters, 1990, 65, 3124-3127.	2.9	100
7	Spatiotemporal dynamics of lasers in the presence of an imperfect O(2) symmetry. Physical Review Letters, 1992, 68, 3702-3705.	2.9	92
8	Neuromuscular control of vocalizations in birdsong: A model. Physical Review E, 2002, 65, 051921.	0.8	78
9	Interspike Time Distribution in Noise Driven Excitable Systems. Physical Review Letters, 1999, 83, 292-295.	2.9	76
10	An efficient algorithm for fast box counting. Physics Letters, Section A: General, Atomic and Solid State Physics, 1990, 151, 43-46.	0.9	57
11	Structure of chaos in the laser with saturable absorber. Physical Review Letters, 1992, 68, 1128-1131.	2.9	55
12	Frequency Modulation During Song in a Suboscine Does Not Require Vocal Muscles. Journal of Neurophysiology, 2008, 99, 2383-2389.	0.9	52
13	Stochastic Relaxation Oscillator Model for the Solar Cycle. Physical Review Letters, 2000, 85, 5476-5479.	2.9	49
14	Dynamical patterns in BÃ©nard-Marangoni convection in a square container. Physical Review Letters, 1993, 70, 3892-3895.	2.9	45
15	Simple Model of a Stochastically Excited Solar Dynamo. Solar Physics, 2001, 201, 203-223.	1.0	44
16	Low-frequency fluctuations in semiconductor lasers with optical feedback are induced with noise. Physical Review E, 1998, 58, 2636-2639.	0.8	42
17	Reconstruction of physiological instructions from Zebra finch song. Physical Review E, 2011, 84, 051909.	0.8	42
18	Nonlinear Model Predicts Diverse Respiratory Patterns of Birdsong. Physical Review Letters, 2006, 96, 058103.	2.9	41

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19	Beyond harmonic sounds in a simple model for birdsong production. Chaos, 2008, 18, 043123.	1.0	39
20	Diversity within a Birdsong. Physical Review Letters, 2002, 89, 288102.	2.9	38
21	Neurophysiological bases of exponential sensory decay and top-down memory retrieval: a model. Frontiers in Computational Neuroscience, 2009, 3, 4.	1.2	34
22	Temperature Induced Syllable Breaking Unveils Nonlinearly Interacting Timescales in Birdsong Motor Pathway. PLoS ONE, 2013, 8, e67814.	1.1	33
23	Highly Structured Duets in the Song of the South American Hornero. Physical Review Letters, 2003, 91, 258104.	2.9	30
24	Evolution of Vocal Diversity through Morphological Adaptation without Vocal Learning or Complex Neural Control. Current Biology, 2017, 27, 2677-2683.e3.	1.8	30
25	A circular model for song motor control in Serinus canaria. Frontiers in Computational Neuroscience, 2015, 9, 41.	1.2	29
26	Periodic and chaotic alternation in systems with imperfect O(2) symmetry. Physical Review Letters, 1992, 69, 3723-3726.	2.9	27
27	Low-dimensional dynamical model for the diversity of pressure patterns used in canary song. Physical Review E, 2009, 79, 041929.	0.8	27
28	Lessons from being challenged by COVID-19. Chaos, Solitons and Fractals, 2020, 137, 109923.	2.5	27
29	Horseshoe implications. Physical Review E, 1993, 48, 4297-4304.	0.8	26
30	Modeling source-source and source-filter acoustic interaction in birdsong. Physical Review E, 2005, 72, 036218.	0.8	25
31	Hormonal acceleration of song development illuminates motor control mechanism in canaries. Developmental Neurobiology, 2010, 70, 943-960.	1.5	24
32	Mode-mode interaction for aCO2laser with imperfect O(2) symmetry. Physical Review A, 1993, 47, 500-509.	1.0	23
33	Topological Structure of Chaotic Flows from Human Speech Data. Physical Review Letters, 1999, 82, 1450-1453.	2.9	22
34	Nitrogen stars: morphogenesis of a liquid drop. Physica A: Statistical Mechanics and Its Applications, 2000, 283, 261-266.	1.2	21
35	Nonlinear dynamics in the study of birdsong. Chaos, 2017, 27, 092101.	1.0	21
36	Smooth Operator: Avoidance of Subharmonic Bifurcations through Mechanical Mechanisms Simplifies Song Motor Control in Adult Zebra Finches. Journal of Neuroscience, 2010, 30, 13246-13253.	1.7	19

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37	Average dynamics of a driven set of globally coupled excitable units. Chaos, 2011, 21, 023102.	1.0	19
38	Distribution of interspike times in noise-driven excitable systems. Physical Review E, 2000, 61, 6490-6499.	0.8	18
39	Mapping Neural Architectures Onto Acoustic Features of Birdsong. Journal of Neurophysiology, 2004, 92, 96-110.	0.9	17
40	Discrete Motor Coordinates for Vowel Production. PLoS ONE, 2013, 8, e80373.	1.1	17
41	Dynamical time series embeddings in recurrent neural networks. Chaos, Solitons and Fractals, 2022, 154, 111612.	2.5	17
42	Topologically inequivalent embeddings. Physical Review E, 1995, 52, 1497-1502.	0.8	16
43	The chaotic evolution of patterns in Benard-Marangoni convection with square symmetry. Journal of Physics Condensed Matter, 1994, 6, A427-A432.	0.7	15
44	Source-tract coupling in birdsong production. Physical Review E, 2009, 79, 061921.	0.8	15
45	Interaction between telencephalic signals and respiratory dynamics in songbirds. Journal of Neurophysiology, 2012, 107, 2971-2983.	0.9	15
46	Average activity of excitatory and inhibitory neural populations. Chaos, 2016, 26, 093104.	1.0	15
47	Nonlinear interaction of transverse modes in aCO2laser. Physical Review A, 1994, 49, 4916-4921.	1.0	14
48	Tori and Klein bottles in four-dimensional chaotic flows. Physica D: Nonlinear Phenomena, 1997, 102, 177-186.	1.3	14
49	Coupled optical excitable cells. Physical Review E, 2002, 66, 036227.	0.8	14
50	Motor control of sound frequency in birdsong involves the interaction between air sac pressure and labial tension. Physical Review E, 2014, 89, 032706.	0.8	14
51	Dynamical origin of complex motor patterns. European Physical Journal D, 2010, 60, 361-367.	0.6	13
52	Prosthetic Avian Vocal Organ Controlled by a Freely Behaving Bird Based on a Low Dimensional Model of the Biomechanical Periphery. PLoS Computational Biology, 2012, 8, e1002546.	1.5	13
53	Automatic reconstruction of physiological gestures used in a model of birdsong production. Journal of Neurophysiology, 2015, 114, 2912-2922.	0.9	13
54	Spike timing and synaptic plasticity in the premotor pathway of birdsong. Biological Cybernetics, 2004, 91, 159-67.	0.6	12

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55	Physiologically driven avian vocal synthesizer. Physical Review E, 2010, 81, 031927.	0.8	12
56	Anticipated Synchronization and Zero-Lag Phases in Population Neural Models. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2018, 28, 1830025.	0.7	12
57	Topological analysis of chaotic orbits: Revisiting Hyperion. Astrophysical Journal, 1994, 431, 425.	1.6	12
58	Temperature manipulation of neuronal dynamics in a forebrain motor control nucleus. PLoS Computational Biology, 2017, 13, e1005699.	1.5	12
59	Pattern dynamics in a BÃ©nard-Marangoni convection experiment. Physica D: Nonlinear Phenomena, 1996, 96, 200-208.	1.3	11
60	Instantaneous Phase and Amplitude Correlation in the Solar Cycle. Solar Physics, 2002, 208, 167-179.	1.0	11
61	COMPARISON OF DATA FROM BÃ‰NARD-MARANGONI CONVECTION IN A SQUARE CONTAINER WITH A MODEL BASED ON SYMMETRY ARGUMENTS. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 1994, 04, 1121-1133.	0.7	10
62	An integrated model for motor control of song in Serinus canaria. Journal of Physiology (Paris), 2016, 110, 127-139.	2.1	10
63	Adult zebra finches rehearse highly variable song patterns during sleep. PeerJ, 2017, 5, e4052.	0.9	10
64	Low-dimensional dynamics outside the laboratory: The case of roAp stars. Europhysics Letters, 1998, 42, 31-36.	0.7	9
65	Bilateral source acoustic interaction in a syrinx model of an oscine bird. Physical Review E, 2008, 77, 011912.	0.8	9
66	A dynamical system as the source of augmentation in a deep learning problem. Chaos, Solitons and Fractals: X, 2019, 2, 100012.	1.0	9
67	Low dimensional dynamics in birdsong production. European Physical Journal B, 2014, 87, 1.	0.6	8
68	Unusual Avian Vocal Mechanism Facilitates Encoding of Body Size. Physical Review Letters, 2020, 124, 098101.	2.9	8
69	The physics of birdsong production. Contemporary Physics, 2013, 54, 91-96.	0.8	7
70	From perception to action in songbird production: Dynamics of a whole loop. Current Opinion in Systems Biology, 2017, 3, 30-35.	1.3	7
71	From electromyographic activity to frequency modulation in zebra finch song. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2018, 204, 209-217.	0.7	7
72	Syringeal EMGs and synthetic stimuli reveal a switch-like activation of the songbirdâ€™s vocal motor program. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 8436-8441.	3.3	7

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73	Time delay embeddings and the structure of flows. Physics Letters, Section A: General, Atomic and Solid State Physics, 1996, 221, 181-186.	0.9	6
74	BÃ©nard-Marangoni convection in square containers. Physical Review E, 1996, 54, 3609-3613.	0.8	6
75	Lateralization as a symmetry breaking process in birdsong. Physical Review E, 2007, 75, 031908.	0.8	6
76	Evidence and control of bifurcations in a respiratory system. Chaos, 2013, 23, 043138.	1.0	6
77	Acoustic signatures of sound source-tract coupling. Physical Review E, 2011, 83, 041920.	0.8	5
78	Difference between the vocalizations of two sister species of pigeons explained in dynamical terms. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2016, 202, 361-370.	0.7	5
79	Gating related activity in a syringeal muscle allows the reconstruction of zebra finches songs. Chaos, 2018, 28, 075517.	1.0	5
80	Discrete Anatomical Coordinates for Speech Production and Synthesis. Frontiers in Communication, 2019, 4, .	0.6	5
81	Neural networks that locate and identify birds through their songs. European Physical Journal: Special Topics, 2022, 231, 185-194.	1.2	5
82	The dynamical origin of physiological instructions used in birdsong production. Pramana - Journal of Physics, 2008, 70, 1077-1085.	0.9	4
83	NONLINEAR DYNAMICS AND THE SYNTHESIS OF ZEBRA FINCH SONG. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2012, 22, 1250235.	0.7	4
84	Observable for a Large System of Globally Coupled Excitable Units. Mathematical and Computational Applications, 2019, 24, 37.	0.7	4
85	Dynamics behind rough sounds in the song of the<i>Pitangus sulphuratus</i>. Physical Review E, 2020, 102, 062415.	0.8	4
86	A universal departure from the classical period doubling spectrum. Physica D: Nonlinear Phenomena, 1989, 39, 111-123.	1.3	3
87	Truncating expansions in bi-orthogonal bases: What is preserved?. Physics Letters, Section A: General, Atomic and Solid State Physics, 1997, 236, 301-306.	0.9	3
88	AN EXCITABLE ELECTRONIC CIRCUIT AS A SENSORY NEURON MODEL. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2012, 22, 1250244.	0.7	3
89	The structure of reconstructed flows in latent spaces. Chaos, 2020, 30, 093109.	1.0	3
90	Dynamical model for the neural activity of singing Serinus canaria. Chaos, 2020, 30, 053134.	1.0	3

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91	Synthetic Birdsongs as a Tool to Induce, and listen to, Replay Activity in Sleeping Birds. Frontiers in Neuroscience, 2021, 15, 647978.	1.4	3
92	Modeling temperature manipulations in a circular model of birdsong production. Papers in Physics, 2018, 10, .	0.2	3
93	Characterization of spatiotemporal chaos in an inhomogeneous active medium. Physica D: Nonlinear Phenomena, 2004, 199, 185-193.	1.3	2
94	Replay of innate vocal patterns during night sleep in suboscines. Proceedings of the Royal Society B: Biological Sciences, 2021, 288, 20210610.	1.2	2
95	Neural oscillations are locked to birdsong rhythms in canaries. European Journal of Neuroscience, 2022, 55, 549-565.	1.2	2
96	Birds breathe at an aerodynamic resonance. Chaos, 2021, 31, 123132.	1.0	2
97	Dynamical model to describe low-frequency fluctuations in semiconductor lasers with optical feedback. Physica A: Statistical Mechanics and Its Applications, 1998, 257, 547-556.	1.2	1
98	Topological voiceprints for speaker identification. Physica D: Nonlinear Phenomena, 2005, 200, 75-80.	1.3	1
99	Subharmonics in the solutions of a model of the song motor nuclei in songbirds. Physica A: Statistical Mechanics and Its Applications, 2005, 356, 145-150.	1.2	1
100	The generation of respiratory rhythms in birds. Physica A: Statistical Mechanics and Its Applications, 2006, 371, 84-87.	1.2	1
101	Avian vocal production beyond low dimensional models. Journal of Statistical Mechanics: Theory and Experiment, 2017, 2017, 024005.	0.9	1
102	Significant Instances in Motor Gestures of Different Songbird Species. Frontiers in Physics, 2019, 7, .	1.0	1
103	Towards an integrated view of vocal development. PLoS Biology, 2018, 16, e2005544.	2.6	1
104	Multifractal analysis of birdsong and its correlation structure. Physical Review E, 2022, 105, 014118.	0.8	1
105	The constraints to learning in birdsong. European Physical Journal: Special Topics, 2007, 146, 199-204.	1.2	0
106	Publisher's Note: Physiologically driven avian vocal synthesizer [Phys. Rev. E81, 031927 (2010)]. Physical Review E, 2010, 81, .	0.8	0
107	Average dynamics of a finite set of coupled phase oscillators. Chaos, 2014, 24, 023112.	1.0	0
108	A Diagrammatic Representation of Phase Portraits and Bifurcation Diagrams of Two-Dimensional Dynamical Systems. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2017, 27, 1730045.	0.7	0