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#	Paper	IF	Citations
2316	On the computational power of winner-take-all. <i>Neural Computation</i> , 2000 , 12, 2519-35	2.9	208
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2314	Spike-Timing Dependent Plasticity for Evolved Robots. 2002 , 10, 243-263		26
2313	Representation space in a network of coupled chaotic oscillators with modulated synchronization. 2002 , 44-46, 365-372		
2312	Spiking neurons and the induction of finite state machines. 2002 , 287, 251-265		26
2311	Perspectives of the high-dimensional dynamics of neural microcircuits from the point of view of low-dimensional readouts. 2003 , 8, 39-50		10
2310	Evolving spike-timing-dependent plasticity for single-trial learning in robots. 2003 , 361, 2299-319		33
2309	Pattern Recognition in a Bucket. 2003 , 588-597		74
2308	Local interactions in neural networks explain global effects in Gestalt processing and masking. <i>Neural Computation</i> , 2003 , 15, 2091-113	2.9	49
2307	Dimension change, coarse grained coding and pattern recognition in spatio-temporal nonlinear systems. 2003 , 2, 71-102		2
2306	Input prediction and autonomous movement analysis in recurrent circuits of spiking neurons. 2003 , 14, 5-19		12
2305	Computational Models for Generic Cortical Microcircuits. 2003,		13
2304	Movement Generation and Control with Generic Neural Microcircuits. 2004, 258-273		20
2303	Decoding a temporal population code. <i>Neural Computation</i> , 2004 , 16, 2079-100	2.9	13
2302	Dynamical motifs: building blocks of complex dynamics in sparsely connected random networks. 2004 , 92, 238701		35
2301	Short-term memory in orthogonal neural networks. 2004 , 92, 148102		97
2300	Reproducible sequence generation in random neural ensembles. 2004 , 93, 238104		58

2299 A new VLSI model of neural microcircuits including spike time dependent plasticity.	17
2298 Plasticity in single neuron and circuit computations. 2004 , 431, 789-95	203
Non-self-rejection by emergent structures on evolving networks of the spiking neurons. 2004 , 58-60, 209-214	
2296 Liquid state machine built of HodgkinHuxley neurons and pattern recognition. 2004 , 58-60, 245-251	17
Transient information flow in a network of excitatory and inhibitory model neurons: role of noise and signal autocorrelation. 2004 , 98, 417-28	4
2294 Fading memory and kernel properties of generic cortical microcircuit models. 2004 , 98, 315-30	53
2293 Context-dependent selection of visuomotor maps. 2004 , 5, 47	24
2292 On the computational power of circuits of spiking neurons. 2004 , 69, 593-616	153
Harnessing nonlinearity: predicting chaotic systems and saving energy in wireless communication. 2004 , 304, 78-80	1849
2290 Identification of pre-sliding friction dynamics. 2004 , 14, 420-30	48
2289 Computation within cultured neural networks. 2004 , 2004, 5340-3	1
Real-time computation at the edge of chaos in recurrent neural networks. <i>Neural Computation</i> , 2.9	438
The neural basis of temporal processing. 2004 , 27, 307-40	633
2286 Coding and learning of behavioral sequences. 2004 , 27, 11-4; discussion 14-5	41
Noise-enhanced computation in a model of a cortical column. 2005 , 16, 1237-40	4
2284 Movement Prediction from Real-World Images Using a Liquid State Machine. 2005 , 121-130	3
Dynamics of information and emergent computation in generic neural microcircuit models. 2005 , 18, 1301-8	6
2282 Recursive principal components analysis. 2005 , 18, 1051-63	13

2281	Spiking neural nets with symbolic internal state. 2005 , 95, 529-536	1
2280	The cortex as a central pattern generator. 2005 , 6, 477-83	254
2279	Analyzing the weight dynamics of recurrent learning algorithms. 2005 , 63, 5-23	36
2278	Recurrent neural network generates a basis for sensory image cancellation. 2005 , 65-66, 237-242	5
2277	A new approach to neuroimaging with magnetoencephalography. 2005 , 25, 199-211	382
2276	Applications of spiking neural networks. 2005 , 95, 519-520	25
2275	Isolated word recognition with the Liquid State Machine: a case study. 2005 , 95, 521-528	137
2274	Travelling wave patterns in a model of the spinal pattern generator using spiking neurons. 2005 , 92, 206-18	5
2273	Computational theories on the function of theta oscillations. 2005 , 92, 393-408	31
2272	Co-evolutionary Learning in Liquid Architectures. 2005 , 241-248	
2271	Heterogeneous integration of bilateral whisker signals by neurons in primary somatosensory cortex of awake rats. 2005 , 93, 2966-73	39
2270	Signal Processing in a Nonlinear, NonGaussian, and Nonstationary World. 2005 , 43-53	6
2269	Electrodynamic Signaling by the Dendritic Cytoskeleton: Toward an Intracellular Information Processing Model. 2005 , 24, 221-231	16
2268	Reservoir riddles: suggestions for echo state network research.	14
2267	Movement generation with circuits of spiking neurons. <i>Neural Computation</i> , 2005 , 17, 1715-38 2.9	55
2266	Biological and Artificial Intelligence Environments. 2005,	
2265	Learning mappings in brain machine interfaces with echo state networks.	12
2264	Signal buffering in random networks of spiking neurons: microscopic versus macroscopic phenomena. 2005 , 72, 051906	7

2263	Echo State Networks used for Motor Control.	27
2262	Stable ensemble performance with single-neuron variability during reaching movements in primates. 2005 , 25, 10712-6	112
2261	Short Term Memory and Pattern Matching with Simple Echo State Networks. 2005 , 13-18	9
2260	Effectively using recurrently-connected spiking neural networks.	7
2259	Analyzing the state space property of echo state networks for chaotic system prediction.	1
2258	Deterministic Modelling of Randomness with Recurrent Artificial Neural Networks. 2005 , 255-260	
2257	Modeling reward functions for incomplete state representations via echo state networks. 2005,	21
2256	Synaptic pathways in neural microcircuits. 2005 , 28, 541-51	94
2255	Critical branching captures activity in living neural networks and maximizes the number of metastable States. 2005 , 94, 058101	282
2254	Spatio-temporal patterns in CNNs for classification: the winnerless competition principle. 2006,	1
2253	Pattern Separation in the Model of Mammalian Visual System.	
2252	Learning using Dynamical Regime Identification and Synchronization. 2006,	
2251	Cliques in Neural Ensembles as Perception Carriers. 2006,	
2250	Reservoir-based techniques for speech recognition. 2006,	36
2249	Modeling of Synchronized Burst in Dissociated Cortical Tissue: An Exploration of Parameter Space. 2006 ,	1
2248	Implementing Synaptic Plasticity in a VLSI Spiking Neural Network Model. 2006,	23
2247	Dynamical principles in neuroscience. 2006 , 78, 1213-1265	533
2246	Evolving Hardware with Self-reconfigurable connectivity in Xilinx FPGAs. 2006,	24

2245 Encoding and decoding of overlapping odor sequences. 2006 , 51, 467-82		131
2244 Short-term memory for serial order: a recurrent neural network model. 2006 , 113, 201-33		235
2243 Modeling of Synchronized Burst in Dissociated Cortical Tissue: An Exploration of Parameter Space.		
2242 Spatiotemporal Pattern Recognition via Liquid State Machines.		4
2241 .		
2240 Cliques in Neural Ensembles as Perception Carriers.		1
2239 Reservoir-based techniques for speech recognition.		1
2238 Preparing More Effective Liquid State Machines Using Hebbian Learning.		6
2237 Implementing Synaptic Plasticity in a VLSI Spiking Neural Network Model.		11
Jacques Benoit Lecture. Information processing in the hypothalamus: peptides and analogue computation. 2006 , 18, 379-92		33
2235 Imitation learning with spiking neural networks and real-world devices. 2006 , 19, 741-752		13
A model for the interaction of oscillations and pattern generation with real-time computing in generic neural microcircuit models. 2006 , 19, 600-9		1
2233 Online stability of backpropagationdecorrelation recurrent learning. 2006 , 69, 642-650		27
2232 Harnessing Non-linearity by Sigmoid-wavelet Hybrid Echo State Networks (SWHESN). 2006 ,		7
A statistical analysis of information-processing properties of lamina-specific cortical microcircuit models. 2007 , 17, 149-62		137
Learning Beyond Finite Memory in Recurrent Networks of Spiking Neurons. <i>Neural Computation</i> , 223 ° 2006 , 18, 591-613	2.9	20
2229 Critical Echo State Networks. 2006 , 658-667		10
2228 Polychronization: computation with spikes. <i>Neural Computation</i> , 2006 , 18, 245-82	2.9	681

2227	Preparing More Effective Liquid State Machines Using Hebbian Learning. 2006,	10
2226	Learn more by training less: systematicity in sentence processing by recurrent networks. 2006 , 18, 287-302	17
2225	. 2006,	1
2224	Spatiotemporal Pattern Recognition via Liquid State Machines. 2006,	11
2223	Comparing support vector machines and feedforward neural networks with similar hidden-layer weights. 2007 , 18, 959-63	26
2222	A CMOS-based Microelectrode Array for Information Processing with Natural Neurons. 2007,	1
2221	Recurrent Neural Networks are universal approximators. 2007 , 17, 253-63	74
2220	Computational aspects of feedback in neural circuits. 2007 , 3, e165	132
2219	COMPLEXITY IN NEURONAL NETWORKS. 2007 , 291-340	2
2218	Spike-Based Feature Extraction for Noise Robust Speech Recognition Using Phase Synchrony Coding. 2007 ,	4
2217	Bio-Microelectronic Information Processing Device Consisting of Natural Neurons on a CMOS Microsystem. 2007 ,	
2216	An Associative Memory Readout in ESN for Neural Action Potential Detection. 2007,	2
2215	Compact hardware for real-time speech recognition using a Liquid State Machine. 2007,	10
2214	An Application of Spike-Timing-Dependent Plasticity to Readout Circuit for Liquid State Machine. 2007 ,	4
2213	Neural populations can induce reliable postsynaptic currents without observable spike rate changes or precise spike timing. 2007 , 17, 1830-40	14
2212	Challenges for Computational Intelligence. 2007,	18
2211	Single-neuron stability during repeated reaching in macaque premotor cortex. 2007 , 27, 10742-50	115
2210	. 2007,	1

2209	Resonance or integration? Self-sustained dynamics and excitability of neural microcircuits. 2007 , 97, 1911-30	41
2208	Timing in the absence of clocks: encoding time in neural network states. 2007 , 53, 427-38	416
2207	Variability in neuronal activity in primate cortex during working memory tasks. 2007, 146, 1082-108	144
2206	Feedback modulates the temporal scale-free dynamics of brain electrical activity in a hypothesis testing task. 2007 , 146, 1400-12	40
2205	Analysis and design of echo state networks. <i>Neural Computation</i> , 2007 , 19, 111-38	193
2204	Perspectives of Neural-Symbolic Integration. 2007,	18
2203	A Duplex Theory of Spike Coding in the Early Stages of the Auditory System. 2007,	О
2202	Gabor-like image filtering using a neural microcircuit. 2007 , 18, 955-9	3
2201	Anticipatory Behavior in Adaptive Learning Systems. 2007,	17
2200	. 2007 , 54, 1542-1554	8
2199	Is there a Liquid State Machine in the Bacterium Escherichia Coli?. 2007,	20
2198	Quantifying the Effect of Learning on Recurrent Spikin Neurons. 2007,	4
2197	Liquid Computing. 2007 , 507-516	13
2196	In search of the neural circuits of intrinsic motivation. 2007 , 1, 225-36	72
2195	Identification of pre-sliding and sliding friction dynamics: Grey box and black-box models. 2007, 21, 514-534	90
2194	An experimental unification of reservoir computing methods. 2007 , 20, 391-403	560
2193	The cerebellum as a liquid state machine. 2007 , 20, 290-7	129
2192	An associative memory readout for ESNs with applications to dynamical pattern recognition. 2007 , 20, 377-90	21

2191 Learning grammatical structure with Echo State Networks. 2007 , 20, 424-32	110
From memory-based decisions to decision-based movements: a model of interval discrimination followed by action selection. 2007 , 20, 298-311	8
Optimization and applications of echo state networks with leaky-integrator neurons. 2007 , 20, 335-52	467
2188 Edge of chaos and prediction of computational performance for neural circuit models. 2007 , 20, 323-34	237
Fading memory and time series prediction in recurrent networks with different forms of plasticity. 2007 , 20, 312-22	64
Online reservoir adaptation by intrinsic plasticity for backpropagation-decorrelation and echo state learning. 2007 , 20, 353-64	122
Decoupled echo state networks with lateral inhibition. 2007 , 20, 365-76	109
2184 A CMOS-based microelectrode array for interaction with neuronal cultures. 2007 , 164, 93-106	53
2183 A spiking network model for passage-of-time representation in the cerebellum. 2007 , 26, 2279-92	65
2182 Temporal pattern identification using spike-timing dependent plasticity. 2007 , 70, 2009-2016	7
2181 Nonlinear transient computation. 2007 , 70, 1167-1176	16
2180 Dynamical computation reservoir emerging within a biological model network. 2007 , 70, 1177-1185	3
2179 Linking non-binned spike train kernels to several existing spike train metrics. 2007 , 70, 1247-1253	26
$_{2178}$ Liquid state machine and its separation ability as function of electrical parameters of cell. 2007 , 70, 2593	3-2597 ₁ 6
Generative Modeling of Autonomous Robots and their Environments using Reservoir Computing. 2007 , 26, 233-249	31
Variability v.s. synchronicity of neuronal activity in local cortical network models with different wiring topologies. 2007 , 23, 237-50	33
2175 Simulation of networks of spiking neurons: a review of tools and strategies. 2007 , 23, 349-98	486
2174 Movement prediction from real-world images using a liquid state machine. 2007 , 26, 99-109	30

2173	Modelling memory functions with recurrent neural networks consisting of input compensation units: I. Static situations. 2007 , 96, 455-70	13
2172	Real time computation: zooming in on population codes. 2007 , 87, 260-6	2
2171	Novel computing paradigms: Quo vadis?. 2008 , 237, v-viii	4
2170	KInNeSS: a modular framework for computational neuroscience. 2008 , 6, 291-309	7
2169	Compact hardware liquid state machines on FPGA for real-time speech recognition. 2008, 21, 511-23	80
2168	Nonlinear transient computation as a potential "kernel trick" in cortical processing. 2008 , 94, 55-9	2
2167	A learning rule for very simple universal approximators consisting of a single layer of perceptrons. 2008 , 21, 786-95	95
2166	Event detection and localization for small mobile robots using reservoir computing. 2008, 21, 862-71	56
2165	Neuroscience. Transient dynamics for neural processing. 2008 , 321, 48-50	347
2164	Nonlinear modeling of causal interrelationships in neuronal ensembles. 2008 , 16, 336-52	49
2163	Improving reservoirs using intrinsic plasticity. 2008 , 71, 1159-1171	162
2162	Delay learning and polychronization for reservoir computing. 2008 , 71, 1143-1158	66
2161	A Cellular Structure for Online Routing of Digital Spiking Neuron Axons and Dendrites on FPGAs. 2008 , 273-284	9
2160	The Search for Alternative Computational Paradigms. 2008 , 25, 334-343	28
2159	Neuro-inspired Speech Recognition with Recurrent Spiking Neurons. 2008, 513-522	12
2158	Speech, Audio, Image and Biomedical Signal Processing using Neural Networks. 2008,	13
2157	Theoretical neuroscience rising. 2008 , 60, 489-95	96
2156	Toward optical signal processing using photonic reservoir computing. 2008 , 16, 11182-92	130

2155	Hardware Implementation of a Bio-plausible Neuron Model for Evolution and Growth of Spiking Neural Networks on FPGA. 2008 ,	22
2154	Echo state networks with decoupled reservoir states. 2008,	4
2153	Training spiking neuronal networks with applications in engineering tasks. 2008 , 19, 1626-40	19
2152	Imitation Learning of an Intelligent Navigation System for Mobile Robots Using Reservoir Computing. 2008 ,	3
2151	Using Reservoir Computing for Forecasting Time Series: Brazilian Case Study. 2008,	4
2150	Reservoir optimization in recurrent neural networks using kronecker kernels. 2008,	1
2149	Locally-Stable Macromodels of Integrated Digital Devices for Multimedia Applications. 2008, 31, 700-710	4
2148	Phase precession through synaptic facilitation. <i>Neural Computation</i> , 2008 , 20, 1285-324 2.9	26
2147	Glial Reservoir Computing. 2008,	1
2146	Change-based inference for invariant discrimination. 2008 , 19, 236-52	3
	Change-based inference for invariant discrimination. 2008 , 19, 236-52 Copying and evolution of neuronal topology. 2008 , 3, e3775	3
2145		
2145	Copying and evolution of neuronal topology. 2008 , 3, e3775	33
2145	Copying and evolution of neuronal topology. 2008 , 3, e3775 Mobile robot control in the road sign problem using Reservoir Computing networks. 2008 ,	33
2145 2144 2143	Copying and evolution of neuronal topology. 2008, 3, e3775 Mobile robot control in the road sign problem using Reservoir Computing networks. 2008, Memory traces in dynamical systems. 2008, 105, 18970-5 Decoding spatiotemporal spike sequences via the finite state automata dynamics of spiking neural	33 13 177
2145 2144 2143 2142	Copying and evolution of neuronal topology. 2008, 3, e3775 Mobile robot control in the road sign problem using Reservoir Computing networks. 2008, Memory traces in dynamical systems. 2008, 105, 18970-5 Decoding spatiotemporal spike sequences via the finite state automata dynamics of spiking neural networks. 2008, 10, 015010 Investigating the use of Reservoir Computing for forecasting the hourly wind speed in short-term.	33 13 177 3
2145 2144 2143 2142 2141	Copying and evolution of neuronal topology. 2008, 3, e3775 Mobile robot control in the road sign problem using Reservoir Computing networks. 2008, Memory traces in dynamical systems. 2008, 105, 18970-5 Decoding spatiotemporal spike sequences via the finite state automata dynamics of spiking neural networks. 2008, 10, 015010 Investigating the use of Reservoir Computing for forecasting the hourly wind speed in short-term. 2008, Recurrent Neural Associative Learning of Forward and Inverse Kinematics for Movement	33 13 177 3

2137	Modeling multiple autonomous robot behaviors and behavior switching with a single reservoir computing network. 2008 ,	6
2136	Band-pass Reservoir Computing. 2008,	17
2135	Temporal spike pattern learning. 2008 , 78, 031918	4
2134	Temporal precision of spike response to fluctuating input in pulse-coupled networks of oscillating neurons. 2008 , 101, 248105	19
2133	Analysis of the ReSuMe Learning Process For Spiking Neural Networks. 2008 , 18, 117-127	22
2132	Towards Spike-Based Speech Processing: A Biologically Plausible Approach to Simple Acoustic Classification. 2008 , 18, 129-137	4
2131	DIRECTIONAL CLASSIFICATION OF CORTICAL SIGNALS USING A LIQUID STATE MACHINE. 2008 , 41, 9596-9600	0 0
2130	References. 247-286	
2129	Frontmatter. 2009,	
2128	On the relation between bursts and dynamic synapse properties: a modulation-based ansatz. 2009 , 658474	2
2128	On the relation between bursts and dynamic synapse properties: a modulation-based ansatz. 2009 , 658474 Robust Reservoir Generation by Correlation-Based Learning. 2009 , 2009, 1-7	2
2127		122
2127	Robust Reservoir Generation by Correlation-Based Learning. 2009 , 2009, 1-7	
2127	Robust Reservoir Generation by Correlation-Based Learning. 2009, 2009, 1-7 SORN: a self-organizing recurrent neural network. 2009, 3, 23	122
2127 2126 2125	Robust Reservoir Generation by Correlation-Based Learning. 2009, 2009, 1-7 SORN: a self-organizing recurrent neural network. 2009, 3, 23 [Not Available]. 2009, 3, 11	122
2127 2126 2125 2124	Robust Reservoir Generation by Correlation-Based Learning. 2009, 2009, 1-7 SORN: a self-organizing recurrent neural network. 2009, 3, 23 [Not Available]. 2009, 3, 11 Echo State Network for Abrupt Change Detections in Non-stationary Signals. 2009, Goal-Directed Movement Generation with a Transient-Based Recurrent Neural Network Controller.	122
2127 2126 2125 2124 2123	Robust Reservoir Generation by Correlation-Based Learning. 2009, 2009, 1-7 SORN: a self-organizing recurrent neural network. 2009, 3, 23 [Not Available]. 2009, 3, 11 Echo State Network for Abrupt Change Detections in Non-stationary Signals. 2009, Goal-Directed Movement Generation with a Transient-Based Recurrent Neural Network Controller. 2009,	63

(2009-2009)

2119	Facial expression recognition based on Liquid State Machines built of alternative neuron models. 2009 ,	9
2118	Memory-enhanced Evolutionary Robotics: The Echo State Network Approach. 2009,	7
2117	Towards autonomous self-localization of small mobile robots using reservoir computing and slow feature analysis. 2009 ,	2
2116	Stable trajectory generator-echo state network trained by particle swarm optimization. 2009,	3
2115	Real-Time Clustering of Datasets with Hardware Embedded Neuromorphic Neural Networks. 2009,	3
2114	Which model to use for the Liquid State Machine?. 2009,	3
2113	Spatiotemporal Processing in a Spiking Neural P System. 2009 ,	1
2112	Manipulating space: modelling the role of transient dynamics in inattentional blindness. 2009 , 21, 275-296	5
2111	Benchmarking reservoir computing on time-independent classification tasks. 2009,	10
2110	Stability criteria for the contextual emergence of macrostates in neural networks. 2009 , 20, 178-96	11
2109	Embedding multiple trajectories in simulated recurrent neural networks in a self-organizing manner. 2009 , 29, 13172-81	71
2108	Chemosensor-driven artificial antennal lobe transient dynamics enable fast recognition and working memory. <i>Neural Computation</i> , 2009 , 21, 1018-37	18
2107	Nano-Net. 2009 ,	
2106	Learning reward timing in cortex through reward dependent expression of synaptic plasticity. 2009 , 106, 6826-31	52
2105	Belief propagation in networks of spiking neurons. <i>Neural Computation</i> , 2009 , 21, 2502-23 2.9	40
2104	The Cytoskeleton as a Nanoscale Information Processor: Electrical Properties and an Actin-Microtubule Network Model. 2009 , 85-127	4
2103	Receptive field self-organization in a model of the fine structure in v1 cortical columns. <i>Neural Computation</i> , 2009 , 21, 2805-45	20
2102	The challenge of irrationality. 2009,	7

2101	Learning to discriminate through long-term changes of dynamical synaptic transmission. <i>Neural Computation</i> , 2009 , 21, 3408-28	2.9	7
2100	Recurrent infomax generates cell assemblies, neuronal avalanches, and simple cell-like selectivity. <i>Neural Computation</i> , 2009 , 21, 1038-67	2.9	43
2099	Representation of time-varying stimuli by a network exhibiting oscillations on a faster time scale. 2009 , 5, e1000370		38
2098	Optimierte Modellierung von F l lstfiden in RegenBerlaufbecken mittels CI-basierter Parameterselektion Optimized Modelling of Fill Levels in Stormwater Tanks Using CI-based Parameter Selection Schemes. 2009 , 57, 155-166		6
2097	Distributed fading memory for stimulus properties in the primary visual cortex. 2009 , 7, e1000260		104
2096	FREEMAN'S K MODELS AS RESERVOIR COMPUTING ARCHITECTURES. 2009 , 05, 265-286		1
2095	An analysis of the use of Hebbian and Anti-Hebbian spike time dependent plasticity learning functions within the context of recurrent spiking neural networks. 2009 , 72, 685-692		8
2094	II plane and robustness in static reservoir for nonlinear regression estimation. 2009, 72, 1732-1743		9
2093	Pruning and regularization in reservoir computing. 2009 , 72, 1534-1546		66
2092	Motif distribution, dynamical properties, and computational performance of two data-based cortical microcircuit templates. 2009 , 103, 73-87		27
2091	Neural network processing of natural language: II. Towards a unified model of corticostriatal function in learning sentence comprehension and non-linguistic sequencing. 2009 , 109, 80-92		42
2090	A synthesis and a practical approach to complex systems. 2009 , 15, 36-60		15
2089	On-line learning and modulation of periodic movements with nonlinear dynamical systems. 2009 , 27, 3-23		126
2088	Computational models of timing mechanisms in the cerebellar granular layer. 2009 , 8, 423-32		57
2087	Cognitive Computation with Autonomously Active Neural Networks: An Emerging Field. 2009 , 1, 77-90		52
2086	State-dependent computations: spatiotemporal processing in cortical networks. 2009 , 10, 113-25		605
2085	Dynamic liquid association: complex learning without implausible guidance. 2009 , 22, 875-89		5
2084	Reservoir computing approaches to recurrent neural network training. 2009 , 3, 127-149		1272

(2009-2009)

2083 Liquid state machines and cultured cortical networks: the separa	ation property. 2009 , 95, 90-7 32	
$_{ m 2082}$ Initialization and self-organized optimization of recurrent neural	network connectivity. 2009 , 3, 340-9 28	
Single-trial analysis of neuroimaging data: inferring neural network decision-making in the human brain. 2009 , 2, 97-109	orks underlying perceptual 31	
Associative memory models: from the cell-assembly theory to bi simulations. 2009 , 32, 178-86	ophysically detailed cortex	
2079 Memory without feedback in a neural network. 2009 , 61, 621-34	222	
Learning substrates in the primate prefrontal cortex and striatures successful actions. 2009 , 63, 244-53	m: sustained activity related to	
2077 Generating coherent patterns of activity from chaotic neural net	eworks. 2009 , 63, 544-57 575	
2076 Anticipatory grip force control using a cerebellar model. 2009 , 1	62, 777-86 21	
2075 Spiking neural networks. 2009 , 19, 295-308	393	
2074 Nonlinear time series online prediction using reservoir kalman fi	lter. 2009 , 3	
A reproducing kernel Hilbert space framework for spike train sig , 2009 , 21, 424-49	nal processing. <i>Neural Computation</i> 2.9 62	
2072 Transactions on Computational Systems Biology XI. 2009 ,		
2071 A new hypothesis for sleep: tuning for criticality. <i>Neural Comput</i>	ation, 2009 , 21, 1622-41 2.9 33	
A Multi-cellular Developmental Representation for Evolution of Microcircuits in an FPGA. 2009 ,	Adaptive Spiking Neural	
Reaching movement generation with a recurrent neural network kinematics for the humanoid robot iCub. 2009 ,	c based on learning inverse	
2068 Effects of Spectral Radius on Echo-State-Network's Training. 200	19 , 4	
2067 Learning anticipation via spiking networks: application to naviga	tion control. 2009 , 20, 202-16 53	
2066 . 2009 ,	15	

2065 Programming coevolutionary machines: the emerging conundrum. 2009 , 24, 443-453	7
2064 Modular reservoir computing networks for imitation learning of multiple robot behaviors. 2009 ,	6
Design of a Central Pattern Generator Using Reservoir Computing for Learning Human Motion. 2009 ,	15
2062 Hierarchical Bayesian reservoir memory. 2009 ,	4
Perceptual decision making investigated via sparse decoding of a spiking neuron model of V1. 2009	1
2060 Neuro inspired reconfigurable architecture for hardware/software co-design. 2009,	
2059 Code, Context, and Epigenetic Catalysis in Gene Expression. 2009 , 283-334	18
$_{205}8$ Brief sounds evoke prolonged responses in anesthetized ferret auditory cortex. 2010 , 103, 2783-93	15
2057 Metastability and Transients in Brain Dynamics: Problems and Rigorous Results. 2010 , 133-175	2
2056 Analysis of the neural hypercolumn in parallel PCSIM simulations. 2010 , 1, 845-854	12
Neural cytoskeleton capabilities for learning and memory. 2010 , 36, 3-21	46
Functional identification of biological neural networks using reservoir adaptation for point processes. 2010 , 29, 279-299	6
2053 . 2010 , 57, 3115-3122	34
Nonlocal Nonlinear Electro-Optic Phase Dynamics Demonstrating 10 Gb/s Chaos Communications. 205 2 2010 , 46, 1430-1435	107
2051 Overview of facts and issues about neural coding by spikes. 2010 , 104, 5-18	39
Effects of connectivity structure of complex echo state network on its prediction performance for nonlinear time series. 2010 , 73, 2177-2185	31
A comparative study of Reservoir Computing strategies for monthly time series prediction. 2010 , 73, 1958-1964	38
$_{2048}$ Improving liquid state machines through iterative refinement of the reservoir. 2010 , 73, 2893-2904	37

(2010-2010)

2047	Recovery of computation capability for neural networks from damaged states using self-organized criticality. 2010 , 11,	78
2046	Interactions dominate the dynamics of visual cognition. 2010 , 115, 154-65	44
2045	Echo state networks with filter neurons and a delay∑ readout. 2010 , 23, 244-56	57
2044	Memory in linear recurrent neural networks in continuous time. 2010 , 23, 341-55	35
2043	To spike or not to spike: a probabilistic spiking neuron model. 2010 , 23, 16-9	100
2042	An embodied account of serial order: how instabilities drive sequence generation. 2010 , 23, 1164-79	62
2041	Ten years of Nature Reviews Neuroscience: insights from the highly cited. 2010 , 11, 718-26	26
2040	Nonlinear dynamics: Optoelectronic chaos. 2010 , 465, 41-2	91
2039	Hepatitis C: An unsuspected drug target. 2010 , 465, 42-4	6
2038	The chronotron: a neuron that learns to fire temporally-precise spike patterns. 2010,	7
2037	Chaotic optical phase generated by electro-optic and optoelectronic nonlinear and nonlocal delayed feedback: Successful field experiment at 10 Gb/s. 2010 ,	
2036	Inner Products for Representation and Learning in the Spike Train Domain. 2010 , 265-309	9
2035	STDP in Recurrent Neuronal Networks. 2010 , 4,	45
2034	Internal representation of task rules by recurrent dynamics: the importance of the diversity of neural responses. 2010 , 4, 24	123
2033	Compensating Inhomogeneities of Neuromorphic VLSI Devices Via Short-Term Synaptic Plasticity. 2010 , 4, 129	20
2032	Sequentially switching cell assemblies in random inhibitory networks of spiking neurons in the striatum. 2010 , 30, 5894-911	80
2031	Rapid sequences of population activity patterns dynamically encode task-critical spatial information in parietal cortex. 2010 , 30, 11640-53	86
2030	Nanoneuroscience. 2010 ,	12

2029 A spiking neuron as information bottleneck. <i>Neural Computation</i> , 2010 , 22, 1961-92	2.9	13
One step Backpropagation Through Time for learning input mapping in reservoir computing applied to speech recognition. 2010 ,		6
2027 Support Feature Machines: Support vectors are not enough. 2010 ,		3
2026 Pruning reservoirs with Random Static Projections. 2010 ,		8
2025 Memory in reservoirs for high dimensional input. 2010 ,		4
2024 The use of spike-based representations for hardware audition systems. 2010 ,		7
2023 Development of a functional model for the Nanoparticle-Organic Memory transistor. 2010 ,		3
2022 Formation control for multiple mobile robots based on the Spiking Neural Network. 2010 ,		1
2021 Classification of musical styles using liquid state machines. 2010 ,		4
2020 Advances in Soft Computing. 2010 ,		1
2019 Information Processing in Complex Networks. 2010 , 10, 26-37		5
2018 Critical branching neural computation. 2010 ,		3
2017 Short Term Load Forecasting using Echo State Networks. 2010 ,		9
2016 Memory versus non-linearity in reservoirs. 2010 ,		42
2015 Semantic learning in autonomously active recurrent neural networks. 2010 , 18, 686-704		5
Reservoir optimization in recurrent neural networks using properties of Kronecker product. 2010 , 18, 670-685		3
2013 A robust and biologically plausible spike pattern recognition network. 2010 , 30, 15566-72		9
2012 Rhythmogenesis in axial locomotor networks: an interspecies comparison. 2010 , 187, 189-211		17

(2011-2010)

Connectivity, dynamics, and memory in reservoir computing with binary and analog neurons. <i>Neural Computation</i> , 2010 , 22, 1272-311	2.9	103
A theoretical basis for emergent pattern discrimination in neural systems through slow feature extraction. <i>Neural Computation</i> , 2010 , 22, 2979-3035	2.9	12
Supervised learning in spiking neural networks with ReSuMe: sequence learning, classification, and spike shifting. <i>Neural Computation</i> , 2010 , 22, 467-510	2.9	308
2008 Can structure predict function in the human brain?. 2010 , 52, 766-76		419
Real-time classification of datasets with hardware embedded neuromorphic neural networks. 2010 , 11, 348-63		10
2006 Photonic reservoir computing: A new approach to optical information processing. 2010 ,		3
Neural syntax: cell assemblies, synapsembles, and readers. 2010 , 68, 362-85		748
2004 Epigenetic Robotics Architecture (ERA). 2010 , 2, 325-339		57
Evolutionary strategy for simultaneous optimization of parameters, topology and reservoir weights in Echo State Networks. 2010 ,		4
2002 In praise of "false" models and rich data. 2010 , 42, 343-9		6
2001 On the Use of Reservoir Computing in Popularity Prediction. 2010 ,		27
2000 Planning using online evolutionary overfitting. 2010 ,		1
Supervised learning of internal models for autonomous goal-oriented robot navigation using Reservoir Computing. 2010 ,		8
Analyzing the dynamics of the simultaneous feature and parameter optimization of an evolving Spiking Neural Network. 2010 ,		5
1997 A Discovery Framework for Semantic Web Services in p2p Environment. 2010 ,		4
1996 Minimum complexity echo state network. 2011 , 22, 131-44		335
1995 Are probabilistic spiking neural networks suitable for reservoir computing?. 2011 ,		8
1994 An adaptive inverse controller for online somatosensory microstimulation optimization. 2011 ,		3

1993 Minimal Echo State Networks for Visualisation. 2011,

1992	Self-Organizing Maps and Scale-Invariant Maps in Echo State Networks. 2011 ,	17
1991	Modeling activity-dependent plasticity in BCM spiking neural networks with application to human behavior recognition. 2011 , 22, 1952-66	21
1990	Learning BOLD Response in fMRI by Reservoir Computing. 2011,	4
1989	Delay electro-optic dynamics for brain inspired information processing. 2011,	
1988	An adaptive decoder from spike trains to micro-stimulation using kernel least-mean-squares (KLMS). 2011 ,	
1987	. 2011,	13
1986	Beyond the edge of chaos: amplification and temporal integration by recurrent networks in the chaotic regime. 2011 , 84, 051908	62
1985	Information processing using a single dynamical node as complex system. 2011 , 2, 468	618
1984	Neuronal filtering of multiplexed odour representations. 2011 , 479, 493-8	80
1983	A Generalized Rotate-and-Fire Digital Spiking Neuron Model and Its On-FPGA Learning. 2011 , 58, 677-681	39
1982	A systematic method for configuring VLSI networks of spiking neurons. <i>Neural Computation</i> , 2011 , 23, 2457-97	47
1981	Engineering Applications of Neural Networks. 2011,	
1980	Meta-Learning in Computational Intelligence. 2011,	15
1979	Method for Training a Spiking Neuron to Associate Input-Output Spike Trains. 2011 , 219-228	13
1978	Advances in Artificial Life. Darwin Meets von Neumann. 2011 ,	O
1977	Echo state Gaussian process. 2011 , 22, 1435-45	79
1976	Dendritic spines and distributed circuits. 2011 , 71, 772-81	207

1975	From hardware and software to kernels and envelopes: a concept shift for robotics, developmental psychology, and brain sciences. 217-250	1
1974	Statistical comparison of spike responses to natural stimuli in monkey area V1 with simulated responses of a detailed laminar network model for a patch of V1. 2011 , 105, 757-78	21
1973	The non-random brain: efficiency, economy, and complex dynamics. 2011 , 5, 5	156
1972	Dopamine-signaled reward predictions generated by competitive excitation and inhibition in a spiking neural network model. 2011 , 5, 21	11
1971	Robust transient dynamics and brain functions. 2011 , 5, 24	79
1970	Excitatory, inhibitory, and structural plasticity produce correlated connectivity in random networks trained to solve paired-stimulus tasks. 2011 , 5, 37	28
1969	A novel learning rule for long-term plasticity of short-term synaptic plasticity enhances temporal processing. 2011 , 5, 20	23
1968	Learning shapes spontaneous activity itinerating over memorized states. 2011 , 6, e17432	6
1967	Optical signal processing with a network of semiconductor optical amplifiers in the context of photonic reservoir computing. 2011 ,	
1966	Modelling of monkey's motor cortical signals by an extended adaptive Liquid State Machine: an integrated procedure from model, identification, experiments, data fitting, to validation. 2011 , 3, 287	2
1965	A reservoir of time constants for memory traces in cortical neurons. 2011 , 14, 366-72	199
1964	Multistate combination approaches for liquid state machine in supervised spatiotemporal pattern classification. 2011 , 74, 2842-2851	3
1963	A three-layered model of primate prefrontal cortex encodes identity and abstract categorical structure of behavioral sequences. 2011 , 105, 16-24	4
1962	Ticks per thought or thoughts per tick? A selective review of time perception with hints on future research. 2011 , 105, 153-63	21
1961	Temporal, Environmental, and Social Constraints of Word-Referent Learning in Young Infants: A Neurorobotic Model of Multimodal Habituation. 2011 , 3, 129-145	4
1960	Probabilistic Computational Neurogenetic Modeling: From Cognitive Systems to Alzheimer's Disease. 2011 , 3, 300-311	26
1959	An extended SHESN with leaky integrator neuron and inhibitory connection for Mackey-Glass prediction. 2011 , 7, 200	
1958	Spiking neurons that keep the rhythm. 2011 , 30, 589-605	3

1957	Towards a theoretical foundation for morphological computation with compliant bodies. 2011 , 105, 355-70	158
1956	A Constrained Regularization Approach for Input-Driven Recurrent Neural Networks. 2011 , 19, 27-46	7
1955	Capacity measurement of a recurrent inhibitory neural network. 2011 , 12,	78
1954	A neurodynamical model for working memory. 2011 , 24, 199-207	54
1953	Receptive field optimisation and supervision of a fuzzy spiking neural network. 2011 , 24, 247-56	12
1952	Architectural and Markovian factors of echo state networks. 2011 , 24, 440-56	91
1951	Liquid State Machines: Motivation, Theory, and Applications. 2011 , 275-296	46
1950	Advances in Artificial Intelligence. 2011,	O
1949	Parallel reservoir computing using optical amplifiers. 2011 , 22, 1469-81	105
1948	Modeling and Using Context. 2011 ,	1
1947	Advances in photonic reservoir computing on an integrated platform. 2011,	O
1946	Photonic reservoir computing and information processing with coupled semiconductor optical amplifiers. 2011 ,	5
1945	Fast pattern matching with time-delay neural networks. 2011,	5
1944	Improved mobile robot's Corridor-Scene Classifier based on probabilistic Spiking Neuron Model. 2011 ,	3
1943	A reversibility analysis of encoding methods for spiking neural networks. 2011,	5
1942	Artificial Neural Networks and Machine Learning IICANN 2011. 2011 ,	6
1941	Emerging Bayesian Priors in a Self-Organizing Recurrent Network. 2011 , 127-134	4
1940	Hippocampal polysynaptic computation. 2011 , 31, 13168-79	7

1939 Computational performance of a single bandpass electro-optic delay oscillator. **2011**,

1938	Multiple delay nonlinear wavelength dynamics for photonic Reservoir Computing. 2011,		
1937	Optimal Support Features for Meta-Learning. 2011 , 317-358		1
1936	Neocortical layer 4 as a pluripotent function linearizer. 2011 , 105, 1342-60		21
1935	Probabilistic inference in general graphical models through sampling in stochastic networks of spiking neurons. 2011 , 7, e1002294		71
1934	Implicit, predictive timing draws upon the same scalar representation of time as explicit timing. 2011 , 6, e18203		46
1933	Time scale hierarchies in the functional organization of complex behaviors. 2011 , 7, e1002198		33
1932	Information processing capacity of dynamical systems. 2012 , 2, 514		148
1931	Computing with neural synchrony. 2012 , 8, e1002561		77
1930	A Practical Guide to Applying Echo State Networks. 2012 , 659-686		238
1929	Spectral analysis of input spike trains by spike-timing-dependent plasticity. 2012 , 8, e1002584		12
1928	Evolution of associative learning in chemical networks. 2012 , 8, e1002739		33
1927	Being critical of criticality in the brain. 2012 , 3, 163		246
1926	Dynamics and processing in finite self-similar networks. 2012 , 9, 2131-44		15
1925	Simple deterministically constructed cycle reservoirs with regular jumps. <i>Neural Computation</i> , 2012 , 24, 1822-52	2.9	57
1924	Photonic single nonlinear-delay dynamical node for information processing. 2012,		
1923	Encyclopedia of the Sciences of Learning. 2012 , 1800-1805		
1922	Nearly extensive sequential memory lifetime achieved by coupled nonlinear neurons. <i>Neural Computation</i> , 2012 , 24, 2678-99	2.9	12

1921 Memristor-based reservoir computing. 2012 ,	51
1920 Cascadable excitability in microrings. 2012 , 20, 20292-308	71
1919 All-optical reservoir computing. 2012 , 20, 22783-95	218
1918 Feature level fusion in multimodal biometrie identification. 2012 ,	O
1917 Behavior switching using reservoir computing for a soft robotic arm. 2012 ,	12
1916 Photonic nonlinear transient computing with multiple-delay wavelength dynamics. 2012 , 108, 2441	01 126
1915 A new EC-PC threshold estimation method for in vivo neural spike detection. 2012 , 9, 046017	24
1914 Optical information processing: Advances in nanophotonic reservoir computing. 2012 ,	3
1913 Auditory habituation via spike-timing dependent plasticity in recurrent neural circuits. 2012 ,	3
1912 Span: spike pattern association neuron for learning spatio-temporal spike patterns. 2012 , 22, 12500	12 160
1911 From Animals to Animats 12. 2012 ,	
1910 Optoelectronic reservoir computing. 2012 , 2, 287	376
1909 Unconventional Computation and Natural Computation. 2012,	4
1908 Encyclopedia of the Sciences of Learning. 2012 , 1754-1757	O
An optimal parameter analysis and GPU acceleration of the image receptive fields neural network approach. 2012 ,	
RLSESN-based PID adaptive control for a novel wearable rehabilitation robotic hand driven by PM-TS actuators. 2012 , 5, 91-110	16
1905 Comparative study of visualisation methods for temporal data. 2012 ,	1
A quantitative analysis of information about past and present stimuli encoded by spikes of A1 neurons. 2012 , 108, 1366-80	33

1903	Temporal pattern recognition via temporal networks of temporal neurons. 2012,		2
1902	The role of feedback in morphological computation with compliant bodies. 2012 , 106, 595-613		56
1901	Time scales of memory, learning, and plasticity. 2012 , 106, 715-26		59
1900	Supervised Learning of Logical Operations in Layered Spiking Neural Networks with Spike Train Encoding. 2012 , 36, 117-134		7
1899	Re-visiting the echo state property. 2012 , 35, 1-9		217
1898	Reservoir Computing Trends. 2012 , 26, 365-371		182
1897	Unsupervised formation of vocalization-sensitive neurons: a cortical model based on short-term and homeostatic plasticity. <i>Neural Computation</i> , 2012 , 24, 2579-603	2.9	14
1896	Simulation of Biological Neural Microcircuits on Multi-core Systems. 2012,		О
1895	The emergence of polychronous groups under varying input patterns, plasticity rules and network connectivities. 2012 ,		3
1894	Evolving spiking neural networks for spatio-and spectro-temporal pattern recognition. 2012,		6
1893	A Developmental Approach to Structural Self-Organization in Reservoir Computing. 2012 , 4, 273-289		20
1892	Comparing recurrent networks for time-series forecasting. 2012 ,		5
1891	Computing with Spiking Neuron Networks. 2012 , 335-376		96
1890	Taming the reservoir: Feedforward training for recurrent neural networks. 2012,		2
1889	Reservoir computing ensembles for multi-object behavior recognition. 2012,		0
1888	Reservoir-computing-based, biologically-inspired artificial neural network for modeling of a single machine infinite bus power system. 2012 ,		
1887	Timing-based control via echo state network for soft robotic arm. 2012 ,		14
1886	Self-organizing reservior computing with dynamically regulated cortical neural networks. 2012,		O

1885	Improved spike-timed mappings using a tri-phasic spike timing-dependent plasticity rule. 2012,	5
1884	About the oscillatory possibilities of the dynamical systems. 2012 , 241, 1358-1391	4
1883	Statistical connectivity provides a sufficient foundation for specific functional connectivity in neocortical neural microcircuits. 2012 , 109, E2885-94	125
1882	Computation by switching in complex networks of states. 2012 , 109, 018701	42
1881	An extended echo state network using Volterra filtering and principal component analysis. 2012 , 32, 292-302	39
1880	Computing using delayed feedback systems: towards photonics. 2012,	1
1879	Dynamic Flux Tubes Form Reservoirs of Stability in Neuronal Circuits. 2012 , 2,	31
1878	Neuromorphic Neural Network Parallelization on CUDA Compatible GPU for EEG Signal Classification. 2012 ,	3
1877	A neuronal model of predictive coding accounting for the mismatch negativity. 2012 , 32, 3665-78	355
1876	Encyclopedia of the Sciences of Learning. 2012 , 1782-1788	7
1875	Information processing in echo state networks at the edge of chaos. 2012 , 131, 205-13	135
1874	Learning transmission delays in spiking neural networks: A novel approach to sequence learning based on spike delay variance. 2012 ,	4
1873	Advances in Computational Intelligence. 2012,	11
1872	Encyclopedia of the Sciences of Learning. 2012 , 1887-1887	
1871	PSO for Reservoir Computing Optimization. 2012 , 685-692	8
1870	Parameter estimation in spiking neural networks: a reverse-engineering approach. 2012 , 9, 026024	2
1869	Recurrent kernel machines: computing with infinite echo state networks. <i>Neural Computation</i> , 2012 , 24, 104-33	49
1868	Neural Information Processing. 2012 ,	

1867 Echo State Network-Based Internal Model Control for Pneumatic Muscle System. 2012 , 99-108	2
1866 Neuronal Noise. 2012 ,	63
Dendritic hold and read: a gated mechanism for short term information storage and retrieval. 2012 , 7, e37542	10
1864 The chronotron: a neuron that learns to fire temporally precise spike patterns. 2012 , 7, e40233	117
1863 Recurrent coupling improves discrimination of temporal spike patterns. 2012 , 6, 25	1
Input dependent cell assembly dynamics in a model of the striatal medium spiny neuron network. 2012 , 6, 6	21
1861 Plasticity, learning, and complexity in spiking networks. 2012 , 40, 501-18	5
Evolving Spiking Neural Networks and Neurogenetic Systems for Spatio- and Spectro-Temporal Data Modelling and Pattern Recognition. 2012 , 234-260	14
Computational modeling of observational learning inspired by the cortical underpinnings of human primates. 2012 , 20, 237-256	3
Recognizing recurrent neural networks (rRNN): Bayesian inference for recurrent neural networks. 2012 , 106, 201-17	14
Compressed sensing, sparsity, and dimensionality in neuronal information processing and data analysis. 2012 , 35, 485-508	146
Accuracy evaluation of numerical methods used in state-of-the-art simulators for spiking neural networks. 2012 , 32, 309-26	10
1855 The Linguistic Subversion of Mental Representation. 2012 , 22, 235-262	1
1854 Topological constraints and robustness in liquid state machines. 2012 , 39, 1597-1606	16
1853 The echo state conditional random field model for sequential data modeling. 2012 , 39, 10303-10309	2
$_{1852}$ Self-organising criticality in the simulated models of the rat cortical microcircuits. 2012 , 79, 61-67	5
Electrical parameters influence on the dynamics of the Hodgkin Huxley liquid state machine. 2012 , 79, 68-74	12
Learning slow features with reservoir computing for biologically-inspired robot localization. 2012 , 25, 178-90	8

1849	A dynamical pattern recognition model of lactivity in auditory cortex. 2012 , 28, 1-14	7
1848	The copula echo state network. 2012 , 45, 570-577	7
1847	A reservoir-driven non-stationary hidden Markov model. 2012 , 45, 3985-3996	4
1846	Spiking neuron computation with the time machine. 2012 , 6, 142-55	7
1845	. 2012 , 59, 3089-3101	162
1844	Tackling learning intractability through topological organization and regulation of cortical networks. 2012 , 23, 552-64	9
1843	Nonlinear system modeling with random matrices: echo state networks revisited. 2012 , 23, 175-82	44
1842	Functional connectivity dynamics among cortical neurons: a dependence analysis. 2012 , 20, 18-30	10
1841	Emergent criticality in complex turing B-type atomic switch networks. 2012 , 24, 286-93	125
1840	Contextual effects in interval-duration judgements in vision, audition and touch. 2013 , 230, 87-98	21
1839	Attaining and maintaining criticality in a neuronal network model. 2013, 392, 1611-1620	6
1838	Identifying sources of non-stationary neural ensemble dynamics. 2013 , 14,	3
1837	Effect of Alzheimer's disease on the dynamical and computational characteristics of recurrent neural networks. 2013 , 14,	78
1836	Effects of synaptic connectivity on liquid state machine performance. 2013 , 38, 39-51	21
1835	Brain-Like Emergent Temporal Processing: Emergent Open States. 2013 , 5, 89-116	4
1834	Evolving spiking neural network survey. 2013 , 4, 87-98	93
1833	Neural computing: the metaphorical, cultural roots of brain models. 2013 , 1, 64-75	
1832	Time series classification for the prediction of dialysis in critically ill patients using echo statenetworks. 2013 , 26, 984-996	16

1831	Artificial Neural Networks and Machine Learning IICANN 2013. 2013 ,	5
1830	An approach to reservoir computing design and training. 2013 , 40, 4172-4182	35
1829	Variable Time Delays and Representational Capacity in Sparsely Connected Populations of Spiking Neurons. 2013 , 20, 22-26	
1828	Acoustic Modeling With Hierarchical Reservoirs. 2013 , 21, 2439-2450	41
1827	Nano-scale reservoir computing. 2013 , 4, 189-196	9
1826	Characterising neurological time series data using biologically motivated networks of coupled discrete maps. 2013 , 112, 94-101	12
1825	Cortical dynamics revisited. 2013 , 17, 616-26	148
1824	Integration of nanoscale memristor synapses in neuromorphic computing architectures. 2013 , 24, 384010	356
1823	A Elbscillation code for neuronal coordination during motor behavior. 2013, 33, 18515-30	52
1822	CRESTing the ALS mountain. 2013, 16, 774-5	
1821	From fixed points to chaos: three models of delayed discrimination. 2013 , 103, 214-22	103
1820	Biochemical connectionism. 2013 , 12, 453-472	8
1819	Opening the black box: low-dimensional dynamics in high-dimensional recurrent neural networks. Neural Computation, 2013, 25, 626-49	179
1818	High-Performance OCR for Printed English and Fraktur Using LSTM Networks. 2013,	98
1817	A novel bio-signal acquisition system for brain computer interfaces. 2013,	1
1816	Hardware efficient, neuromorphic dendritically enhanced readout for liquid state machines. 2013,	9
1815	Action understanding using an adaptive Liquid State Machine based on environmental ambiguity. 2013 ,	O
1814	Terrain Classification for a Quadruped Robot. 2013,	12

1813	Variation-tolerant Computing with Memristive Reservoirs. 2013,		17
1812	A spike-timing-based integrated model for pattern recognition. <i>Neural Computation</i> , 2013 , 25, 450-72	2.9	56
1811	Dynamical movement primitives: learning attractor models for motor behaviors. <i>Neural Computation</i> , 2013 , 25, 328-73	2.9	734
1810	Model for a flexible motor memory based on a self-active recurrent neural network. 2013 , 32, 880-98		4
1809	Use of the separation property to derive Liquid State Machines with enhanced classification performance. 2013 , 107, 40-48		8
1808	Computational capability of liquid state machines with spike-timing-dependent plasticity. 2013 , 122, 324-329		19
1807	Real-time parallel processing of grammatical structure in the fronto-striatal system: a recurrent network simulation study using reservoir computing. 2013 , 8, e52946		75
1806	Short-term memory in networks of dissociated cortical neurons. 2013 , 33, 1940-53		62
1805	Lifetime memories from persistently supple synapses. 2013 , 23, 202-6		16
1804	Randomly connected networks have short temporal memory. <i>Neural Computation</i> , 2013 , 25, 1408-39	2.9	21
1803	A new supervised learning algorithm for spiking neurons. <i>Neural Computation</i> , 2013 , 25, 1472-511	2.9	45
1802	Beyond scale-free small-world networks: cortical columns for quick brains. 2013 , 110, 108105		20
1801	Information Processing Using Transient Dynamics of Semiconductor Lasers Subject to Delayed Feedback. 2013 , 19, 1501610-1501610		73
1800	The sparseness of mixed selectivity neurons controls the generalization-discrimination trade-off. 2013 , 33, 3844-56		108
1799	Representing objects, relations, and sequences. <i>Neural Computation</i> , 2013 , 25, 2038-78	2.9	48
1798	Training spiking neural networks to associate spatio-temporal inputButput spike patterns. 2013 , 107, 3-10		58
1797	Dynamic evolving spiking neural networks for on-line spatio- and spectro-temporal pattern recognition. 2013 , 41, 188-201		227
1796			

(2013-2013)

1795	Spike-based probabilistic inference in analog graphical models using interspike-interval coding. Neural Computation, 2013 , 25, 2303-54	2.9	9
1794	The importance of mixed selectivity in complex cognitive tasks. 2013 , 497, 585-90		787
1793	An analytical approach to photonic reservoir computing (a) network of SOA's (for noisy speech recognition. 2013 , 306, 135-139		5
1792	Recurrent networks learn to tell time. 2013 , 16, 772-4		5
1791	10 GHz bandwidth nonlinear delay electro-optic phase dynamics for ultrafast nonlinear transient computing. 2013 ,		1
1790	Cognitive computing systems: Algorithms and applications for networks of neurosynaptic cores. 2013 ,		60
1789	A theoretical and experimental study of neuromorphic atomic switch networks for reservoir computing. 2013 , 24, 384004		110
1788	. 2013,		14
1787	A novel approach combining recurrent neural network and support vector machines for time series classification. 2013 ,		18
1786	Engineering Applications of Neural Networks. 2013,		2
1785	Recent advances in optical Reservoir Computing. 2013,		
1784	Fuel Cells prognostics using echo state network. 2013 ,		43
1783	MPI-Based Asynchronous Simulation of Spiking Neural Networks on the Grid. 2013,		
1782	A novel reservoir network of asynchronous cellular automaton based neurons for MIMO neural system reproduction. 2013 ,		1
1781	. 2013,		
1780	Optoelectronic reservoir computing: tackling noise-induced performance degradation. 2013 , 21, 12-20		113
1779	Excitability in optically injected microdisk lasers with phase controlled excitatory and inhibitory response. 2013 , 21, 26182-91		38
	Critical branching neural networks. 2013 , 120, 230-54		39

1777	Network self-organization explains the statistics and dynamics of synaptic connection strengths in cortex. 2013 , 9, e1002848	68
1776	From birdsong to human speech recognition: bayesian inference on a hierarchy of nonlinear dynamical systems. 2013 , 9, e1003219	34
1775	Predictive coding of dynamical variables in balanced spiking networks. 2013 , 9, e1003258	120
1774	Nonlinear Trends in Modern Artificial Intelligence: A New Perspective. 2013 , 113-124	3
1773	Locomotion without a brain: physical reservoir computing in tensegrity structures. 2013, 19, 35-66	74
1772	Dreaming of electric sheep? Exploring the functions of dream-like mechanisms in the development of mental imagery simulations. 2013 , 21, 222-238	10
1771	Optimal balance of the striatal medium spiny neuron network. 2013 , 9, e1002954	32
1770	Stochastic computations in cortical microcircuit models. 2013 , 9, e1003311	44
1769	Embedding responses in spontaneous neural activity shaped through sequential learning. 2013 , 9, e1002943	16
1768	The Convallis rule for unsupervised learning in cortical networks. 2013 , 9, e1003272	12
1767	Micro ring resonators as building blocks for an all-optical high-speed reservoir-computing bit-pattern-recognition system. 2013 , 30, 3048	43
1766	Beyond Artificial Intelligence. 2013,	
1765	Biomimetic and Biohybrid Systems. 2013 ,	5
1764	Neural Combinatorial Learning of Goal-Directed Behavior with Reservoir Critic and Reward Modulated Hebbian Plasticity. 2013 ,	3
1763	On Neuro-inspired Wireless Sensor Networks. 2013 ,	1
1762	Computational capabilities of random automata networks for reservoir computing. 2013 , 87, 042808	28
1761	Echo state property linked to an input: exploring a fundamental characteristic of recurrent neural networks. <i>Neural Computation</i> , 2013 , 25, 671-96	97
1760	Offline Printed Urdu Nastaleeq Script Recognition with Bidirectional LSTM Networks. 2013,	53

1759 Computing with a muscular-hydrostat system. 2013 ,	20
1758 Echo State Queueing Network: A new reservoir computing learning tool. 2013 ,	20
1757 Optoelectronic nonlinear transient computing with multiple delays. 2013 ,	
1756 Digit recognition in a simplified visual cortex model. 2013 ,	o
1755 . 2013 ,	7
Morphological computation and morphological control: steps toward a formal theory and applications. 2013 , 19, 9-34	54
1753 Emergence of dynamic memory traces in cortical microcircuit models through STDP. 2013 , 33, 11	515-29 64
1752 Complexity in electro-optic delay dynamics: modelling, design and applications. 2013 , 371, 20120)464 56
1751 Nano-scale reservoir computing. 2013 ,	1
1750 Evolving advanced neural networks on run-time reconfigurable digital hardware platform. 2013 ,	
Evolving advanced neural networks on run-time reconfigurable digital hardware platform. 2013 , Time-series forecasting using Bagging techniques and reservoir computing. 2013 ,	2
	2
Time-series forecasting using Bagging techniques and reservoir computing. 2013 , Shape Performance Improvement of a Sendzimir Mill System Using Echo State Neural Networks	
Time-series forecasting using Bagging techniques and reservoir computing. 2013 , Shape Performance Improvement of a Sendzimir Mill System Using Echo State Neural Networks and Fuzzy Control. 2013 , 53, 2184-2191 An Echo State Network for Ionospheric Disturbances Behavior Modeling on Spaceborne	2
Time-series forecasting using Bagging techniques and reservoir computing. 2013, Shape Performance Improvement of a Sendzimir Mill System Using Echo State Neural Networks and Fuzzy Control. 2013, 53, 2184-2191 An Echo State Network for Ionospheric Disturbances Behavior Modeling on Spaceborne Interferometric Synthetic Aperture Radar. 2013, Stochastic Nonlinear Time Series Forecasting Using Time-Delay Reservoir Computers: Performance	2 2
Time-series forecasting using Bagging techniques and reservoir computing. 2013, Shape Performance Improvement of a Sendzimir Mill System Using Echo State Neural Networks and Fuzzy Control. 2013, 53, 2184-2191 An Echo State Network for Ionospheric Disturbances Behavior Modeling on Spaceborne Interferometric Synthetic Aperture Radar. 2013, Stochastic Nonlinear Time Series Forecasting Using Time-Delay Reservoir Computers: Performan and Universality. 2013,	2 2 ace O
Time-series forecasting using Bagging techniques and reservoir computing. 2013, Shape Performance Improvement of a Sendzimir Mill System Using Echo State Neural Networks and Fuzzy Control. 2013, 53, 2184-2191 An Echo State Network for Ionospheric Disturbances Behavior Modeling on Spaceborne Interferometric Synthetic Aperture Radar. 2013, Stochastic Nonlinear Time Series Forecasting Using Time-Delay Reservoir Computers: Performan and Universality. 2013, Perceptual decision making "through the eyes" of a large-scale neural model of v1. 2013, 4, 161 Recurrent temporal networks and language acquisition-from corticostriatal neurophysiology to	2 2 oce 0 1

1741	Six networks on a universal neuromorphic computing substrate. 2013 , 7, 11	104
1740	Rapid processing of chemosensor transients in a neuromorphic implementation of the insect macroglomerular complex. 2013 , 7, 119	10
1739	Synthesis of neural networks for spatio-temporal spike pattern recognition and processing. 2013 , 7, 153	43
1738	The ripple pond: enabling spiking networks to see. 2013 , 7, 212	6
1737	Echo state networks as an alternative to traditional artificial neural networks in rainfallEunoff modelling. 2013 , 17, 253-267	11
1736	On the correlation between reservoir metrics and performance for time series classification under the influence of synaptic plasticity. 2014 , 9, e101792	8
1735	Exploring the acquisition and production of grammatical constructions through human-robot interaction with echo state networks. 2014 , 8, 16	34
1734	Neuromodulatory adaptive combination of correlation-based learning in cerebellum and reward-based learning in basal ganglia for goal-directed behavior control. 2014 , 8, 126	15
1733	A network that performs brute-force conversion of a temporal sequence to a spatial pattern: relevance to odor recognition. 2014 , 8, 108	8
1732	Dynamic stability of sequential stimulus representations in adapting neuronal networks. 2014 , 8, 124	20
1731	Liquid computing on and off the edge of chaos with a striatal microcircuit. 2014 , 8, 130	6
1730	Capture of fixation by rotational flow; a deterministic hypothesis regarding scaling and stochasticity in fixational eye movements. 2014 , 8, 29	
1729	References. 547-572	
1728	Bagging Technique Using Temporal Expansion Functions. 2014 , 395-404	
1727	A survey on predicting the popularity of web content. 2014 , 5,	131
1726	Reservoir Computing optimization with a hybrid method. 2014 ,	2
1725	Liquid state machine with dendritically enhanced readout for low-power, neuromorphic VLSI implementations. 2014 , 8, 681-95	34
1724	Multivariate nonlinear time-series estimation using delay-based reservoir computing. 2014 , 223, 2903-2912	5

1723	Intermittency coding in the primary olfactory system: a neural substrate for olfactory scene analysis. 2014 , 34, 941-52	23
1722	Investigating the use of Echo State Networks for prediction of wind power generation. 2014,	3
1721	Learning of embodied interaction dynamics with recurrent neural networks: some exploratory experiments. 2014 , 11, 026019	3
1720	Learning the deterministically constructed Echo State Networks. 2014,	3
1719	Improving reservoir based wind power forecasting with ensembles. 2014,	
1718	Processing of sub- and supra-second intervals in the primate brain results from the calibration of neuronal oscillators via sensory, motor, and feedback processes. 2014 , 5, 816	29
1717	Short-term memory capacity in networks via the restricted isometry property. <i>Neural Computation</i> , 2014 , 26, 1198-235	16
1716	Step forward to map fully parallel energy efficient cortical columns on field programmable gate arrays. 2014 , 8, 432-440	3
1715	Neurocomputational models of time perception. 2014 , 829, 49-71	19
1714	An Experimental Analysis of Reservoir Parameters of the Echo State Queueing Network Model. 2014 , 13-22	1
1713	Self-organization and Emergence of Dynamical Structures in Neuromorphic Atomic Switch Networks. 2014 , 173-209	12
1712	Spatiotemporal computations of an excitable and plastic brain: neuronal plasticity leads to noise-robust and noise-constructive computations. 2014 , 10, e1003512	21
1711	Design of Neuromorphic Architectures with Memristors. 2014 , 93-103	2
1710	Can random linear networks store multiple long input streams?. 2014 ,	
1709	Learning a repertoire of actions with deep neural networks. 2014,	13
1708	Low-cost hardware implementation of Reservoir Computers. 2014,	6
1707	Towards a Calculus of Echo State Networks. 2014 , 41, 176-181	8
1706	Fast photonic information processing using semiconductor lasers with delayed optical feedback: role of phase dynamics. 2014 , 22, 8672-86	76

1705	. 2014,	12
1704	Architectural exploration for on-chip, online learning in spiking neural networks. 2014,	1
1703	All-optical reservoir computer based on saturation of absorption. 2014 , 22, 10868-81	83
1702	The Synaptic Kernel Adaptation Network. 2014 ,	5
1701	EEG-based event detection using optimized echo state networks with leaky integrator neurons. 2014 , 2014, 5856-9	2
1700	Effective connectivity at synaptic level in humans: a review and future prospects. 2014 , 108, 713-33	4
1699	Evolutionary optimization of sparsely connected and time-lagged neural networks for time series forecasting. 2014 , 23, 432-443	22
1698	Exploiting short-term memory in soft body dynamics as a computational resource. 2014 , 11, 20140437	62
1697	Towards optoelectronic architectures for integrated neuromorphic computers. 2014,	3
1696	Unsupervised discrimination of patterns in spiking neural networks with excitatory and inhibitory synaptic plasticity. 2014 , 8, 159	12
1695	Emergence of complex computational structures from chaotic neural networks through reward-modulated Hebbian learning. 2014 , 24, 677-90	80
1694	Realization of morphing logic gates in a repressilator with quorum sensing feedback. 2014 , 378, 1099-1103	3
1693	Computational modeling of neural plasticity for self-organization of neural networks. 2014 , 125, 43-54	18
1692	Network Science and Cybersecurity. 2014 ,	1
1691	Symbol representations and signal dynamics in evolving droplet computers. 2014 , 13, 247-256	7
1690	An experimental characterization of reservoir computing in ambient assisted living applications. 2014 , 24, 1451-1464	70
1689	. 2014 , 18, 145-166	12
1688	NeuCube: a spiking neural network architecture for mapping, learning and understanding of spatio-temporal brain data. 2014 , 52, 62-76	226

1687	Neural circuits as computational dynamical systems. 2014 , 25, 156-63	112
1686	From circuit motifs to computations: mapping the behavioral repertoire of cortical interneurons. 2014 , 26, 117-24	63
1685	A unified mathematical framework for coding time, space, and sequences in the hippocampal region. 2014 , 34, 4692-707	111
1684	Large-Scale Synthesis of Functional Spiking Neural Circuits. 2014 , 102, 881-898	43
1683	Self-organization and lateral interaction in echo state network reservoirs. 2014 , 138, 297-309	13
1682	Stochastic nonlinear time series forecasting using time-delay reservoir computers: performance and universality. 2014 , 55, 59-71	22
1681	Relative entropy minimizing noisy non-linear neural network to approximate stochastic processes. 2014 , 56, 10-21	1
1680	Relative refractory period in an excitable semiconductor laser. 2014 , 112, 183902	91
1679	A brain-inspired spiking neural network model with temporal encoding and learning. 2014 , 138, 3-13	72
1678	Experimental demonstration of reservoir computing on a silicon photonics chip. 2014 , 5, 3541	337
1677	Working models of working memory. 2014 , 25, 20-4	127
1676	Neurobiology of Interval Timing. 2014 ,	16
1675	Gait event detection through neuromorphic spike sequence learning. 2014,	15
1674	An experimental analysis of the Echo State Network initialization using the Particle Swarm Optimization. 2014 ,	18
1673	. 2014,	
1672	Improved predictive personalized modelling with the use of Spiking Neural Network system and a case study on stroke occurrences data. 2014 ,	5
1671	Towards Classifying Human Phonemes without Encodings via Spatiotemporal Liquid State Machines: Extended Abstract. 2014 ,	
1670	Brain-Inspired Classroom Occupancy Monitoring on a Low-Power Mobile Platform. 2014 ,	18

1669	Optical signal processing using photonic reservoir computing. 2014 , 61, 1442-1451	6
1668	Broadcast and Weight: An Integrated Network For Scalable Photonic Spike Processing. 2014 , 32, 4029-4041	158
1667	Reservoir Computing with Sensitivity Analysis Input Scaling Regulation and Redundant Unit Pruning for Modeling Fed-Batch Bioprocesses. 2014 , 53, 6789-6797	7
1666	Input coding for neuro-electronic hybrid systems. 2014 , 126, 1-11	4
1665	Optimal control of transient dynamics in balanced networks supports generation of complex movements. 2014 , 82, 1394-406	176
1664	Perceptual training continuously refines neuronal population codes in primary visual cortex. 2014 , 17, 1380-7	82
1663	Nanophotonic reservoir computing with photonic crystal cavities to generate periodic patterns. 2014 , 25, 344-55	30
1662	Study and Application of Fault Prediction Methods with Improved Reservoir Neural Networks. 2014 , 22, 812-819	9
1661	A simple model of cortical culture growth: burst property dependence on network composition and activity. 2014 , 108, 423-43	8
1660	Face-selective neurons maintain consistent visual responses across months. 2014 , 111, 8251-6	49
1659	Combining learning in model space fault diagnosis with data validation/reconstruction: Application to the Barcelona water network. 2014 , 30, 18-29	17
1658	How to compress sequential memory patterns into periodic oscillations: general reduction rules. Neural Computation, 2014 , 26, 1542-99	1
1657	Decoding Word Information from Spatiotemporal Activity of Sensory Neurons. 2014 , 6, 145-157	2
1656	Learning in the model space for cognitive fault diagnosis. 2014 , 25, 124-36	66
1655	. 2014 , 102, 1367-1388	253
1654	Keeping time: could quantum beating in microtubules be the basis for the neural synchrony related to consciousness?. 2014 , 13, 293-311	20
1653	A polymorphic recogniser for distributed intelligence in wireless sensor networks. 2014,	
1652	Direct model of memory properties and the linear reservoir topologies in echo state networks. 2014 , 22, 622-628	8

Improved simple deterministically constructed Cycle Reservoir Network with Sensitive Iterative Pruning Algorithm. 2014 , 145, 353-362	21
Racing to learn: statistical inference and learning in a single spiking neuron with adaptive kernels. 2014 , 8, 377	12
1649 Self-organized criticality as a fundamental property of neural systems. 2014 , 8, 166	216
$_{1648}$ Delay-based reservoir computing using semiconductor ring lasers. 2014 ,	1
1647 A Bidirectional Graphical Model for Babble-feedback Learning in Speech. 2014 , 41, 220-225	0
Bray-Curtis Metrics as Measure of Liquid State Machine Separation Ability in Function of Connections Density. 2015 , 51, 2979-2983	4
1645 Selection of cortical dynamics for motor behaviour by the basal ganglia. 2015 , 109, 575-95	54
$_{1644}$ A Mushroom Bodies inspired spiking network for classification and sequence learning. 2015 ,	
1643 A mixed-signal universal neuromorphic computing system. 2015 ,	19
Brain-Inspired Communication Technologies: Information Networks with Continuing Internal Dynamics and Fluctuation. 2015 , E98.B, 153-159	
1641 Neuromorphic behavior in percolating nanoparticle films. 2015 , 92, 052134	17
1640 The Use of Hebbian Cell Assemblies for Nonlinear Computation. 2015 , 5, 12866	21
Controlled generation of switching dynamics among metastable states in pulse-coupled oscillator networks. 2015 , 25, 103109	5
$_{1638}$ Information processing via physical soft body. 2015 , 5, 10487	110
1637 Constructing optimized binary masks for reservoir computing with delay systems. 2014 , 4, 3629	50
System Identification of a Vertical Riser Model with Echo State Networks*1This work was partially funded by CNPq under grants 471978/2013-2 and 501507/2013-2 2015 , 48, 304-310	1
1635 A reservoir network model for sensory-guided probabilistic decision making. 2015 , 16,	78
$_{1634}$ Optimal nonlinear information processing capacity in delay-based reservoir computers. 2015 , 5, 128	358 1 ₇

1633	An Investigation of Underlying Physical Properties Exploited by Evolution in Nanotubes Materials. 2015 ,	4
1632	Sensitivity analysis of echo state networks for forecasting pseudo-periodic time series. 2015 ,	2
1631	Combining DMSP/OLS Nighttime Light with Echo State Network for Prediction of Daily PM2.5 Average Concentrations in Shanghai, China. 2015 , 6, 1507-1520	15
1630	Distributed recurrent neural forward models with synaptic adaptation and CPG-based control for complex behaviors of walking robots. 2015 , 9, 10	20
1629	Minimal approach to neuro-inspired information processing. 2015 , 9, 68	34
1628	Learning structure of sensory inputs with synaptic plasticity leads to interference. 2015 , 9, 103	11
1627	Spatiotemporal features for asynchronous event-based data. 2015 , 9, 46	28
1626	A reconfigurable on-line learning spiking neuromorphic processor comprising 256 neurons and 128K synapses. 2015 , 9, 141	338
1625	Reinforcement Learning of Linking and Tracing Contours in Recurrent Neural Networks. 2015 , 11, e1004489	13
1624	At the Edge of Chaos: How Cerebellar Granular Layer Network Dynamics Can Provide the Basis for Temporal Filters. 2015 , 11, e1004515	32
1623	Chaotic Liquid State Machine. 2015 , 9, 1-20	1
1622	Time Distortions in Mind. 2015 ,	
1621	On simplicity and complexity in the brave new world of large-scale neuroscience. 2015 , 32, 148-55	191
1620	On learning navigation behaviors for small mobile robots with reservoir computing architectures. 2015 , 26, 763-80	40
1619	'Activity-silent' working memory in prefrontal cortex: a dynamic coding framework. 2015 , 19, 394-405	377
1618	Echo state networks with Tikhonov regularization: optimization using integral gain. 2015 , 29, 801-814	2
1617	Artificial Neural Network Models. 2015 , 455-471	7
1616	Bits from Brains for Biologically Inspired Computing. 2015 , 2,	60

1615	Efficient Learning Machines. 2015 ,		163
1614	Simultaneous Computation of Two Independent Tasks Using Reservoir Computing Based on a Single Photonic Nonlinear Node With Optical Feedback. 2015 , 26, 3301-7		54
1613	General-purpose LSM learning processor architecture and theoretically guided design space exploration. 2015 ,		16
1612	Developing an embodied gait on a compliant quadrupedal robot. 2015,		9
1611	Adaptive joint trajectory generator based on a chaotic recurrent neural network. 2015,		
1610	Counting on dis-inhibition: a circuit motif for interval counting and selectivity in the anuran auditory system. 2015 , 114, 2804-15		12
1609	Exploring transfer function nonlinearity in echo state networks. 2015,		4
1608	Time Distortions in Mind. 2015,		2
1607	Transition to Chaos in Random Neuronal Networks. 2015 , 5,		55
1606	Optimized echo state networks with leaky integrator neurons for EEG-based microsleep detection. 2015 , 2015, 3775-8		6
1605	Deep Neural Networks: A New Framework for Modeling Biological Vision and Brain Information Processing. 2015 , 1, 417-446		436
1604	Wave-based neuromorphic computing framework for brain-like energy efficiency and integration. 2015 ,		3
1603	Fault diagnosis for manipulators based on NeuCube. 2015,		
1602	Adaptive learning rate of SpikeProp based on weight convergence analysis. 2015, 63, 185-98		38
1601	Memristor models for machine learning. <i>Neural Computation</i> , 2015 , 27, 725-47	2.9	30
1600	A Digital Liquid State Machine With Biologically Inspired Learning and Its Application to Speech Recognition. 2015 , 26, 2635-49		84
1599	Artificial Life and Computational Intelligence. 2015,		
1598	Understanding Networks of Computing Chemical Droplet Neurons Based on Information Flow. 2015 , 25, 1450032		27

1597	Delay-based reservoir computing: noise effects in a combined analog and digital implementation. 2015 , 26, 388-93	63
1596	Spatio-temporal learning with the online finite and infinite echo-state Gaussian processes. 2015 , 26, 522-36	35
1595	Selective corticostriatal plasticity during acquisition of an auditory discrimination task. 2015, 521, 348-51	140
1594	An organic jelly made fractal logic gate with an infinite truth table. 2015 , 5, 11265	8
1593	From the neuron doctrine to neural networks. 2015 , 16, 487-97	332
1592	Optimizing the echo state network with a binary particle swarm optimization algorithm. 2015 , 86, 182-193	61
1591	Advances in Computational Intelligence. 2015,	1
1590	Lambda and the edge of chaos in recurrent neural networks. 2015 , 21, 55-71	5
1589	Integrative Computational Neurogenetic Modeling. 2015, 667-674	1
1588	Reservoir computing with a single time-delay autonomous Boolean node. 2015 , 91, 020801	61
1587	Consistency properties of a chaotic semiconductor laser driven by optical feedback. 2015 , 114, 123902	28
1586	Homeostatic plasticity for single node delay-coupled reservoir computing. <i>Neural Computation</i> , 2015 , 27, 1159-85	5
1585	Multi-step-ahead host load prediction using autoencoder and echo state networks in cloud computing. 2015 , 71, 3037-3053	30
1584	SCESN, SPESN, SWESN: Three recurrent neural echo state networks with clustered reservoirs for prediction of nonlinear and chaotic time series. 2015 , 43, 460-472	15
1583	Autonomous Learning of State Representations for Control: An Emerging Field Aims to Autonomously Learn State Representations for Reinforcement Learning Agents from Their Real-World Sensor Observations. 2015 , 29, 353-362	21
1582	Spatiotemporal memory is an intrinsic property of networks of dissociated cortical neurons. 2015 , 35, 4040-51	31
1581	Universal Memcomputing Machines. 2015 , 26, 2702-15	78
1580	All-optical reservoir computing system based on InGaAsP ring resonators for high-speed identification and optical routing in optical networks. 2015 ,	6

(2015-2015)

1579	neural mechanisms. 2015 , 35, 7239-55	33
1578	The mutual inspirations of machine learning and neuroscience. 2015 , 86, 25-8	37
1577	Deep Learning. 2015 , 167-184	5
1576	SIMPEL: circuit model for photonic spike processing laser neurons. 2015 , 23, 8029-44	27
1575	Digital Implementation of a Single Dynamical Node Reservoir Computer. 2015 , 62, 977-981	20
1574	High-performance photonic reservoir computer based on a coherently driven passive cavity. 2015 , 2, 438	122
1573	Symbolic Computation Using Cellular Automata-Based Hyperdimensional Computing. <i>Neural Computation</i> , 2015 , 27, 2661-92	20
1572	Product reservoir computing: Time-series computation with multiplicative neurons. 2015,	2
1571	Trainable hardware for dynamical computing using error backpropagation through physical media. 2015 , 6, 6729	29
1570	Engineering Applications of Neural Networks. 2015,	2
1569	Corticostriatal response selection in sentence production: Insights from neural network simulation with reservoir computing. 2015 , 150, 54-68	15
1568	Wave-based device scaling concept for brain-like energy efficiency and integration. 2015,	2
1567	Hierarchical composition of memristive networks for real-time computing. 2015,	12
1566	A Neuromorphic Event-Based Neural Recording System for Smart Brain-Machine-Interfaces. 2015 , 9, 699-709	52
1565	Non-parametric temporal modeling of the hemodynamic response function via a liquid state machine. 2015 , 70, 61-73	2
1564	Understanding Emergent Dynamics: Using a Collective Activity Coordinate of a Neural Network to Recognize Time-Varying Patterns. <i>Neural Computation</i> , 2015 , 27, 2011-38	14
1563	Reconfigurable neurons - making the most of configurable logic blocks (CLBs). 2015,	
1562	Emotion recognition from speech signals via a probabilistic echo-state network. 2015 , 66, 4-12	36

1561	Electrocardiogram classification using reservoir computing with logistic regression. 2015 , 19, 892-8	74
1560	A Bayesian model for canonical circuits in the neocortex for parallelized and incremental learning of symbol representations. 2015 , 149, 1270-1279	2
1559	Distributed classifier based on genetically engineered bacterial cell cultures. 2015 , 4, 72-82	14
1558	Deep learning in neural networks: an overview. 2015 , 61, 85-117	8538
1557	Spiking neural network methodology for modelling, classification and understanding of EEG spatio-temporal data measuring cognitive processes. 2015 , 294, 565-575	68
1556	A universal concept based on cellular neural networks for ultrafast and flexible solving of differential equations. 2015 , 26, 749-62	19
1555	Artificial Neural Networks. 2015 ,	8
1554	A survey on the application of recurrent neural networks to statistical language modeling. 2015 , 30, 61-98	99
1553	Decision Networks Cannot Achieve Optimal Performance due to Biological Constraints. 2016 , 7,	
1552	Konnektomik mit zellulær Przision. 2016 , 22, 69-72	
1551	Connectomics at cellular precision. 2016 , 22,	
1550	FPGA-Based Stochastic Echo State Networks for Time-Series Forecasting. 2016 , 2016, 3917892	20
1549	Hebbian Wiring Plasticity Generates Efficient Network Structures for Robust Inference with Synaptic Weight Plasticity. 2016 , 10, 41	8
1548	Neural Information Processing in Cognition: We Start to Understand the Orchestra, but Where is the Conductor?. 2016 , 10, 3	6
1547	Distributed Cerebellar Motor Learning: A Spike-Timing-Dependent Plasticity Model. 2016 , 10, 17	26
1546	Spike Pattern Structure Influences Synaptic Efficacy Variability under STDP and Synaptic Homeostasis. II: Spike Shuffling Methods on LIF Networks. 2016 , 10, 83	2
1545	Toward an Integration of Deep Learning and Neuroscience. 2016 , 10, 94	263
1544	Design and Analysis of a Neuromemristive Reservoir Computing Architecture for Biosignal Processing. 2015 , 9, 502	40

1543	State-Dependent Propagation of Neuronal Sub-Population in Spontaneous Synchronized Bursts. 2016 , 10, 28	19
1542	Reducing the phase sensitivity of laser-based optical reservoir computing systems. 2016 , 24, 1238-52	31
1541	Personal recommendation using deep recurrent neural networks in NetEase. 2016,	60
1540	Emergence of giant strongly connected components in continuum disk-spin percolation. 2016 , 2016, 053211	
1539	High-Density Liquid-State Machine Circuitry for Time-Series Forecasting. 2016 , 26, 1550036	14
1538	A Fly-Inspired Mushroom Bodies Model for Sensory-Motor Control Through Sequence and Subsequence Learning. 2016 , 26, 1650035	6
1537	Nonlinear Memory Capacity of Parallel Time-Delay Reservoir Computers in the Processing of Multidimensional Signals. <i>Neural Computation</i> , 2016 , 28, 1411-51	8
1536	Seeking Synthesis: The Integrative Problem in Understanding Language and Its Evolution. 2016 , 8, 371-81	4
1535	Computing with dynamical systems. 2016 ,	
1534	D-LSM: Deep Liquid State Machine with unsupervised recurrent reservoir tuning. 2016 ,	6
1533	Many important language universals are not reducible to processing or cognition. 2016 , 39, e86	0
1532	Natural language processing and the Now-or-Never bottleneck. 2016 , 39, e74	1
1531	Stochastic hardware implementation of Liquid State Machines. 2016 ,	2
1530	Temporal Learning Using Echo State Network for Human Activity Recognition. 2016,	3
1529	Novel Spike based Reservoir Node Design with High Performance Spike Delay Loop. 2016 ,	9
1528	On the generalizability of the Chunk-and-Pass processing approach: Perspectives from language acquisition and music. 2016 , 39, e80	
1527	Reservoir computing in materio: An evaluation of configuration through evolution. 2016,	13
1526	Is Now-or-Never language processing good enough?. 2016 , 39, e72	2

1525	Linguistic structure emerges through the interaction of memory constraints and communicative pressures. 2016 , 39, e82	1
1524	Squeezing through the Now-or-Never bottleneck: Reconnecting language processing, acquisition, change, and structure. 2016 , 39, e91	1
1523	Language acquisition is model-based rather than model-free. 2016 , 39, e89	
1522	How long is now? The multiple timescales of language processing. 2016 , 39, e77	1
1521	"Process and perish" or multiple buffers with push-down stacks?. 2016 , 39, e81	1
1520	Consistency in experiments on multistable driven delay systems. 2016 , 26, 103115	7
1519	The ideomotor recycling theory for language. 2016 , 39, e63	
1518	Mechanisms for interaction: Syntax as procedures for online interactive meaning building. 2016 , 39, e79	
1517	What gets passed in "Chunk-and-Pass" processing? A predictive processing solution to the Now-or-Never bottleneck. 2016 , 39, e90	
1516	Exploring some edges: Chunk-and-Pass processing at the very beginning, across representations, and on to action. 2016 , 39, e85	1
1515	Better late than Now-or-Never: The case of interactive repair phenomena. 2016 , 39, e76	
1514	Neural constraints and flexibility in language processing. 2016 , 39, e78	
1513	A reservoir computing model of episodic memory. 2016 ,	2
1512	The Computation of Processes, and Not Computing the Brain. 90-91	
1511	Designed versus Intrinsic Computation. 106-116	
1510	Artificial Neuron Based on Integrated Semiconductor Quantum Dot Mode-Locked Lasers. 2016 , 6, 39317	38
1509	Fuel Cells Fault Diagnosis under Dynamic Load Profile Using Reservoir Computing. 2016,	7
1508	Digital neuromorphic design of a Liquid State Machine for real-time processing. 2016,	7

1507 Animating Typescript Using Aesthetically Evolved Images. 2016 , 126-134	2
1506 Neurocomputational Models of Interval and Pattern Timing. 2016 , 8, 250-257	34
1505 Nanophotonic reservoir computing for noisy speech recognition. 2016 , 48, 1	
$_{1504}$ Recent progress in semiconductor excitable lasers for photonic spike processing. 2016 , 8, 22	8 120
1503 Evolutionary and Biologically Inspired Music, Sound, Art and Design. 2016 ,	О
Laser dynamical reservoir computing with consistency: an approach of a chaos mask signal. 2 24, 8679-92	016 , 94
Bursting dynamics remarkably improve the performance of neural networks on liquid compu 2016 , 10, 415-21	iting.
Corticostriatal circuit mechanisms of value-based action selection: Implementation of reinforcement learning algorithms and beyond. 2016 , 311, 110-121	9
Driving reservoir models with oscillations: a solution to the extreme structural sensitivity of networks. 2016 , 41, 305-322	chaotic 13
1498 Photonic Reservoir Computing Based on Laser Dynamics with External Feedback. 2016 , 222-	230 8
1497 Computational analysis of memory capacity in echo state networks. 2016 , 83, 109-120	34
History-dependent variability in population dynamics during evidence accumulation in cortex 1496 19, 1672-1681	k. 2016 , 129
1495 Modelling of the vertical raw cement mill grinding process based on the echo state network.	2016 , 2
Liquid state machine based pattern recognition on FPGA with firing-activity dependent power gating and approximate computing. 2016 ,	er 19
1493 Neuromorphic and early warning behavior-based authentication for mobile devices. 2016 ,	1
1492 A Possible Neural Representation of Mathematical Group Structures. 2016 , 78, 1847-1865	3
1491 Simbrain 3.0: A flexible, visually-oriented neural network simulator. 2016 , 83, 1-10	11
Situation awareness and computational intelligence in opportunistic networks to support the transmission of urban sensing applications. 2016 , 111, 55-70	e data 13

1489 Searching for principles of brain computation. 2016 , 11, 81-92	25
1488 Cognitive Computing and Neural Networks. 2016 , 35, 39-78	1
1487 Adaptive delay learning in SpikeProp based on delay convergence analysis. 2016 ,	1
$_{14}86~$ An experimental evaluation of echo state network for colour image segmentation. 2016 ,	5
1485 AP-STDP: A novel self-organizing mechanism for efficient reservoir computing. 2016 ,	9
$_{1484}$ Deep self-organizing reservoir computing model for visual object recognition. 2016 ,	
1483 Integrative synchronization mechanisms in connectionist cognitive neuroarchitectures. 2016 , 2,	1
1482 Spike processing with a graphene excitable laser. 2016 , 6, 19126	85
1481 Gene Expression and Its Discontents. 2016 ,	12
$_{1480}$ Memory limitations and chunking are variable and cannot explain language structure. 2016 , 39, e84	1
An Online Structural Plasticity Rule for Generating Better Reservoirs. <i>Neural Computation</i> , 2016 , 28,	255 7 :3584 ₁₂
Echo state network based predictive control with particle swarm optimization for pneumatic muscle actuator. 2016 , 353, 2761-2782	35
1477 Towards Adjustable Signal Generation with Photonic Reservoir Computers. 2016 , 374-381	3
Pattern and Frequency Generation Using an Opto-Electronic Reservoir Computer with Output Feedback. 2016 , 318-325	3
Personalised modelling on integrated clinical and EEG Spatio-Temporal Brain Data in the NeuCube Spiking Neural Network system. 2016 ,	5
	5
Spiking Neural Network system. 2016 , An energy efficient decoding scheme for nonlinear MIMO-OFDM network using reservoir	

1471 Reservoir Computing. 2016 ,	4
Diverse, noisy and parallel: a New Spiking Neural Network approach for humanoid robot control. 2016 ,	7
1469 Fully analogue photonic reservoir computer. 2016 , 6, 22381	89
Reorganization between preparatory and movement population responses in motor cortex. 2016 , 7, 13239	159
1467 Exploiting Heterogeneous Units for Reservoir Computing with Simple Architecture. 2016 , 187-194	8
1466 Reservoir Computing: Information Processing of Stationary Signals. 2016 ,	2
1465 Improving liquid state machine with hybrid plasticity. 2016 ,	2
1464 Gestalt-like representations hijack Chunk-and-Pass processing. 2016 , 39, e69	1
1463 Reservoir computing and the Sooner-is-Better bottleneck. 2016 , 39, e73	
1462 Intrinsic noise and deviations from criticality in Boolean gene-regulatory networks. 2016 , 6, 34743	6
1461 Time-Delay Reservoir Computers and High-Speed Information Processing Capacity. 2016 ,	1
Realizing the Now-or-Never bottleneck and Chunk-and-Pass processing with Item-Order-Rank working memories and masking field chunking networks. 2016 , 39, e75	
1459 Correlated Fluctuations in Strongly Coupled Binary Networks Beyond Equilibrium. 2016 , 6,	14
1458 Connectomics at cellular precision. 2016, 7, 45-47	2
Pro and con: Internal speech and the evolution of complex language. 2016 , 39, e65	
1456 Reconfigurable Digital Design of a Liquid State Machine for Spatio-Temporal Data. 2016 ,	4
Neural networks: An overview of early research, current frameworks and new challenges. 2016 , 214, 242-268	144
1454 Embodiment design of soft continuum robots. 2016 , 8, 168781401664330	12

1453	Evolving Carbon Nanotube Reservoir Computers. 2016 , 49-61		15
1452	Artificial General Intelligence. 2016,		5
1451	Editorial: Randomized algorithms for training neural networks. 2016 , 364-365, 126-128		25
1450	Investigations of the staircase memristor model and applications of memristor-based local connections. 2016 , 87, 263-273		6
1449	A survey of randomized algorithms for training neural networks. 2016 , 364-365, 146-155		179
1448	Rich-Club Organization in Effective Connectivity among Cortical Neurons. 2016 , 36, 670-84		91
1447	Memory Stacking in Hierarchical Networks. <i>Neural Computation</i> , 2016 , 28, 327-53	2.9	4
1446	Computation by Time. 2016 , 44, 103-124		12
1445	Towards pattern generation and chaotic series prediction with photonic reservoir computers. 2016 ,		12
1444	Wave-Based Neuromorphic Computing Framework for Brain-Like Energy Efficiency and Integration. 2016 , 15, 762-769		13
1443	Using Digital Masks to Enhance the Bandwidth Tolerance and Improve the Performance of On-Chip Reservoir Computing Systems. 2016 , 27, 2748-2753		8
1442	Effects of Multi-clustered Structure on the Enhancement of Reservoir Computing of Spiking Neural Network. 2016 , 699-705		2
1441	Computational principles of memory. 2016 , 19, 394-403		116
1440	Building functional networks of spiking model neurons. 2016 , 19, 350-5		112
1439	Efficient codes and balanced networks. 2016 , 19, 375-82		232
1438	Expanding perspectives on cognition in humans, animals, and machines. 2016 , 37, 85-91		10
1437	Why neurons mix: high dimensionality for higher cognition. 2016 , 37, 66-74		277
1436	Virtualization of a Photonic Reservoir Computer. 2016 , 34, 2085-2091		12

1435	Factors important for good visualisation of time series. 2016 , 12, 17	2
1434	Recurrent Network Models of Sequence Generation and Memory. 2016 , 90, 128-42	178
1433	Network Models of Neural Information Processing. 2016 , 293-328	
1432	An Introduction to Neural Information Processing. 2016,	1
1431	A Spiking Neural Network Methodology and System for Learning and Comparative Analysis of EEG Data From Healthy Versus Addiction Treated Versus Addiction Not Treated Subjects. 2016 , 63, 1830-1841	37
1430	Modeling the motor cortex: Optimality, recurrent neural networks, and spatial dynamics. 2016 , 104, 64-71	7
1429	The Kernel Adaptive Autoregressive-Moving-Average Algorithm. 2016 , 27, 334-46	21
1428	Quantum cognition and bounded rationality. 2016 , 193, 3239-3291	17
1427	A Fast SVD-Hidden-nodes based Extreme Learning Machine for Large-Scale Data Analytics. 2016 , 77, 14-28	27
1426	Learning to decode human emotions with Echo State Networks. 2016 , 78, 112-9	38
1425	A Biological-Realtime Neuromorphic System in 28 nm CMOS Using Low-Leakage Switched Capacitor Circuits. 2016 , 10, 243-54	54
1424	An Asynchronous Recurrent Network of Cellular Automaton-Based Neurons and Its Reproduction of Spiking Neural Network Activities. 2016 , 27, 836-52	19
1423	A Spiking Neural Network System for Robust Sequence Recognition. 2016 , 27, 621-35	57
1422	Computational Architecture of the Granular Layer of Cerebellum-Like Structures. 2017 , 16, 15-25	6
1421	ANOVA method applied to proton exchange membrane fuel cell ageing forecasting using an echo state network. 2017 , 131, 283-294	34
1420	Building wireless sensor networks with biological cultures: components and integration challenges. 2017 , 32, 56-73	2
1419	CONE: Convex-Optimized-Synaptic Efficacies for Temporally Precise Spike Mapping. 2017, 28, 849-861	6
1418	Solving Nonlinearly Separable Classifications in a Single-Layer Neural Network. <i>Neural Computation</i> , 2.9	2

1417	A historical survey of algorithms and hardware architectures for neural-inspired and neuromorphic computing applications. 2017 , 19, 49-64	29
1416	What Is Morphological Computation? On How the Body Contributes to Cognition and Control. 2017 , 23, 1-24	77
1415	Cell signaling as a cognitive process. 2017 , 36, 568-582	52
1414	Spatiotemporal Dynamics and Reliable Computations in Recurrent Spiking Neural Networks. 2017 , 118, 018103	28
1413	Real-time Audio Processing with a Cascade of Discrete-Time Delay Line-Based Reservoir Computers. 2017 , 9, 315-326	18
1412	Liquid computing of spiking neural network with multi-clustered and active-neuron-dominant structure. 2017 , 243, 155-165	5
1411	Introduction to Unconventional Computing. 2017 , 1-21	
1410	High-Speed Photonic Reservoir Computing Using a Time-Delay-Based Architecture: Million Words per Second Classification. 2017 , 7,	156
1409	Randomness in neural networks: an overview. 2017 , 7, e1200	98
1408	Evolving Network Model That Almost Regenerates Epileptic Data. <i>Neural Computation</i> , 2017 , 29, 937-96 7 .9	3
1407	Computing by Robust Transience: How the Fronto-Parietal Network Performs Sequential, Category-Based Decisions. 2017 , 93, 1504-1517.e4	80
1406	Empirical Evaluation of the Cycle Reservoir with Regular Jumps for Time Series Forecasting: A Comparison Study. 2017 , 115-124	5
1405	Synaptic patterning and the timescales of cortical dynamics. 2017 , 43, 156-165	24
1404	Bits from Brains: Analyzing Distributed Computation in Neural Systems. 429-467	
1403	Neuromorphic computation in multi-delay coupled models. 2017, 61, 8:7-8:9	2
1402	Echo State Property of Deep Reservoir Computing Networks. 2017 , 9, 337-350	54
1401	Semiconductor Laser Networks: Synchrony, Consistency, and Analogy of Synaptic Neurons. 2017 , 559-596	1
1400	A Multiple-Input Strategy to Efficient Integrated Photonic Reservoir Computing. 2017 , 9, 307-314	22

1399	Neuromorphic Cognitive Systems. 2017 ,	9
1398	Spatiotemporal signal classification via principal components of reservoir states. 2017 , 91, 66-75	8
1397	Shifting attention to dynamics: Self-reconfiguration of neural networks. 2017 , 3, 132-140	12
1396	Neuromorphic neural interfaces: from neurophysiological inspiration to biohybrid coupling with nervous systems. 2017 , 14, 041002	32
1395	Space-Time Computing with Temporal Neural Networks. 2017 , 12, i-215	6
1394	Neuromorphic and Early Warning behavior-based authentication in common theft scenarios. 2017,	
1393	Reservoir Computing in Embedded Systems: Three variants of the reservoir algorithm 2017, 6, 67-73	5
1392	Exploratory adaptation in large random networks. 2017 , 8, 14826	18
1391	Inhibitory Plasticity: Balance, Control, and Codependence. 2017 , 40, 557-579	103
1390	Enhanced Responsiveness and Low-Level Awareness in Stochastic Network States. 2017 , 94, 1002-1009	22
1389	Symmetry Breaking in Space-Time Hierarchies Shapes Brain Dynamics and Behavior. 2017 , 94, 1010-1026	63
1388	ECHO STATE QUEUEING NETWORKS: A COMBINATION OF RESERVOIR COMPUTING AND RANDOM NEURAL NETWORKS. 2017 , 31, 457-476	8
1387	Development of a neuromorphic control system for a lightweight humanoid robot. 2017 , 185, 012021	1
1386	Towards autonomous locomotion: CPG-based control of smooth 3D slithering gait transition of a snake-like robot. 2017 , 12, 035001	32
1385	Towards autonomous photonic reservoir computer based on frequency parallelism of neurons. 2017 ,	1
1384	Ambient Assisted Living. 2017,	1
1383	Online Training for High-Performance Analogue Readout Layers in Photonic Reservoir Computers. 2017 , 9, 297-306	10
1382	Brain-inspired computational paradigm dedicated to fault diagnosis of PEM fuel cell stack. 2017 , 42, 5410-5425	24

1381	Performance and robustness of bio-inspired digital liquid state machines: A case study of speech recognition. 2017 , 226, 145-160	13
1380	. 2017 , 9, 293-303	24
1379	Blind sequence detection using reservoir computing. 2017 , 62, 81-90	4
1378	Robust learning in SpikeProp. 2017 , 86, 54-68	12
1377	Models of Neural Homeostasis. 2017 , 257-269	
1376	Editorial overview: Computational neuroscience. 2017 , 46, A1-A5	3
1375	Big Data Analytics for Program Popularity Prediction in Broadcast TV Industries. 2017, 5, 24593-24601	17
1374	Long Synfire Chains Emerge by Spike-Timing Dependent Plasticity Modulated by Population Activity. 2017 , 27, 1750044	11
1373	Hebbian Learning in a Random Network Captures Selectivity Properties of the Prefrontal Cortex. 2017 , 37, 11021-11036	24
1372	Comparative approximations of criticality in a neural and quantum regime. 2017 , 131, 445-462	3
1371	An ensemble quadratic echo state network for non-linear spatio-temporal forecasting. 2017 , 6, 315-330	23
1370	Glia Enhanced the Formation of Spatiotemporal Motifs in Cultured Networks. 2017,	
1369	Harnessing Disordered-Ensemble Quantum Dynamics for Machine Learning. 2017, 8,	79
1368	A novel digital neuromorphic architecture efficiently facilitating complex synaptic response functions applied to liquid state machines. 2017 ,	4
1367	Reservoir computing with signal-mixing cavities. 2017,	1
1366	Spatial features of synaptic adaptation affecting learning performance. 2017 , 7, 11016	6
1365	26th Annual Computational Neuroscience Meeting (CNS*2017): Part 3. 2017 , 18,	2
1364	Reservoir Computing Beyond Memory-Nonlinearity Trade-off. 2017 , 7, 10199	64

1363 Blood vessel segmentation in retinal images using echo state networks. 2017 ,	2
1362 Neurorobotic simulations on the degradation of multiple column liquid state machines. 2017 ,	
1361 Short-term plasticity in a liquid state machine biomimetic robot arm controller. 2017 ,	4
1360 Recurrent networks with soft-thresholding nonlinearities for lightweight coding. 2017 , 94, 212-219	1
A class of Monotone Fuzzy rule-based Wiener systems with an application to Li-ion battery modelling. 2017 , 64, 367-377	9
Mechanisms of Persistent Activity in Cortical Circuits: Possible Neural Substrates for Working Memory. 2017 , 40, 603-627	83
1357 The End of Moore Law: Opportunities for Natural Computing?. 2017, 35, 253-269	9
Structure in neural population recordings: an expected byproduct of simpler phenomena?. 2017 , 20, 1310-1318	78
1355 Neuromorphic computing with nanoscale spintronic oscillators. 2017 , 547, 428-431	558
Working Memory Requires a Combination of Transient and Attractor-Dominated Dynamics to Process Unreliably Timed Inputs. 2017 , 7, 2473	12
1353 Thermodynamics of self-oscillations in VO2 for spiking solid-state neurons. 2017 , 7, 055203	5
1352 Sensory Stream Adaptation in Chaotic Networks. 2017 , 7, 16844	0
1351 Reservoir computing & extreme learning machines using pairs of cellular automata rules. 2017 ,	5
1350 Other Recurrent Neural Networks Models. 2017 , 31-39	3
1349 Fix-Budget and Recurrent Data Mining for Online Haptic Perception. 2017 , 581-591	1
1348 Recurrent Neural Networks for Short-Term Load Forecasting. 2017 ,	82
Game-theoretic Evolutionary Algorithm Based on Behavioral Expectation and its Performance Analysis. 2017 , 31, 493-517	
1346 Positioning control on a collaborative robot by sensor fusion with liquid state machines. 2017 ,	1

1345	Robustness of a memristor based liquid state machine. 2017 ,	10
1344	Temporal overdrive recurrent neural network. 2017,	2
1343	Advances in photonic reservoir computing. 2017 , 6, 561-576	180
1342	Steganalysis via a convolutional neural network using large convolution filters for embedding process with same stego key: A deep learning approach for telemedicine. 2017 , 6, 79-92	12
1341	Local Dynamics in Trained Recurrent Neural Networks. 2017 , 118, 258101	37
1340	Recurrent neural networks as versatile tools of neuroscience research. 2017 , 46, 1-6	68
1339	Brain-Inspired Photonic Signal Processor for Generating Periodic Patterns and Emulating Chaotic Systems. 2017 , 7,	31
1338	An efficient method for online detection of polychronous patterns in spiking neural networks. 2017 , 267, 644-650	5
1337	Recent Contributions in Intelligent Systems. 2017,	2
1336	Proton exchange membrane fuel cell ageing forecasting algorithm based on Echo State Network. 2017 , 42, 1472-1480	67
1335	Reservoir computing for emotion valence discrimination from EEG signals. 2017 , 231, 28-40	22
1334	Multilayered Echo State Machine: A Novel Architecture and Algorithm. 2017 , 47, 946-959	50
1333	Sequential Pattern Formation in the Cerebellar Granular Layer. 2017 , 16, 438-449	1
1332	Computational Matter: Evolving Computational Functions in Nanoscale Materials. 2017, 397-428	9
1331	Training echo state networks for rotation-invariant bone marrow cell classification. 2017 , 28, 1277-1292	9
1330	Echo State Networks for data-driven downhole pressure estimation in gas-lift oil wells. 2017 , 85, 106-117	39
1329	Mapping, Learning, Visualization, Classification, and Understanding of fMRI Data in the NeuCube Evolving Spatiotemporal Data Machine of Spiking Neural Networks. 2017 , 28, 887-899	38
1328	On the Inverse Pattern Recognition Problem in the Context of the Time-Series Data Processing with Memristor Networks. 2017 , 735-757	2

1327	A modular architecture for transparent computation in recurrent neural networks. 2017, 85, 85-105	6
1326	On Reservoir Computing: From Mathematical Foundations to Unconventional Applications. 2017 , 573-607	5
1325	Reservoir Computing as a Model for In-Materio Computing. 2017, 533-571	19
1324	Semi-supervised Echo State Networks for Audio Classification. 2017 , 9, 125-135	25
1323	Online Training of an Opto-Electronic Reservoir Computer Applied to Real-Time Channel Equalization. 2017 , 28, 2686-2698	38
1322	A recurrent neural network based method for predicting the state of aircraft air conditioning system. 2017 ,	2
1321	A Spike-Timing Neuromorphic Architecture. 2017 ,	3
1320	Neuromorphic Computing through Time-Multiplexing with a Spin-Torque Nano-Oscillator. 2017 , IEDM 2017,	6
1319	Nonlinear system identification based on recurrent neural networks with shared and specialized memories. 2017 ,	2
1318	Insect inspired spatial-temporal cellular processing for feature-action learning. 2017,	
1317	Using machine learning to replicate chaotic attractors and calculate Lyapunov exponents from data. 2017 , 27, 121102	217
1316	Supervised learning in spiking neural networks with FORCE training. 2017 , 8, 2208	85
1315	Reservoir computing using dynamic memristors for temporal information processing. 2017, 8, 2204	277
1314	On-Chip Passive Photonic Reservoir Computing with Integrated Optical Readout. 2017 ,	3
1313	Neuromorphic self-organizing map design for classification of bioelectric-timescale signals. 2017,	1
1312	Effects of firing patterns on spike strain classification performance of liquid state machine. 2017,	
1311	Self-organizing reservoir computing based on spiking-timing dependent plasticity and intrinsic plasticity mechanisms. 2017 ,	3
1310	Echo in a small-world reservoir: Time-series prediction using an economical recurrent neural network. 2017 ,	2

Calcium-modulated supervised spike-timing-dependent plasticity for re sparsification of the liquid state machine. 2017 ,	adout training and
1308 Spatio-temporal learning with arrays of analog nanosynapses. 2017 ,	8
1307 Information Capacity of a Neural Network with Redundant Connections	Between Neurons. 2017 ,
1306 Empirical analysis of the necessary and sufficient conditions of the echo	state property. 2017 , 11
Specific CA3 neurons decode neural information of dentate granule cell stimulation in co-cultured networks. 2017 , 2017, 3628-3631	ls evoked by paired-pulse
1304 Comparison of echo state network output layer classification methods o	on noisy data. 2017 , 3
1303 NeoN: Neuromorphic control for autonomous robotic navigation. 2017 ,	8
1302 Classification via tensor decompositions of echo state networks. 2017 ,	3
1301 Thermodynamic Limits to Anomalous Diffusion. 2017 , 10,	5
1300 The Optimization of Wideband Cyclostationary Feature Detector with R	deceiver Constraints. 2017 , o
Prediction performance of reservoir computing systems based on a dioc microchip laser subject to optical feedback. 2017 , 42, 375-378	de-pumped erbium-doped 31
1298 Game Theory-Inspired Evolutionary Algorithm for Global Optimization.	2017 , 10, 111 ₂
1297 Temporal Modeling of Neural Net Input/Output Behaviors: The Case of	XOR. 2017 , 5, 7 4
1296 Echo State Condition at the Critical Point. 2017 , 19, 3	5
Morphological Computation: Synergy of Body and Brain. 2017 , 19, 456	14
1294 Motor-Skill Learning in an Insect Inspired Neuro-Computational Control	System. 2017 , 11, 12 17
Learning to Generate Sequences with Combination of Hebbian and Non Recurrent Spiking Neural Networks. 2017 , 11, 693	-hebbian Plasticity in 16
1292 Simulating neuromorphic reservoir computing: Abstract feed-forward h	ardware models. 2017 ,

1291	Initial-state-dependent, robust, transient neural dynamics encode conscious visual perception. 2017 , 13, e1005806		39
1290	26th Annual Computational Neuroscience Meeting (CNS*2017): Part 2. 2017 , 18,		5
1289	Photonic reservoir computer with output feedback for chaotic time series prediction. 2017,		2
1288	Structure optimization of dynamic reservoir ensemble using genetic algorithm. 2017,		Ο
1287	Design of a time delay reservoir using stochastic logic: A feasibility study. 2017 ,		1
1286	Reservoir Computing Optimisation for PEM Fuel Cell Fault Diagnostic. 2017,		5
1285	Stabilizing patterns in time: Neural network approach. 2017 , 13, e1005861		1
1284	Using echo state networks for classification: A case study in Parkinson's disease diagnosis. 2018 , 86, 53-	59	27
1283	Hybrid forecasting of chaotic processes: Using machine learning in conjunction with a knowledge-based model. 2018 , 28, 041101		125
1282	Neural Networks and Neurocomputational Modeling. 2018, 1-40		
1281	Detection of generalized synchronization using echo state networks. 2018 , 28, 033118		16
1280	Observing spatio-temporal dynamics of excitable media using reservoir computing. 2018 , 28, 043118		71
1279	Compressed Timeline of Recent Experience in Monkey Lateral Prefrontal Cortex. 2018 , 30, 935-950		34
1278	State-dependent representation of stimulus-evoked activity in high-density recordings of neural cultures. 2018 , 8, 5578		6
1277	Consistency properties of chaotic systems driven by time-delayed feedback. 2018 , 97, 042202		10
1276	Echo state kernel recursive least squares algorithm for machine condition prediction. 2018 , 111, 68-86		14
1275	A Theory of Sequence Indexing and Working Memory in Recurrent Neural Networks. <i>Neural Computation</i> , 2018 , 30, 1449-1513	2.9	25
1274	SuperSpike: Supervised Learning in Multilayer Spiking Neural Networks. <i>Neural Computation</i> , 2018 , 30, 1514-1541	2.9	134

1273	Low-Loss Photonic Reservoir Computing with Multimode Photonic Integrated Circuits. 2018 , 8, 2653	23
1272	. 2018 , 2, 397-407	3
1271	Online Adaptation and Energy Minimization for Hardware Recurrent Spiking Neural Networks. 2018 , 14, 1-21	6
1270	Reservoir Computing With Spin Waves Excited in a Garnet Film. 2018 , 6, 4462-4469	62
1269	Fluid network dynamics in the prefrontal cortex during multiple strategy switching. 2018, 9, 309	16
1268	Magnetic Skyrmion as a Nonlinear Resistive Element: A Potential Building Block for Reservoir Computing. 2018 , 9,	115
1267	Potential implementation of reservoir computing models based on magnetic skyrmions. 2018 , 8, 055602	73
1266	Anytime multipurpose emotion recognition from EEG data using a Liquid State Machine based framework. 2018 , 86, 1-8	22
1265	Reservoir Computing Meets Smart Grids: Attack Detection Using Delayed Feedback Networks. 2018 , 14, 734-743	69
1264	Brain-Inspired Wireless Communications: Where Reservoir Computing Meets MIMO-OFDM. 2018 , 29, 4694-4708	31
1263	Model-Free Prediction of Large Spatiotemporally Chaotic Systems from Data: A Reservoir Computing Approach. 2018 , 120, 024102	398
1262	Unsupervised heart-rate estimation in wearables with Liquid states and a probabilistic readout. 2018 , 99, 134-147	36
1261	Program Popularity Prediction Approach for Internet TV Based on Trend Detecting. 2018, 142-154	
1260	A random-matrix theory of the number sense. 2017 , 373,	10
1259	Exploiting the Dynamics of Soft Materials for Machine Learning. 2018, 5, 339-347	52
1258	Behavioral Learning in a Cognitive Neuromorphic Robot: An Integrative Approach. 2018, 29, 6132-6144	8
1257	Low-Power, Adaptive Neuromorphic Systems: Recent Progress and Future Directions. 2018 , 8, 6-27	51
1256	Learning Spatio-Temporal Behavioural Sequences. 2018 , 65-85	Ο

Non-linear Neuro-inspired Circuits and Systems: Processing and Learning Issues. **2018**, 21-30

1254	Molecules, semiconductors, light and information: Towards future sensing and computing paradigms. 2018 , 365, 23-40	21
1253	Nonlinear Circuits and Systems for Neuro-inspired Robot Control. 2018,	4
1252	Improving energy consumption of pattern recognition by combining processor-centric and bio-inspired considerations. 2018 , 23, 54-63	
1251	Observer-based echo-state neural network control for a class of nonlinear systems. 2018 , 40, 930-939	3
1250	Evolving, dynamic clustering of spatio/spectro-temporal data in 3D spiking neural network models and a case study on EEG data. 2018 , 9, 195-211	11
1249	A Scalable Weight-Free Learning Algorithm for Regulatory Control of Cell Activity in Spiking Neuronal Networks. 2018 , 28, 1750015	24
1248	On using reservoir computing for sensing applications: exploring environment-sensitive memristor networks. 2018 , 33, 367-386	11
1247	Enabling Sustainable Cyber Physical Security Systems through Neuromorphic Computing. 2018 , 3, 112-125	8
1246	Random Pattern and Frequency Generation Using a Photonic Reservoir Computer with Output Feedback. 2018 , 47, 1041-1054	1
1245	Computational modeling of spiking neural network with learning rules from STDP and intrinsic plasticity. 2018 , 491, 716-728	12
1244	Health Assessment of Automotive Batteries Through Computational Intelligence-Based Soft Sensors: An Empirical Study. 2018 , 47-56	1
1243	How do humans make sense?[multiscale dynamics and emergent meaning. 2018, 50, 61-72	7
1242	Reservoir computing for detection of steady state in performance tests of compressors. 2018 , 275, 598-607	6
1241	Feedforward Approximations to Dynamic Recurrent Network Architectures. <i>Neural Computation</i> , 2.9	2
1240	Improving Spiking Dynamical Networks: Accurate Delays, Higher-Order Synapses, and Time Cells. Neural Computation, 2018 , 30, 569-609	13
1239	Robustness to Training Disturbances in SpikeProp Learning. 2018 , 29, 3126-3139	9
1238	Building selective ensembles of Randomization Based Neural Networks with the successive projections algorithm. 2018 , 70, 1135-1145	13

1237 Neuromorphic Computing with Signal-Mixing Cavities. 2018,

1236	Flexibility of Boolean Network Reservoir Computers in Approximating Arbitrary Recursive and Non-Recursive Binary Filters. 2018 , 20,	1
1235	Dynamic Analysis of Executables to Detect and Characterize Malware. 2018,	3
1234	Reservoir Computing Based Neural Image Filters. 2018,	
1233	Multi-Reservoir Echo State Network for Proton Exchange Membrane Fuel Cell Remaining Useful Life prediction. 2018 ,	10
1232	Performance Enhancement of Reservoir Computing with Multi-Clustered Structure. 2018,	
1231	Area-efficient and low-power face-to-face-bonded 3D liquid state machine design. 2018,	
1230	Four Simulators of the DANNA Neuromorphic Computing Architecture. 2018,	
1229	Fault Diagnosis of PEMFC Systems in the Model Space Using Reservoir Computing. 2018,	3
1228	Similarity Learning and Generalization with Limited Data: A Reservoir Computing Approach. 2018 , 2018, 1-15	7
1227	Optimization of Echo State Networks by Covariance Matrix Adaption Evolutionary Strategy. 2018,	
1226	A pulse-width-modulation mode CMOS integrated circuit implementation of threshold-coupled map. 2018 , 9, 268-280	1
1225	Storage fidelity for sequence memory in the hippocampal circuit. 2018 , 13, e0204685	3
1224	Hardware-Based Framework of Photonic Reservoir Computing with Coupled SOAs Network. 2018 ,	
1223	Neuronal stability in medial frontal cortex sets individual variability in decision-making. 2018 , 21, 1764-1773	14
1222	On the Information in Spike Timing: Neural Codes Derived from Polychronous Groups. 2018 ,	1
1221	Thalamic regulation of switching between cortical representations enables cognitive flexibility. 2018 , 21, 1753-1763	88
1220	Recurrent Spiking Neural Network Learning Based on a Competitive Maximization of Neuronal Activity. 2018 , 12, 79	22

1219 A reservoir computing approach for molecular computing. 2018 ,	1
1218 Efficient design of hardware-enabled reservoir computing in FPGAs. 2018 , 124, 162101	13
Silicon Photonics Neuromorphic Computing and its Application to Telecommunications (Invited). 2018 ,	
1216 Recurrence-based information processing in gene regulatory networks. 2018 , 28, 106313	9
1215 Improving liquid state machine in temporal pattern classification. 2018 ,	1
1214 Physical Security Assessment Using Temporal Machine Learning. 2018 ,	
Processing EMG signals using reservoir computing on an event-based neuromorphic system. 2018 ,	15
1212 Rapid time series prediction with a hardware-based reservoir computer. 2018 , 28, 123119	31
1211 Brain-Inspired Computing with Spintronics Devices. 2018 ,	1
Unsupervised speech recognition through spike-timing-dependent plasticity in a convolutional spiking neural network. 2018 , 13, e0204596	16
1209 Memristors for the Curious Outsiders. 2018 , 6, 118	19
1208 The TENNLab Exploratory Neuromorphic Computing Framework. 2018 , 1, 17-20	14
Multiplexed networks: reservoir computing with virtual and real nodes. 2018 , 2, 085007	18
Operating in a Reverberating Regime Enables Rapid Tuning of Network States to Task Requirements. 2018 , 12, 55	24
1205 Reservoir Computing with Untrained Convolutional Neural Networks for Image Recognition. 2018 ,	16
1204 DFR. 2018 , 14, 1-22	12
1203 Financial Data Forecasting Using Optimized Echo State Network. 2018 , 138-149	4
1202 Optimal Sequence Memory in Driven Random Networks. 2018 , 8,	22

1201	Design of Incremental Echo State Network Using Leave-One-Out Cross-Validation. 2018, 6, 74874-74884	1
1200	Transferring State Representations in Hierarchical Spiking Neural Networks. 2018,	5
1199	An FPGA Implementation of a Time Delay Reservoir Using Stochastic Logic. 2018, 14, 1-15	4
1198	Applications of Metaheuristics in Reservoir Computing Techniques: A Review. 2018 , 6, 58012-58029	16
1197	Learning Continuous Muscle Control for a Multi-joint Arm by Extending Proximal Policy Optimization with a Liquid State Machine. 2018 , 211-221	5
1196	Enabling An New Era of Brain-inspired Computing: Energy-efficient Spiking Neural Network with Ring Topology. 2018 ,	1
1195	Macromagnetic Simulation for Reservoir Computing Utilizing Spin Dynamics in Magnetic Tunnel Junctions. 2018 , 10,	50
1194	Principles of Neuromorphic Photonics. 2018 , 83-118	8
1193	Echo state networks are universal. 2018, 108, 495-508	65
1192	An FPGA Based Real Time Reservoir Computing System for Neuromorphic Processors. 2018,	1
1191	Insect-inspired neuromorphic computing. 2018 , 30, 59-66	14
1190	Scaling Up Echo-State Networks With Multiple Light Scattering. 2018,	8
1189	Short-Term Synaptic Plasticity as a Mechanism for Sensory Timing. 2018, 41, 701-711	17
1188	Randomly distributed embedding making short-term high-dimensional data predictable. 2018 , 115, E9994-E1	0 <u>00</u> 2
1187	Mass-Spring Damper Array as a Mechanical Medium for Computation. 2018 , 781-794	5
1186	A Simple Reservoir Model of Working Memory with Real Values. 2018,	5
1185	A Recurrent Neural Network Based Model of Predictive Smooth Pursuit Eye Movement in Primates. 2018 ,	8
1184	Why Layering in Recurrent Neural Networks? A DeepESN Survey. 2018,	3

(2018-2018)

Theoretical Principles of Multiscale Spatiotemporal Control of Neuronal Networks: A Complex Systems Perspective. 2018 , 12, 81	1
1182 Evaluation of memory capacity of spin torque oscillator for recurrent neural networks. 2018 , 57, 120307	18
1181 Deep Learning With Spiking Neurons: Opportunities and Challenges. 2018 , 12, 774	180
$_{ m 1180}$ Interactive reservoir computing for chunking information streams. 2018 , 14, e1006400	5
Infinitely large, randomly wired sensors cannot predict their input unless they are close to deterministic. 2018 , 13, e0202333	
1178 References. 2018 , 193-214	
Interpretive Reservoir: A Preliminary Study on The Association Between Artificial Neural Network and Biological Neural Network. 2018 ,	1
1176 Rats adopt the optimal timescale for evidence integration in a dynamic environment. 2018 , 9, 4265	26
1175 Tutorial: Photonic neural networks in delay systems. 2018 , 124, 152004	56
1174 Spying on chaos-based cryptosystems with reservoir computing. 2018 ,	1
Practical Nonlinear Model Predictive Control Using an Echo State Network Model. 2018,	2
Unsupervised clustering of temporal patterns in high-dimensional neuronal ensembles using a novel dissimilarity measure. 2018 , 14, e1006283	9
1171 A Survey of Neuromorphic Computing Based on Spiking Neural Networks. 2018 , 27, 667-674	6
1170 A Robust Method to Predict Temporal Aspects of Actions by Observation. 2018 ,	4
1169 Reservoir Computing. 2018 , 619-629	1
Eligibility Traces and Plasticity on Behavioral Time Scales: Experimental Support of NeoHebbian Three-Factor Learning Rules. 2018 , 12, 53	75
SpiLinC: Spiking Liquid-Ensemble Computing for Unsupervised Speech and Image Recognition. 2018 , 12, 524	9
General differential Hebbian learning: Capturing temporal relations between events in neural networks and the brain. 2018 , 14, e1006227	9

1165	Recurrent Neural Networks. 2018, 271-313	2
1164	Monostable multivibrators as novel artificial neurons. 2018 , 108, 224-239	
1163	Intrinsic neuronal dynamics predict distinct functional roles during working memory. 2018 , 9, 3499	53
1162	Machine-learning inference of fluid variables from data using reservoir computing. 2018 , 98, 023111	23
1161	Neural network-based AILC for non-repetitive trajectory tracking of non-affine pure-feedback discrete-time systems. 2018 ,	
1160	Oscillatory 2-neuron sub-network design and performance based on sub-threshold CMOS operation. 2018 ,	
1159	Research on the Operation Plan of Express Freight Train Based on Satisfaction of Shipper time. 2018 ,	
1158	Techno-economic Feasibility Analysis of a Solar Off-Grid system for a Residential load in an Under-Developed Colony. 2018 ,	Ο
1157	Author index. 2018,	
1156	Application of FPGA to Real-Time Machine Learning. 2018,	10
1156	Application of FPGA to Real-Time Machine Learning. 2018, Is working memory stored along a logarithmic timeline? Converging evidence from neuroscience, behavior and models. 2018, 153, 104-110	10
1155	Is working memory stored along a logarithmic timeline? Converging evidence from neuroscience,	
1155	Is working memory stored along a logarithmic timeline? Converging evidence from neuroscience, behavior and models. 2018 , 153, 104-110	10
1155 1154	Is working memory stored along a logarithmic timeline? Converging evidence from neuroscience, behavior and models. 2018 , 153, 104-110 All-Optical Reservoir Computing on a Photonic Chip Using Silicon-Based Ring Resonators. 2018 , 24, 1-8	10
1155 1154 1153	Is working memory stored along a logarithmic timeline? Converging evidence from neuroscience, behavior and models. 2018, 153, 104-110 All-Optical Reservoir Computing on a Photonic Chip Using Silicon-Based Ring Resonators. 2018, 24, 1-8 A circuit mechanism of time-to-space conversion for perception. 2018, 366, 32-37	10 31 2
1155 1154 1153 1152 1151	Is working memory stored along a logarithmic timeline? Converging evidence from neuroscience, behavior and models. 2018, 153, 104-110 All-Optical Reservoir Computing on a Photonic Chip Using Silicon-Based Ring Resonators. 2018, 24, 1-8 A circuit mechanism of time-to-space conversion for perception. 2018, 366, 32-37 Perspective: Memcomputing: Leveraging memory and physics to compute efficiently. 2018, 123, 180901	10 31 2 41
1155 1154 1153 1152 1151	Is working memory stored along a logarithmic timeline? Converging evidence from neuroscience, behavior and models. 2018, 153, 104-110 All-Optical Reservoir Computing on a Photonic Chip Using Silicon-Based Ring Resonators. 2018, 24, 1-8 A circuit mechanism of time-to-space conversion for perception. 2018, 366, 32-37 Perspective: Memcomputing: Leveraging memory and physics to compute efficiently. 2018, 123, 180901 Feature extraction and analysis using memristor networks. 2018, The Neural Basis of Timing: Distributed Mechanisms for Diverse Functions. 2018, 98, 687-705	10 31 2 41 2

1147	Attractor reconstruction by machine learning. 2018 , 28, 061104	141
1146	Encoding sensory and motor patterns as time-invariant trajectories in recurrent neural networks. 2018 , 7,	42
1145	Advances in Cognitive Neurodynamics (VI). 2018,	1
1144	A Comparison of Neuromorphic Classification Tasks. 2018,	4
1143	Impact of input mask signals on delay-based photonic reservoir computing with semiconductor lasers. 2018 , 26, 5777-5788	57
1142	Prediction performance of reservoir computing system based on a semiconductor laser subject to double optical feedback and optical injection. 2018 , 26, 10211-10219	42
1141	Numerical demonstration of neuromorphic computing with photonic crystal cavities. 2018 , 26, 7955-7964	33
1140	Light-Stimulatable Molecules/Nanoparticles Networks for Switchable Logical Functions and Reservoir Computing. 2018 , 28, 1801506	6
1139	Using a reservoir computer to learn chaotic attractors, with applications to chaos synchronization and cryptography. 2018 , 98, 012215	38
1138	Space-Time Algebra: A Model for Neocortical Computation. 2018,	14
1137	Information processing using a single Izhikevich neuron. 2018 ,	
	Information processing using a single Izhikevich neuron. 2018, Reservoir Computing with Computational Matter. 2018, 269-293	7
		7
1136	Reservoir Computing with Computational Matter. 2018 , 269-293 Evaluation of the computational capabilities of a memristive random network (MN) under the	7 5
1136	Reservoir Computing with Computational Matter. 2018, 269-293 Evaluation of the computational capabilities of a memristive random network (MN) under the context of reservoir computing. 2018, 106, 223-236 A Knowledge-Based Arrangement of Prototypical Neural Representation Prior to Experience	
1136 1135 1134	Reservoir Computing with Computational Matter. 2018, 269-293 Evaluation of the computational capabilities of a memristive random network (MN) under the context of reservoir computing. 2018, 106, 223-236 A Knowledge-Based Arrangement of Prototypical Neural Representation Prior to Experience Contributes to Selectivity in Upcoming Knowledge Acquisition. 2018, 12, 111 Learning to Recognize Actions From Limited Training Examples Using a Recurrent Spiking Neural	2
1136 1135 1134 1133	Reservoir Computing with Computational Matter. 2018, 269-293 Evaluation of the computational capabilities of a memristive random network (MN) under the context of reservoir computing. 2018, 106, 223-236 A Knowledge-Based Arrangement of Prototypical Neural Representation Prior to Experience Contributes to Selectivity in Upcoming Knowledge Acquisition. 2018, 12, 111 Learning to Recognize Actions From Limited Training Examples Using a Recurrent Spiking Neural Model. 2018, 12, 126 Biologically-Inspired Spike-Based Automatic Speech Recognition of Isolated Digits Over a	2

1129	Colloquium: Criticality and dynamical scaling in living systems. 2018 , 90,	195
1128	A molecular neuromorphic network device consisting of single-walled carbon nanotubes complexed with polyoxometalate. 2018 , 9, 2693	56
1127	Computational Matter. 2018,	8
1126	Mapping of local and global synapses on spiking neuromorphic hardware. 2018,	19
1125	(Invited) Enabling On-Device Learning with Deep Spiking Neural Networks for Speech Recognition. 2018 , 85, 127-137	1
1124	. 2018,	5
1123	Neuromorphic Computing Based on Silicon Photonics and Reservoir Computing. 2018, 24, 1-10	24
1122	Random neuronal ensembles can inherently do context dependent coarse conjunctive encoding of input stimulus without any specific training. 2018 , 8, 1403	5
1121	Randomized neural networks for preference learning with physiological data. 2018 , 298, 9-20	12
1120	Photonic machine learning implementation for signal recovery in optical communications. 2018 , 8, 8487	68
1119	Recent progress in analog memory-based accelerators for deep learning. 2018 , 51, 283001	114
1118	Modelling Peri-Perceptual Brain Processes in a Deep Learning Spiking Neural Network Architecture. 2018 , 8, 8912	23
1117	Memristor-Based Echo State Network With Online Least Mean Square. 2019 , 49, 1787-1796	60
1116	Real-time simulation of a cat-scale artificial cerebellum on PEZY-SC processors. 2019 , 33, 155-168	10
1115	Personalised modelling with spiking neural networks integrating temporal and static information. 2019 , 119, 162-177	6
1114	Learning with Precise Spike Times: A New Decoding Algorithm for Liquid State Machines. <i>Neural Computation</i> , 2019 , 31, 1825-1852	3
1113	. 2019,	3
1112	A neuromorphic control architecture for a biped robot. 2019 , 120, 103244	5

1111	Reservoir computing model of prefrontal cortex creates novel combinations of previous navigation sequences from hippocampal place-cell replay with spatial reward propagation. 2019 , 15, e1006624	10
1110	Prediction Using Cuckoo Search Optimized Echo State Network. 2019 , 44, 9769-9778	3
1109	Grand Unified Theories of the Brain Need Better Understanding of Behavior: The Two-Tiered Emergence of Function. 2019 , 31, 152-165	7
1108	Delayed dynamical systems: networks, chimeras and reservoir computing. 2019 , 377, 20180123	22
1107	The Functional Role of Critical Dynamics in Neural Systems. 2019 ,	5
1106	Deep Liquid State Machines With Neural Plasticity for Video Activity Recognition. 2019 , 13, 686	11
1105	Evolutionary Optimization of Liquid State Machines for Robust Learning. 2019 , 389-398	1
1104	Silicon Photonic Modulator Neuron. 2019 , 11,	82
1103	Online learning control with Echo State Networks of an oil production platform. 2019 , 85, 214-228	9
1102	Artificial Development by Reinforcement Learning Can Benefit From Multiple Motivations. 2019 , 6, 6	6
1101	. 2019 , 21, 3039-3071	366
1100	Echo State Networks with Self-Normalizing Activations on the Hyper-Sphere. 2019 , 9, 13887	10
1099	Hybrid neuromorphic circuits exploiting non-conventional properties of RRAM for massively parallel local plasticity mechanisms. 2019 , 7, 081125	16
1098	Collective dynamics of rate neurons for supervised learning in a reservoir computing system. 2019 , 29, 103126	4
1097	ECG-based Heartbeat Classification in Neuromorphic Hardware. 2019,	14
1096	Reservoir Computing Using Diffusive Memristors. 2019 , 1, 1900084	65
1095	Good and bad predictions: Assessing and improving the replication of chaotic attractors by means of reservoir computing. 2019 , 29, 103143	23
1094	. 2019 , 36, 78-87	1

Dynamics and computation in mixed networks containing neurons that accelerate towards spiking. 2019 , 100, 042404	Ο
1092 Avalanches and criticality in self-organized nanoscale networks. 2019 , 5, eaaw8438	28
1091 The Eighty Five Percent Rule for optimal learning. 2019 , 10, 4646	21
1090 In a Spin-Wave Reservoir for Machine Learning. 2019 ,	1
1089 Human action recognition with a large-scale brain-inspired photonic computer. 2019 , 1, 530-537	42
1088 High Performance Optical Reservoir Computing Based on Spatially Extended Systems. 2019 ,	
Cross-predicting the dynamics of an optically injected single-mode semiconductor laser using reservoir computing. 2019 , 29, 113113	12
1086 Stability analysis of reservoir computers dynamics via Lyapunov functions. 2019 , 29, 103147	3
1085 Chaotic Neural Network Reservoir. 2019 ,	6
A 2.86-TOPS/W Current Mirror Cross-Bar-Based Machine-Learning and Physical Unclonable Function Engine For Internet-of-Things Applications. 2019 , 66, 2240-2252	15
1083 Reinforcement Learning With Low-Complexity Liquid State Machines. 2019 , 13, 883	4
1082 Chaos in time delay systems, an educational review. 2019 , 824, 1-40	22
1081 Big Data Analytics for Popularity Prediction. 2019 , 1228, 012051	
1080 Information Processing Capability of Soft Continuum Arms. 2019 ,	1
1079 Spiking networks for improved cognitive abilities of edge computing devices. 2019 ,	О
1078 Morphological Intelligence. 2019 ,	6
Effects of Some Operation Parameters on the Performance of a Reservoir Computing System 1077 Based on a Delay Feedback Semiconductor Laser With Information Injection by Current Modulation. 2019, 7, 128767-128773	4
1076 Spiking neural networks for deep learning and knowledge representation: Editorial. 2019 , 119, 341-342	2

1075 Temporal pattern recognition with delayed feedback spin-torque nano-oscillators. 2019 , 12,	26
1074 Routing in a Delay Tolerant Network with Spiking Neurons. 2019 ,	1
1073 Reservoir Computing on Spin-Torque Oscillator Array. 2019 , 12,	19
1072 Optoelectronic oscillators with time-delayed feedback. 2019 , 91,	50
1071 The reservoir's perspective on generalized synchronization. 2019 , 29, 093133	18
1070 Bio-Inspired Evolutionary Model of Spiking Neural Networks in Ionic Liquid Space. 2019 , 13, 1085	2
Detecting unstable periodic orbits based only on time series: When adaptive delayed feedback control meets reservoir computing. 2019 , 29, 093125	16
25 years of criticality in neuroscience - established results, open controversies, novel concepts. 2019 , 58, 105-111	36
1067 Reservoir Computing Based on Dynamics of Pseudo-Billiard System in Hypercube. 2019 ,	4
1066 A Chaotic Boltzmann Machine Working as a Reservoir and Its Analog VLSI Implementation. 2019 ,	2
Novel frontier of photonics for data processing Photonic accelerator. 2019, 4, 090901	52
1064 Pattern recognition with neuronal avalanche dynamics. 2019 , 99, 010302	7
1063 Machine Learning and Integrative Analysis of Biomedical Big Data. 2019 , 10,	101
Information-Theoretic Intrinsic Plasticity for Online Unsupervised Learning in Spiking Neural Networks. 2019 , 13, 31	3
A small-world topology enhances the echo state property and signal propagation in reservoir computing. 2019 , 112, 15-23	42
Leveraging heterogeneity for neural computation with fading memory in layer 2/3 cortical microcircuits. 2019 , 15, e1006781	10
1059 Dynamic Computation in Visual Thalamocortical Networks. 2019 , 21,	5
1058 Reservoir Transfer on Analog Neuromorphic Hardware. 2019 ,	4

Experimental study on parallel and analog optical reservoir computing with delayed feedback system for physical implementation. 2019 , 10, 236-248		1
How single neuron properties shape chaotic dynamics and signal transmission in random neural networks. 2019 , 15, e1007122		14
1055 Spatiotemporal discrimination in attractor networks with short-term synaptic plasticity. 2019 , 46, 279-	297	3
1054 Learning nonlinear inputButput maps with dissipative quantum systems. 2019 , 18, 1		15
Short-term synaptic plasticity expands the operational range of long-term synaptic changes in neural networks. 2019 , 118, 140-147		4
1052 Neuromorphic Computing in Ginzburg-Landau Polariton-Lattice Systems. 2019 , 11,		17
1051 Computing hubs in the hippocampus and cortex. 2019 , 5, eaax4843		11
Analysis of Liquid Ensembles for Enhancing the Performance and Accuracy of Liquid State Machines. 2019 , 13, 504		11
1049 Reservoir computing with dipole-coupled nanomagnets. 2019 , 58, 070901		22
Energy-efficient FPGA Spiking Neural Accelerators with Supervised and Unsupervised Spike-timing-dependent-Plasticity. 2019 , 15, 1-19		5
1047 Perturbing low dimensional activity manifolds in spiking neuronal networks. 2019 , 15, e1007074		11
$_{1046}$ Second type of criticality in the brain uncovers rich multiple-neuron dynamics. 2019 , 116, 13051-13060		26
A Computational Perspective of the Role of the Thalamus in Cognition. <i>Neural Computation</i> , 2019 , 31, 1380-1418	2.9	8
A Reservoir Computing Model of Reward-Modulated Motor Learning and Automaticity. <i>Neural Computation</i> , 2019 , 31, 1430-1461	2.9	3
1043 Short term memory properties of sensory neural architectures. 2019 , 46, 321-332		1
Production Analysis and Forecasting for Unconventional Reservoirs Using Laplacian Echo-State Networks. 2019 ,		10
The unfolding argument: Why IIT and other causal structure theories cannot explain consciousness. 2019 , 72, 49-59		38
A Review of the Application of Machine Learning and Data Mining Approaches in Continuum Materials Mechanics. 2019 , 6,		111

1039	A Flexible Model of Working Memory. 2019 , 103, 147-160.e8	61
1038	Quantum reservoir processing. 2019 , 5,	36
1037	Evolutionary aspects of reservoir computing. 2019 , 374, 20180377	17
1036	Chaos and Relaxation Oscillations in Spin-Torque Windmill Spiking Oscillators. 2019 , 11,	9
1035	Highly parallel simulation and optimization of photonic circuits in time and frequency domain based on the deep-learning framework PyTorch. 2019 , 9, 5918	15
1034	Physical reservoir computing based on spin torque oscillator with forced synchronization. 2019 , 114, 164101	51
1033	Boosting Computational Power through Spatial Multiplexing in Quantum Reservoir Computing. 2019 , 11,	43
1032	Gradient based hyperparameter optimization in Echo State Networks. 2019 , 115, 23-29	33
1031	Neural algorithms and computing beyond Moore's law. 2019 , 62, 110-110	17
1030	Recent advances in physical reservoir computing: A review. 2019 , 115, 100-123	400
1030	Recent advances in physical reservoir computing: A review. 2019 , 115, 100-123 Backpropagation through time and the brain. 2019 , 55, 82-89	400
1029	Backpropagation through time and the brain. 2019 , 55, 82-89 Broken paradox of the heap: Comment on "Does being multi-headed make you better at solving	
1029	Backpropagation through time and the brain. 2019 , 55, 82-89 Broken paradox of the heap: Comment on "Does being multi-headed make you better at solving problems? A survey of Physarum-based models and computations" by Chao Gao et al. 2019 , 29, 44-47	26
1029	Backpropagation through time and the brain. 2019 , 55, 82-89 Broken paradox of the heap: Comment on "Does being multi-headed make you better at solving problems? A survey of Physarum-based models and computations" by Chao Gao et al. 2019 , 29, 44-47 Optimal modularity and memory capacity of neural reservoirs. 2019 , 3, 551-566	26 1 17
1029 1028 1027 1026	Backpropagation through time and the brain. 2019, 55, 82-89 Broken paradox of the heap: Comment on "Does being multi-headed make you better at solving problems? A survey of Physarum-based models and computations" by Chao Gao et al. 2019, 29, 44-47 Optimal modularity and memory capacity of neural reservoirs. 2019, 3, 551-566 Reservoir Computing Based Echo State Networks for Ventricular Heart Beat Classification. 2019, 9, 702 A review of adaptive neural control applied to proton exchange membrane fuel cell systems. 2019,	26 1 17 5
1029 1028 1027 1026	Backpropagation through time and the brain. 2019, 55, 82-89 Broken paradox of the heap: Comment on "Does being multi-headed make you better at solving problems? A survey of Physarum-based models and computations" by Chao Gao et al. 2019, 29, 44-47 Optimal modularity and memory capacity of neural reservoirs. 2019, 3, 551-566 Reservoir Computing Based Echo State Networks for Ventricular Heart Beat Classification. 2019, 9, 702 A review of adaptive neural control applied to proton exchange membrane fuel cell systems. 2019, 47, 133-154	26 1 17 5

1021 Balanced Models for Control. 2019, 321-344

1020 Data-Driven Control. 2019 , 345-372	O
1019 Reduced Order Models (ROMs). 2019 , 375-402	О
1018 Interpolation for Parametric ROMs. 2019 , 403-435	
1017 Glossary. 2019 , 436-442	
1016 Bibliography. 2019 , 443-470	
1015 Index. 2019 , 471-472	
The modified sufficient conditions for echo state property and parameter optimization of leaky integrator echo state network. 2019 , 77, 750-760	5
A Neuromorphic Silicon Photonics Nonlinear Equalizer For Optical Communications With Intensity Modulation and Direct Detection. 2019 , 37, 2232-2239	17
1012 Consistency in echo-state networks. 2019 , 29, 023118	29
1011 Preface. 2019 , ix-xii	
1010 Singular Value Decomposition (SVD). 2019 , 3-46	2
1009 Fourier and Wavelet Transforms. 2019, 47-83	O
1008 Sparsity and Compressed Sensing. 2019 , 84-114	1
1007 Regression and Model Selection. 2019 , 117-153	О
1006 Clustering and Classification. 2019 , 154-194	
1005 Neural Networks and Deep Learning. 2019 , 195-226	
Reduce, Reuse, Recycle (3Rs) Awareness App: Mobile Learning Application for Supporting Environmental Awareness Initiatives. 2019 ,	3

1003 [Blank page]. **2019**, 67, C4-C4

1002	GSLV effect on Earth⊠ lower ionosphere. 2019 ,	
1001	A Resource Allocation Scheme Based on Least Squares Support Vector Machine and Particle Swarm Optimization Algorithm. 2019 ,	
1000	Predicting 30 days Mortality in STEMI Patients using Patient Referral Data to a Primary Percutaneous Coronary Intervention Service. 2019 ,	
999	Parallel Training for Large-Scale Echo State Networks via Alternating Direction Method of Multipliers. 2019 ,	
998	Output Tracking Control for the One-Dimensional Heat Equation with Unknown Disturbance by the Dirichlet Boundary Actuation. 2019 ,	
997	Robust Framework for intelligent Gripping Point Detection. 2019,	2
996	Vehicle Identification Method based on Vehicle Combination Characteristics. 2019,	
995	Deep Hyperspectral Prior: Single-Image Denoising, Inpainting, Super-Resolution. 2019,	46
994	Proposing an Early Diagnostic Deep Learning Approach to Detect Lung Cancer from Short-Breaths. 2019 ,	
993	An Epilepsy and Seizure Classification Approach Based on Multi-Spike Liquid State Machines. 2019,	2
992	Novel Composite Substrates for Thin Film AlGaInP-based High Power LEDs. 2019,	1
991	Neighbor Discovery in a Free-Space-Optical UAV Network. 2019 ,	1
990	Optimal Estimation of Solar Radiation on Flat Surfaces for the Design of Energy Systems using Artificial Neural Networks. 2019 ,	
989	Multi-Agent System using JADE for Distributed DC Microgrid System Control. 2019,	1
988	Empirical Study of Population-Based Dynamic Constrained Multimodal Optimization Algorithms. 2019 ,	O
987	INDIN 2019 Industrial Cyber-Physical Systems and Industrial Agents. 2019 ,	
986	Age and Gender Recognition Using Multi-task CNN. 2019 ,	O

985	. 2019,	
984	Predicting Performance using Approximate State Space Model for Liquid State Machines. 2019 ,	1
983	ICNC 2019 Program. 2019 ,	
982	Research on a Power Meter Reading Method Based on Wide and Narrow Conversion. 2019,	
981	UAV to Satellite Communication Systems. 2019 ,	О
980	Passing the Message: Representation Transfer in Modular Balanced Networks. 2019 , 13, 79	4
979	Joint Torque Estimation toward Dynamic and Compliant Control for Gear-Driven Torque Sensorless Quadruped Robot. 2019 ,	4
978	Analysis on Characteristics of Multi-Step Learning Echo State Networks for Nonlinear Time Series Prediction. 2019 ,	5
977	Keynote Speech: Information processing hardware, physical reservoir computing and complex-valued neural networks. 2019 ,	1
976	The Procedure of Building a Project Team on the Basis of Cognitive Maps and Genetic Algorithms. 2019 ,	
975	A Device Pose Estimation Method Based on Monocular Visual Odometer. 2019,	
974	Optimal Path Planning for Connected and Automated Vehicles at Urban Intersections. 2019,	7
973	A Brief Review on Loop Closure Detection with 3D Point Cloud. 2019 ,	3
972	Notice of Removal: Electron-optical system with Field Emitter For Spectroscopic Gyrotrons. 2019,	
971	Dynamic State Estimation Aided By Machine Learning. 2019,	2
970	Bioinspired Adaptive Tracking Control of Quarter-Car Suspension System with Actuator Saturation. 2019 ,	
969	. 2019,	3
968	Looking for the Best Fit of a Function over Circadian Rhythm Data. 2019,	

967	. 2019,	8
966	Genetic Algorithm for a Stochastic Programming Model of the Green Household Waste Transportation Problem. 2019 ,	1
965	. 2019,	
964	Data Augmentation via Adversarial Networks for Optical Character Recognition/Conference Submissions. 2019 ,	1
963	Detection of Fuzzy Duplicate Texts in News Feeds. 2019 ,	
962	. 2019,	1
961	Rotational Weighted Averaged Template Matching for Intra Prediction. 2019,	2
960	. 2019,	6
959	A methodical assessment of interpolation techniques to metal artifact reduction in Computed Tomography. 2019 ,	
958	Leveraging Mobile Edge Computing on Smart Grids Using LTE Cellular Networks. 2019,	5
957	Phase Space Reconstruction-Based Conceptor Network for Time Series Prediction. 2019 , 7, 163172-163179	5
956	Computing with a camera. 2019 , 1, 551-552	2
955	Delay-Based Reservoir Computing Using Multimode Semiconductor Lasers: Exploiting the Rich Carrier Dynamics. 2019 , 25, 1-9	16
954	Populations of spiking neurons for reservoir computing: Closed loop control of a compliant quadruped. 2019 , 58, 317-323	O
953	Real-Time Ultra-Low Power ECG Anomaly Detection Using an Event-Driven Neuromorphic Processor. 2019 , 13, 1575-1582	25
952	All-Optical Readout for Integrated Photonic Reservoir Computing. 2019,	1
951	Road Traffic Forecasting using Stacking Ensembles of Echo State Networks. 2019,	1
950	Predicting slow and fast neuronal dynamics with machine learning. 2019 , 29, 113119	5

949	Optimal short-term memory before the edge of chaos in driven random recurrent networks. 2019 , 100, 062312	5
948	Distributed Kerr Non-linearity in a Coherent All-Optical Fiber-Ring Reservoir Computer. 2019 , 7,	2
947	Quantitative Analysis of Dynamical Complexity in Cultured Neuronal Network Models for Reservoir Computing Applications. 2019 ,	1
946	2. Information processing and computation with photonic reservoir systems. 2019 , 33-52	
945	6. Ikeda delay dynamics as Reservoir processors. 2019 , 153-184	
944	Photonic reservoir computing based on nonlinear wave dynamics at microscale. 2019 , 9, 19078	11
943	. 2019,	1
942	Learned emergence in selfish collective motion. 2019 , 29, 123101	6
941	Tackling the Trade-Off Between Information Processing Capacity and Rate in Delay-Based Reservoir Computers. 2019 , 7,	3
940	Behaviors of Reservoir Computing Models for Textual Documents Classification. 2019,	1
939	Intelligent Reservoir Generation for Liquid State Machines using Evolutionary Optimization. 2019,	3
938	Analysis of Wide and Deep Echo State Networks for Multiscale Spatiotemporal Time Series Forecasting. 2019 ,	1
937	Big Data Processing Technologies in Distributed Information Systems. 2019 , 160, 561-566	9
936	Dynamics of analog logic-gate networks for machine learning. 2019 , 29, 123130	3
935	Using machine learning to assess short term causal dependence and infer network links. 2019 , 29, 121104	12
934	Evolving Spiking Neural Networks. 2019 , 169-199	4
933	Computational Neuro-genetic Modelling. 2019 , 545-561	
932	Deep Learning and Deep Knowledge Representation of fMRI Data. 2019 , 361-395	

931	Deep learning in spiking neural networks. 2019 , 111, 47-63	281
930	Pose regulation of a constrained circular object using Echo State Networks. 2019 , 36, 583-594	
929	Training Passive Photonic Reservoirs With Integrated Optical Readout. 2019 , 30, 1943-1953	11
928	Brain dynamics and temporal trajectories during task and naturalistic processing. 2019 , 186, 410-423	9
927	On the Universality of Memcomputing Machines. 2019 , 30, 1610-1620	2
926	Soft timer: Dynamic clock embedded in soft body. 2019 , 181-196	4
925	Prediction and classification performance of reservoir computing system using mutually delay-coupled semiconductor lasers. 2019 , 433, 215-220	17
924	On extreme learning machines in sequential and time series prediction: A non-iterative and approximate training algorithm for recurrent neural networks. 2019 , 325, 1-19	11
923	Differential Effects of Simulated Cortical Network Lesions on Synchrony and EEG Complexity. 2019 , 29, 1850024	11
922	Dendrites, deep learning, and sequences in the hippocampus. 2019 , 29, 239-251	8
921	From Astrophysics to Unconventional Computation. 2020,	1
920	A roadmap to integrate astrocytes into Systems Neuroscience. 2020 , 68, 5-26	21
919	Reservoir Computing Universality With Stochastic Inputs. 2020 , 31, 100-112	25
918	. 2020 , 50, 1350-1361	2
917	Deep learning and deep knowledge representation in Spiking Neural Networks for Brain-Computer Interfaces. 2020 , 121, 169-185	23
916	A biologically plausible supervised learning method for spiking neural networks using the symmetric STDP rule. 2020 , 121, 387-395	32
915	Toward Arbitrary Control of Lattice Interactions in Nonequilibrium Condensates. 2020 , 3, 1900065	5
914	. 2020 , 26, 1-10	16

913	Improving Time Series Recognition and Prediction With Networks and Ensembles of Passive Photonic Reservoirs. 2020 , 26, 1-11	11
912	Reservoir Computing Using Laser Networks. 2020 , 26, 1-8	12
911	Polarization Multiplexing Reservoir Computing Based on a VCSEL With Polarized Optical Feedback. 2020 , 26, 1-9	25
910	Large-Scale Spatiotemporal Photonic Reservoir Computer for Image Classification. 2020 , 26, 1-12	19
909	Closed Loop Control of a Compliant Quadruped with Spiking Neural Networks. 2020 , 547-555	
908	Evolving Local Plasticity Rules for Synergistic Learning in Echo State Networks. 2020 , 31, 1363-1374	11
907	Reservoir Computing Using Multiple Lasers With Feedback on a Photonic Integrated Circuit. 2020 , 26, 1-9	33
906	. 2020 , 26, 1-12	27
905	Photonic Computing With Single and Coupled Spiking Micropillar Lasers. 2020 , 26, 1-7	26
904	Comparison of Photonic Reservoir Computing Systems for Fiber Transmission Equalization. 2020 , 26, 1-9	16
903	Reservoir computing with two-bit input task using dipole-coupled nanomagnet array. 2020 , 59, SEEG02	6
902	DeePr-ESN: A deep projection-encoding echo-state network. 2020 , 511, 152-171	22
901	Energy-Efficient Pattern Recognition Hardware With Elementary Cellular Automata. 2020 , 69, 392-401	6
900	Prediction of blood glucose concentration for type 1 diabetes based on echo state networks embedded with incremental learning. 2020 , 378, 248-259	15
899	Echo state network optimization using binary grey wolf algorithm. 2020, 385, 310-318	12
898	Health assessment of LFP automotive batteries using a fractional-order neural network. 2020 , 391, 345-354	11
897	Mapping Spiking Neural Networks to Neuromorphic Hardware. 2020 , 28, 76-86	35
896	A Robust Model of Gated Working Memory. <i>Neural Computation</i> , 2020 , 32, 153-181 2.9	3

(2020-2020)

895	Randomly generated node-state-update procedure for dipole-coupled magnetic reservoir computing with voltage control of the magnetism. 2020 , 53, 094001	1
894	Spatial distribution of information effective for logic function learning in spin-wave reservoir computing chip utilizing spatiotemporal physical dynamics. 2020 ,	1
893	Reservoir Computing with Neuromemristive Nanowire Networks. 2020,	8
892	Circuit Techniques for Efficient Implementation of Memristor Based Reservoir Computing. 2020,	2
891	Learning Long Temporal Sequences in Spiking Networks by Multiplexing Neural Oscillations. 2020 , 14, 78	4
890	Tailoring Echo State Networks for Optimal Learning. 2020 , 23, 101440	3
889	Inactivation of the Medial Entorhinal Cortex Selectively Disrupts Learning of Interval Timing. 2020 , 32, 108163	6
888	Information Processing Capacity of Spin-Based Quantum Reservoir Computing Systems. 2020, 1	11
887	Temporal discrimination from the interaction between dynamic synapses and intrinsic subthreshold oscillations. 2020 , 417, 543-557	O
886	IoT-Oriented Design of an Associative Memory Based on Impulsive Hopfield Neural Network with Rate Coding of LIF Oscillators. 2020 , 9, 1468	4
885	Physics successfully implements Lagrange multiplier optimization. 2020 , 117, 26639-26650	11
884	Accurate and Efficient Quantized Reservoir Computing System. 2020,	O
883	Stimulus-induced sequential activity in supervisely trained recurrent networks of firing rate neurons. 2020 , 101, 1093-1103	O
882	Emulating a sensor using soft material dynamics: A reservoir computing approach to pneumatic artificial muscle. 2020 ,	7
881	Colocalized Sensing and Intelligent Computing in Micro-Sensors. 2020 , 20,	4
880	Large-Scale Optical Reservoir Computing for Spatiotemporal Chaotic Systems Prediction. 2020 , 10,	16
879	Robust Trajectory Generation for Robotic Control on the Neuromorphic Research Chip Loihi. 2020 , 14, 589532	2
878	Terrain Classification with a Reservoir-Based Network of Spiking Neurons. 2020,	O

877	Improving CSI Prediction Accuracy with Deep Echo State Networks in 5G Networks. 2020 , 20,	О
876	Designing spontaneous behavioral switching via chaotic itinerancy. 2020 , 6,	11
875	Step-like dependence of memory function on pulse width in spintronics reservoir computing. 2020 , 10, 19536	6
874	Memristors : From In-Memory Computing, Deep Learning Acceleration, and Spiking Neural Networks to the Future of Neuromorphic and Bio-Inspired Computing. 2020 , 2, 2000085	47
873	The location of the axon initial segment affects the bandwidth of spike initiation dynamics. 2020 , 16, e1008087	3
872	Computational Characteristics of the Striatal Dopamine System Described by Reinforcement Learning With Fast Generalization. 2020 , 14, 66	1
871	Chaotic time series prediction using phase space reconstruction based conceptor network. 2020 , 14, 849-857	7
870	Predicting phase and sensing phase coherence in chaotic systems with machine learning. 2020 , 30, 083114	15
869	Limitations of the Recall Capabilities in Delay-Based Reservoir Computing Systems. 2020, 1	8
868	Dynamic Firing on Static Analog/Digital Neuron Circuits with Resistive Synapses for Time-Series Neural Network. 2020 ,	
867	A Reservoir-based Convolutional Spiking Neural Network for Gesture Recognition from DVS Input. 2020 ,	4
866	A Delay-Based Neuromorphic Processor for Arrhythmias Detection. 2020 ,	O
865	Q-learning with exploration driven by internal dynamics in chaotic neural network. 2020,	
864	Experimental realization of dual task processing with a photonic reservoir computer. 2020 , 5, 086105	7
863	Advanced Computer Architecture. 2020,	
862	Fate of Duplicated Neural Structures. 2020 , 22,	1
861	Deep time-delay reservoir computing: Dynamics and memory capacity. 2020 , 30, 093124	13
860	Performance Enhancement of a Delay-Based Reservoir Computing System by Using Gradient Boosting Technology. 2020 , 8, 151990-151996	1

(2020-2020)

	859	Firing rate homeostasis counteracts changes in stability of recurrent neural networks caused by synapse loss in Alzheimer's disease. 2020 , 16, e1007790	1
	858	Low-dimensional dynamics for working memory and time encoding. 2020 , 117, 23021-23032	31
	857	A novel method for lake level prediction: deep echo state network. 2020 , 13, 1	2
	856	Deuterated Glutamate-Mediated Neuronal Activity on Micro-Electrode Arrays. 2020 , 11,	O
,	855	Optimizing a quantum reservoir computer for time series prediction. 2020 , 10, 14687	10
;	854	A Reservoir Computing Approach to Word Sense Disambiguation. 2020 , 1	O
	853	Autoreservoir computing for multistep ahead prediction based on the spatiotemporal information transformation. 2020 , 11, 4568	15
;	852	Precise spatial memory in local random networks. 2020 , 102, 022405	
	851	Dynamical Learning of Dynamics. 2020 , 125, 088103	12
	850	Temporal Information Processing on Noisy Quantum Computers. 2020 , 14,	17
	849	Model-size reduction for reservoir computing by concatenating internal states through time. 2020 , 10, 21794	2
;	848	Stability and memory-loss go hand-in-hand: three results in dynamics and computation. 2020 , 476, 20200563	2
i	847	Ageing, computation and the evolution of neural regeneration processes. 2020 , 17, 20200181	3
	846	Reservoir Computing in Artificial Spin Ice. 2020 ,	5
	845	Adaptive balancing of exploration and exploitation around the edge of chaos in internal-chaos-based learning. 2020 , 132, 19-29	3
	844	High-Speed Neuromorphic Reservoir Computing Based on a Semiconductor Nanolaser With Optical Feedback Under Electrical Modulation. 2020 , 26, 1-7	10
	843	Dynamic core-periphery structure of information sharing networks in entorhinal cortex and hippocampus. 2020 , 4, 946-975	3
	842	Physical reservoir computing In introductory perspective. 2020 , 59, 060501	75

841	Embedding and approximation theorems for echo state networks. 2020, 128, 234-247	23
840	Enhanced memory capacity of a neuromorphic reservoir computing system based on a VCSEL with double optical feedbacks. 2020 , 63, 1	5
839	Randomly connected networks generate emergent selectivity and predict decoding properties of large populations of neurons. 2020 , 16, e1007875	3
838	Synaptic Plasticity Dynamics for Deep Continuous Local Learning (DECOLLE). 2020 , 14, 424	47
837	A Machine Learning-Based Global Atmospheric Forecast Model. 2020 , 47, e2020GL087776	26
836	Reservoir computing with inertial manifold. 2020,	O
835	A brief review of integrated and passive photonic reservoir computing systems and an approach for achieving extra non-linearity in passive devices. 2020 , 63, 1	
834	A digital hardware implementation of spiking neural networks with binary FORCE training. 2020 , 412, 129-142	2
833	Towards an intelligent photonic system. 2020 , 63, 1	2
832	A new wind power interval prediction approach based on reservoir computing and a quality-driven loss function. 2020 , 92, 106327	15
831	Dynamics of spiking map-based neural networks in problems of supervised learning. 2020 , 90, 105399	2
830	Deep learning incorporating biologically inspired neural dynamics and in-memory computing. 2020 , 2, 325-336	34
829	Surrogate-Assisted Evolutionary Search of Spiking Neural Architectures in Liquid State Machines. 2020 , 406, 12-23	10
828	Control of criticality and computation in spiking neuromorphic networks with plasticity. 2020 , 11, 2853	27
827	The 2020 magnetism roadmap. 2020 , 53, 453001	77
826	The Neural Network Zoo. 2020 , 47, 9	10
825	Invertible generalized synchronization: A putative mechanism for implicit learning in neural systems. 2020 , 30, 063133	7
824	Improving Lateral Autonomous Driving in Snow-Wet Environments Based on Road-Mark Reconstruction Using Principal Component Analysis. 2020 , 1-1	1

(2021-2020)

823	Real-time sensory-motor integration of hippocampal place cell replay and prefrontal sequence learning in simulated and physical rat robots for novel path optimization. 2020 , 114, 249-268	5
822	Remaining useful life prediction of PEMFC systems based on the multi-input echo state network. 2020 , 265, 114791	44
821	Separation of chaotic signals by reservoir computing. 2020 , 30, 023123	16
820	Towards synthetic neural networks: can artificial electrochemical neurons be coupled with artificial memristive synapses?. 2020 , 59, Sl0801	5
819	Predicting future dynamics from short-term time series using an Anticipated Learning Machine. 2020 , 7, 1079-1091	6
818	A model for navigation in unknown environments based on a reservoir of hippocampal sequences. 2020 , 124, 328-342	4
817	Can Government Official Visits Actually Help Young Technology Enterprises?. 2020, 48, 171-177	
816	Dynamical Phase Transitions in Quantum Reservoir Computing. 2021 , 127, 100502	5
815	Short-term memory by transient oscillatory dynamics in recurrent neural networks. 2021 , 3,	1
814	Benchmarking the performance of neuromorphic and spiking neural network simulators. 2021 , 447, 145-160	3
813	Learn to synchronize, synchronize to learn. 2021 , 31, 083119	2
812	Materials for emergent silicon-integrated optical computing. 2021 , 130, 070907	5
812	Materials for emergent silicon-integrated optical computing. 2021 , 130, 070907 Memory properties of electromigrated Au nanogaps to realize reservoir computing. 2021 , 119, 084101	5
811	Memory properties of electromigrated Au nanogaps to realize reservoir computing. 2021 , 119, 084101	3
811	Memory properties of electromigrated Au nanogaps to realize reservoir computing. 2021 , 119, 084101 Learning function from structure in neuromorphic networks. 2021 , 3, 771-786	3
811 810 809	Memory properties of electromigrated Au nanogaps to realize reservoir computing. 2021, 119, 084101 Learning function from structure in neuromorphic networks. 2021, 3, 771-786 Learning Hamiltonian dynamics with reservoir computing. 2021, 104, 024205 Finding nonlinear system equations and complex network structures from data: A sparse	3 9 1

805	Stable representation of a naturalistic movie emerges from episodic activity with gain variability. 2021 , 12, 5170	4
804	Computational capability of ecological dynamics.	
803	Signal recovery based on optoelectronic reservoir computing for high speed optical fiber communication system. 2021 , 495, 127082	3
802	Nonlinearity in Memristors for Neuromorphic Dynamic Systems. 2100049	12
801	Analog information processing with time-multiplexed optoelectronic systems. 2021,	
800	The challenges of modern computing and new opportunities for optics. 2021 , 2,	6
799	Design of parallel reservoir computing by mutually-coupled semiconductor lasers with optoelectronic feedback. 2021 , 495, 127120	3
798	Experimental realization of integrated photonic reservoir computing for nonlinear fiber distortion compensation. 2021 , 29, 30991-30997	6
797	Distinct ground state and activated state modes of firing in forebrain neurons.	О
796	Stimulus-Driven and Spontaneous Dynamics in Excitatory-Inhibitory Recurrent Neural Networks for Sequence Representation. <i>Neural Computation</i> , 2021 , 33, 2603-2645	2
795	Supervised learning from noisy observations: Combining machine-learning techniques with data assimilation. 2021 , 423, 132911	11
794	Multi-Reservoir Echo State Networks with Sequence Resampling for Nonlinear Time-Series Prediction. 2021 , 467, 115-115	3
793	Stock market index prediction based on reservoir computing models. 2021 , 178, 115022	1
792	Time-varying data processing with nonvolatile memristor-based temporal kernel. 2021 , 12, 5727	_
	Time-varying data processing with honvolatile memilistor-based temporal kernet. 2021 , 12, 3727	7
791	Next generation reservoir computing. 2021 , 12, 5564	25
791	Next generation reservoir computing. 2021 , 12, 5564 Spin waves propagating through a stripe magnetic domain structure and their applications to	

787	Unveiling the role of plasticity rules in reservoir computing. 2021 , 461, 705-715	2
786	Bidirectional interaction between visual and motor generative models using Predictive Coding and Active Inference. 2021 , 143, 638-656	2
785	Transfer-RLS method and transfer-FORCE learning for simple and fast training of reservoir computing models. 2021 , 143, 550-563	О
7 ⁸ 4	Laplacian Echo-State Networks for production analysis and forecasting in unconventional reservoirs. 2021 , 207, 109068	3
783	Protein Structured Reservoir Computing for Spike-Based Pattern Recognition. 2022, 33, 322-331	1
782	Functional differentiations in evolutionary reservoir computing networks. 2021 , 31, 013137	2
781	Computing with Integrated Photonic Reservoirs. 2021 , 397-419	
78o	Toward NMR Quantum Reservoir Computing. 2021 , 451-458	O
779	Cortico-Striatal Origins of Reservoir Computing, Mixed Selectivity, and Higher Cognitive Function. 2021 , 29-58	
778	A Model of Online Temporal-Spatial Integration for Immediacy and Overrule in Discourse Comprehension. 2021 , 2, 83-105	3
777	Integer Echo State Networks: Efficient Reservoir Computing for Digital Hardware. 2020, PP,	4
776	Quantum reservoir computing with a single nonlinear oscillator. 2021 , 3,	13
775	Machine learning prediction of critical transition and system collapse. 2021, 3,	17
774	CompressedCache: Enabling Storage Compression on Neuromorphic Processor for Liquid State Machine. 2021 , 437-451	1
773	Reservoir Computing in Material Substrates. 2021 , 141-166	1
772	Physical Reservoir Computing in Robotics. 2021 , 169-190	3
771	A Subthreshold Spiking Neuron Circuit Based on the Izhikevich Model. 2021 , 177-181	0
770	On explaining the surprising success of reservoir computing forecaster of chaos? The universal machine learning dynamical system with contrast to VAR and DMD. 2021 , 31, 013108	19

769 Reservoir Computing with an Inertial Form. **2021**, 20, 1320-1347

768	Learning Beyond Finite Memory in Recurrent Networks of Spiking Neurons. 2005 , 666-675	3
767	Experimental Demonstration of Learning Properties of a New Supervised Learning Method for the Spiking Neural Networks. 2005 , 145-152	11
766	A New Approach towards Vision Suggested by Biologically Realistic Neural Microcircuit Models. 2002 , 282-293	15
765	Online Processing of Multiple Inputs in a Sparsely-Connected Recurrent Neural Network. 2003 , 839-845	2
764	Recurrent Neural Networks. 2014 , 337-353	3
763	Computer Models and Analysis Tools for Neural Microcircuits. 2003 , 123-138	20
762	Neural dynamics based timing in the subsecond to seconds range. 2014 , 829, 101-17	14
761	Neural Networks. 2019 , 9-58	2
760	Fading Memory, Plasticity, and Criticality in Recurrent Networks. 2019 , 95-115	1
759	Echo State vs. LSTM Networks for Word Sense Disambiguation. 2019 , 94-109	5
758	Echo State Property of Neuronal Cell Cultures. 2019 , 137-148	2
757	Multiple Pattern Generations and Chaotic Itinerant Dynamics in Reservoir Computing. 2019, 76-81	1
756	Deep Randomized Neural Networks. 2020 , 43-68	11
755	Deep Echo State Networks in Industrial Applications. 2020 , 53-63	5
754	DNA Reservoir Computing: A Novel Molecular Computing Approach. 2013 , 76-89	9
753	Solar Irradiance Estimation Using the Echo State Network and the Flexible Neural Tree. 2014, 475-484	2
752	Reservoir Computing Approach to Robust Computation Using Unreliable Nanoscale Networks. 2014 , 164-176	11

(2007-2015)

751	An Introduction to Delay-Coupled Reservoir Computing. 2015 , 63-90	7
750	Excitable Dynamics in Autonomous Boolean Networks. 2015 , 133-151	1
749	Generic Construction of Scale-Invariantly Coarse Grained Memory. 2015, 175-184	2
748	Robust Bone Marrow Cell Discrimination by Rotation-Invariant Training of Multi-class Echo State Networks. 2015 , 390-400	1
747	Online Training of an Opto-Electronic Reservoir Computer. 2015 , 233-240	8
746	Using Reservoir Computing and Trend Information for Short-Term Streamflow Forecasting. 2016 , 308-316	O
745	Sequential Data Classification in the Space of Liquid State Machines. 2016 , 313-328	2
744	Efficient Recognition of Attentional Bias Using EEG Data and the NeuCube Evolving Spatio-Temporal Data Machine. 2016 , 645-653	1
743	Reward-Based Learning of a Memory-Required Task Based on the Internal Dynamics of a Chaotic Neural Network. 2016 , 376-383	3
742	Waveform Classification by Memristive Reservoir Computing. 2017, 457-465	5
74 ²	Waveform Classification by Memristive Reservoir Computing. 2017 , 457-465 Echo State Networks for Mobile Robot Modeling and Control. 2004 , 157-168	5
	Echo State Networks for Mobile Robot Modeling and Control. 2004 , 157-168	
741	Echo State Networks for Mobile Robot Modeling and Control. 2004 , 157-168	10
74 ¹ 74 ⁰	Echo State Networks for Mobile Robot Modeling and Control. 2004, 157-168 Connectivity and Dynamics in Local Cortical Networks. 2007, 91-116	10
74 ¹ 74 ⁰ 739	Echo State Networks for Mobile Robot Modeling and Control. 2004, 157-168 Connectivity and Dynamics in Local Cortical Networks. 2007, 91-116 Towards Comprehensive Foundations of Computational Intelligence. 2007, 261-316	10 5 17
74 ¹ 74 ⁰ 739 738	Echo State Networks for Mobile Robot Modeling and Control. 2004, 157-168 Connectivity and Dynamics in Local Cortical Networks. 2007, 91-116 Towards Comprehensive Foundations of Computational Intelligence. 2007, 261-316 Markovian Bias of Neural-based Architectures With Feedback Connections. 2007, 95-133 The Introduction of Time-Scales in Reservoir Computing, Applied to Isolated Digits Recognition.	10 5 17 16
74 ¹ 74 ⁰ 739 738 737	Echo State Networks for Mobile Robot Modeling and Control. 2004, 157-168 Connectivity and Dynamics in Local Cortical Networks. 2007, 91-116 Towards Comprehensive Foundations of Computational Intelligence. 2007, 261-316 Markovian Bias of Neural-based Architectures With Feedback Connections. 2007, 95-133 The Introduction of Time-Scales in Reservoir Computing, Applied to Isolated Digits Recognition. 2007, 471-479	10 5 17 16 87

733	Stable Output Feedback in Reservoir Computing Using Ridge Regression. 2008, 808-817	26
732	Predictive Coding in Cortical Microcircuits. 2008 , 386-395	2
731	The Cognitive Body: From Dynamic Modulation to Anticipation. 2009 , 132-151	2
730	On the Quantification of Dynamics in Reservoir Computing. 2009 , 985-994	19
729	Reservoir Size, Spectral Radius and Connectivity in Static Classification Problems. 2009, 1015-1024	3
728	Optimizing Generic Neural Microcircuits through Reward Modulated STDP. 2009 , 239-248	1
727	Unsupervised Learning in Reservoir Computing: Modeling Hippocampal Place Cells for Small Mobile Robots. 2009 , 747-756	3
726	Almost Random Projection Machine. 2009 , 789-798	6
725	Robospike Sensory Processing for a Mobile Robot Using Spiking Neural Networks. 2009 , 794-803	1
724	A Constructive Neural Network for Evolving a Machine Controller in Real-Time. 2009 , 225-242	2
723	A Possible Mechanism for Controlling Timing Representation in the Cerebellar Cortex. 2010, 67-76	1
722	Multimodal Predictive Control in Crickets. 2010 , 167-177	4
721	Improving Recurrent Neural Network Performance Using Transfer Entropy. 2010 , 193-200	10
720	Towards Spatio-Temporal Pattern Recognition Using Evolving Spiking Neural Networks. 2010 , 163-170	11
719	Modelling Coordination of Learning Systems: A Reservoir Systems Approach to Dopamine Modulated Pavlovian Conditioning. 2011 , 410-417	3
718	Error-Backpropagation in Networks of Fractionally Predictive Spiking Neurons. 2011, 60-68	17
717	On the Capacity of Transient Internal States in Liquid-State Machines. 2011 , 56-63	2
716	Improving the Classification Performance of Liquid State Machines Based on the Separation Property. 2011 , 52-62	6

(2013-2011)

715	EEG Classification with BSA Spike Encoding Algorithm and Evolving Probabilistic Spiking Neural Network. 2011 , 451-460	24
714	Reservoir-Based Evolving Spiking Neural Network for Spatio-temporal Pattern Recognition. 2011 , 160-168	6
713	SPAN: A Neuron for Precise-Time Spike Pattern Association. 2011 , 718-725	8
712	Evolving Probabilistic Spiking Neural Networks for Spatio-temporal Pattern Recognition: A Preliminary Study on Moving Object Recognition. 2011 , 230-239	6
711	Encyclopedia of Complexity and Systems Science. 2017 , 1-12	1
710	Encyclopedia of Complexity and Systems Science. 2018, 1-37	9
709	Computational Modeling with Spiking Neural Networks. 2014 , 625-646	6
708	Towards a Neural Hierarchy of Time Scales for Motor Control. 2012 , 146-155	1
707	NeuCube EvoSpike Architecture for Spatio-temporal Modelling and Pattern Recognition of Brain Signals. 2012 , 225-243	30
706	Liquid Computing in a Simplified Model of Cortical Layer IV: Learning to Balance a Ball. 2012, 209-216	10
705	Constructing Robust Liquid State Machines to Process Highly Variable Data Streams. 2012, 604-611	11
704	Infinite Sparse Threshold Unit Networks. 2012 , 612-619	1
703	Modelling the Effect of Genes on the Dynamics of Probabilistic Spiking Neural Networks for Computational Neurogenetic Modelling. 2012 , 1-9	3
702	The Echo State Network on the Graphics Processing Unit. 2013 , 96-107	1
701	Spatio-temporal Spike Pattern Classification in Neuromorphic Systems. 2013 , 262-273	14
700	An Analytical Approach to Single Node Delay-Coupled Reservoir Computing. 2013 , 26-33	8
699	Spiking Neural Network for On-line Cognitive Activity Classification Based on EEG Data. 2013 , 55-62	2
698	Spatio-temporal EEG Data Classification in the NeuCube 3D SNN Environment: Methodology and Examples. 2013 , 63-69	6

697	Personalised Modelling for Integrated Static and Dynamic Data. Applications in Neuroinformatics. 2019 , 593-615	1
696	Muscular-Hydrostat Computers: Physical Reservoir Computing for Octopus-Inspired Soft Robots. 2017 , 403-414	4
695	Data-Driven Science and Engineering: Machine Learning, Dynamical Systems, and Control. 2019,	247
694	Recurrent neural networks made of magnetic tunnel junctions. 2020 , 10, 025116	4
693	Breaking symmetries of the reservoir equations in echo state networks. 2020 , 30, 123142	10
692	Recurrence-Based Information Processing in Gene Regulatory Networks.	1
691	Biologically plausible learning in recurrent neural networks reproduces neural dynamics observed during cognitive tasks.	4
690	A neural network model for the orbitofrontal cortex and task space acquisition during reinforcement learning.	1
689	Computational characteristics of the striatal dopamine system described by reinforcement learning with fast generalization.	1
688	Metastable attractors explain the variable timing of stable behavioral action sequences.	6
687	Unsupervised learning and clustered connectivity enhance reinforcement learning in spiking neural networks.	Ο
686	Measuring context dependency in birdsong using artificial neural networks.	2
685	Local homeostatic regulation of the spectral radius of echo-state networks.	1
684	Sequence memory in recurrent neuronal network can develop without structured input.	1
683	Learning function from structure in neuromorphic networks.	7
682	Neural heterogeneity promotes robust learning.	6
681	Rats optimally accumulate and discount evidence in a dynamic environment.	3
680	Intrinsic neuronal dynamics predict distinct functional roles during working memory.	1

679	The Eighty Five Percent Rule for Optimal Learning.	2
678	Brain dynamics and temporal trajectories during task and naturalistic processing.	1
677	Prefrontal cortex creates novel navigation sequences from hippocampal place-cell replay with spatial reward propagation.	1
676	Visual exposure enhances stimulus encoding and persistence in primary cortex.	4
675	Low dimensional dynamics for working memory and time encoding.	4
674	Neuronal memory for language processing.	1
673	Dynamic compression and expansion in a classifying recurrent network.	7
672	A Long Timescale Stimulus History Effect in the Primary Visual Cortex.	2
671	Consistency in macroscopic human brain responses to noisy time-varying visual inputs.	4
670	Passing the message: representation transfer in modular balanced networks.	1
669	Temporal discrimination from the interaction between dynamic synapses and intrinsic subthreshold oscillations.	1
668	Network models predict that pyramidal neuron hyperexcitability and synapse loss in the dlPFC lead to age-related spatial working memory impairment in rhesus monkeys.	1
667	Learning long temporal sequences in spiking networks by multiplexing neural oscillations.	1
666	Predicting the fMRI signal fluctuation with echo-state neural networks trained on vascular network dynamics.	1
665	Precise spatial spatial memory in local random networks.	1
664	Takens-inspired neuromorphic processor: A downsizing tool for random recurrent neural networks via feature extraction. 2019 , 1,	2
663	Model-free prediction of spatiotemporal dynamical systems with recurrent neural networks: Role of network spectral radius. 2019 , 1,	41
662	Long-term prediction of chaotic systems with machine learning. 2020 , 2,	36

661	Dynamics of random recurrent networks with correlated low-rank structure. 2020 , 2,	18
660	Tailored ensembles of neural networks optimize sensitivity to stimulus statistics. 2020 , 2,	12
659	Spontaneous and stimulus-induced coherent states of critically balanced neuronal networks. 2020 , 2,	2
658	Periodic structure of memory function in spintronics reservoir with feedback current. 2020 , 2,	10
657	Input-driven bifurcations and information processing capacity in spintronics reservoirs. 2020 , 2,	13
656	A Neuro-inspired Approach to Intelligent Collision Avoidance and Navigation. 2020,	2
655	Deep Echo State Networks for Short-Term Traffic Forecasting: Performance Comparison and Statistical Assessment. 2020 ,	4
654	EMG-Based Gestures Classification Using a Mixed-Signal Neuromorphic Processing System. 2020 , 10, 578-587	6
653	Towards high-performance spatially parallel optical reservoir computing. 2018,	5
652	Dual-mode semiconductor lasers in reservoir computing. 2018,	1
651	ASIE. 2020 , 16, 1-22	2
650	Dynamical systems, attractors, and neural circuits. 2016 , 5,	25
649	Autonomous all-photonic processor based on reservoir computing paradigm. 2016,	6
648	Compact reservoir computing with a photonic integrated circuit. 2018 , 26, 29424-29439	50
647	Performance optimization research of reservoir computing system based on an optical feedback semiconductor laser under electrical information injection. 2019 , 27, 19931-19939	17
646	Reservoir computing system with double optoelectronic feedback loops. 2019 , 27, 27431-27440	22
645	Using multidimensional speckle dynamics for high-speed, large-scale, parallel photonic computing. 2020 , 28, 30349-30361	7
644	Photonic reservoir computing: a brain-inspired approach for information processing. 2018,	1

(2007-2020)

643	, 45, 6150-6153	4
642	Computational imaging during video game playing shows dynamic synchronization of cortical and subcortical networks of emotions. 2020 , 18, e3000900	3
641	A learning theory for reward-modulated spike-timing-dependent plasticity with application to biofeedback. 2008 , 4, e1000180	143
640	Learning Universal Computations with Spikes. 2016 , 12, e1004895	47
639	Reservoir Computing Properties of Neural Dynamics in Prefrontal Cortex. 2016 , 12, e1004967	91
638	Prospective Coding by Spiking Neurons. 2016 , 12, e1005003	19
637	Dysfunctions of the basal ganglia-cerebellar-thalamo-cortical system produce motor tics in Tourette syndrome. 2017 , 13, e1005395	59
636	A model of human motor sequence learning explains facilitation and interference effects based on spike-timing dependent plasticity. 2017 , 13, e1005632	8
635	A neural network model for the orbitofrontal cortex and task space acquisition during reinforcement learning. 2018 , 14, e1005925	15
634	History-dependent excitability as a single-cell substrate of transient memory for information discrimination. 2010 , 5, e15023	17
633	Multidimensional characterization and differentiation of neurons in the anteroventral cochlear nucleus. 2012 , 7, e29965	21
632	Transferring learning from external to internal weights in echo-state networks with sparse connectivity. 2012 , 7, e37372	24
631	Independently outgrowing neurons and geometry-based synapse formation produce networks with realistic synaptic connectivity. 2014 , 9, e85858	21
630	Persistent Memory in Single Node Delay-Coupled Reservoir Computing. 2016 , 11, e0165170	4
629	full-FORCE: A target-based method for training recurrent networks. 2018, 13, e0191527	44
628	Accelerating photonic computing by bandwidth enhancement of a time-delay reservoir. 2020 , 9, 4163-4171	7
627	Embedded neural controllers based on spiking neuron models. 2009 , 4, 143-154	2
626	BrainMachine Interface Engineering. 2007 , 2, 1-234	9

625	Nonlinear dynamics of the brain: emotion and cognition. 2010 , 180, 371	24
624	Why Brain Criticality Is Clinically Relevant: A Scoping Review. 2020 , 14, 54	26
623	Variational Online Learning of Neural Dynamics. 2020 , 14, 71	2
622	Computational capacity and energy consumption of complex resistive switch networks. 2015 , 2, 530-545	7
621	Unorganized Machines. 2011 , 2, 1-16	5
620	Nonlinear Internal Model Control Using Echo State Network for Pneumatic Muscle System. 2012 , 7,	3
619	Reservoir computing as an alternative to traditional artificial neural networks in rainfall-runoff modelling.	2
618	Transformation of temporal sequences in the zebra finch auditory system. 2016 , 5,	14
617	Biologically plausible learning in recurrent neural networks reproduces neural dynamics observed during cognitive tasks. 2017 , 6,	54
616	Predicting non-linear dynamics by stable local learning in a recurrent spiking neural network. 2017 , 6,	38
615	Learning recurrent dynamics in spiking networks. 2018 , 7,	24
614	Stable and dynamic representations of value in the prefrontal cortex. 2020 , 9,	17
613	Sample-level sound synthesis with recurrent neural networks and conceptors. 2019 , 5, e205	1
612	Cellular Automata Can Reduce Memory Requirements of Collective-State Computing. 2021, PP,	Ο
611	Information Processing Capacity of a Single-Node Reservoir Computer: An Experimental Evaluation. 2021 , PP,	1
610	56 GBaud PAM-4 100 Km Transmission System With Photonic Processing Schemes. 2021 , 1-1	3
609	Consistency Hierarchy of Reservoir Computers. 2021 , PP,	1
608	Signals to Spikes for Neuromorphic Regulated Reservoir Computing and EMG Hand Gesture Recognition. 2021 ,	Ο

607	Proposal of Complex-Valued Reservoir Computing for Topographic Aspect Classification. 2021,	Ο
606	Reservoir Computing Using Networks of CMOS Logic Gates. 2021 ,	Ο
605	Spiking Neuromorphic Networks for Binary Tasks. 2021 ,	1
604	Prediction Utilizing Photonic Reservoir Computing Based on Complex Chaotic Mask. 2021,	
603	Neural heterogeneity promotes robust learning. 2021 , 12, 5791	10
602	TRAKR - A reservoir-based tool for fast and accurate classification of neural time-series patterns.	
601	Visual exposure enhances stimulus encoding and persistence in primary cortex. 2021, 118,	O
600	Single-cell Networks Reorganise to Facilitate Whole-brain Supercritical Dynamics During Epileptic Seizures.	1
599	Dendritic Computing: Branching Deeper into Machine Learning. 2021,	2
598	Symmetry-aware reservoir computing. 2021 , 104, 045307	2
598 597	Symmetry-aware reservoir computing. 2021 , 104, 045307 Echo state network models for nonlinear Granger causality. 2021 , 379, 20200256	4
597	Echo state network models for nonlinear Granger causality. 2021 , 379, 20200256 A Review of Finite Element Analysis and Artificial Neural Networks as Failure Pressure Prediction	4
597 596	Echo state network models for nonlinear Granger causality. 2021 , 379, 20200256 A Review of Finite Element Analysis and Artificial Neural Networks as Failure Pressure Prediction Tools for Corroded Pipelines. 2021 , 14, Novel nondelay-based reservoir computing with a single micromechanical nonlinear resonator for	4
597 596 595	Echo state network models for nonlinear Granger causality. 2021, 379, 20200256 A Review of Finite Element Analysis and Artificial Neural Networks as Failure Pressure Prediction Tools for Corroded Pipelines. 2021, 14, Novel nondelay-based reservoir computing with a single micromechanical nonlinear resonator for high-efficiency information processing. 2021, 7, 83 In materia reservoir computing with a fully memristive architecture based on self-organizing	4
597 596 595	Echo state network models for nonlinear Granger causality. 2021, 379, 20200256 A Review of Finite Element Analysis and Artificial Neural Networks as Failure Pressure Prediction Tools for Corroded Pipelines. 2021, 14, Novel nondelay-based reservoir computing with a single micromechanical nonlinear resonator for high-efficiency information processing. 2021, 7, 83 In materia reservoir computing with a fully memristive architecture based on self-organizing nanowire networks. 2021,	4 4 1 26
597 596 595 594 593	Echo state network models for nonlinear Granger causality. 2021, 379, 20200256 A Review of Finite Element Analysis and Artificial Neural Networks as Failure Pressure Prediction Tools for Corroded Pipelines. 2021, 14, Novel nondelay-based reservoir computing with a single micromechanical nonlinear resonator for high-efficiency information processing. 2021, 7, 83 In materia reservoir computing with a fully memristive architecture based on self-organizing nanowire networks. 2021, Physical reservoir computing with FORCE learning in a living neuronal culture. 2021, 119, 173701	4 4 1 26 3

589	Combining machine learning and data assimilation to forecast dynamical systems from noisy partial observations. 2021 , 31, 101103	4
588	Liquid Computations and Large Simulations of the Mammalian Visual Cortex. 2006, 94-101	
587	Mapping of Natural Patterns by Liquid Architectures Implementing Neural Cliques. 2006, 123-131	
586	Large Scalable Simulations of Mammalian Visual Cortex. 2006 , 399-405	
585	Modeling Working Memory and Decision Making Using Generic Neural Microcircuits. 2006, 515-524	
584	Large-scale, Small-scale Systems. 2006 , 34-64	
583	Twenty-Five Years of Multielectrode Recordings in the Somatosensory System: It is All about Dynamics. 2008 , 315-330	
582	Photonic Reservoir Computing with Coupled Semiconductor Optical Amplifiers. 2008, 46-55	
581	Using Randomly Assembled Networks for Computation. 2009 , 80-84	
580	The Separation Property Enhancement of Liquid State Machine by Particle Swarm Optimization. 2009 , 67-76	O
579	A Neurocomputational Model of Anticipation and Sustained Inattentional Blindness in Hierarchies. 2009 , 152-169	
578	Stable Training Method for Echo State Networks Running in Closed-Loop Based on Particle Swarm Optimization Algorithm. 2009 , 253-262	1
577	Obliczenia py⊓owe w modelowaniu m⊠gu. 2009 ,	1
576	Modeling of Cortical Signals Using Optimized Echo State Networks with Leaky Integrator Neurons. 2009 , 10-18	1
575	References. 2010 , 201-224	
574	Stability and Topology in Reservoir Computing. 2010 , 245-256	3
573	Almost Random Projection Machine with Margin Maximization and Kernel Features. 2010, 40-48	1
572	Functional Architectures and Hierarchies of Time Scales. 2010 , 353-361	

Optimization in Reproducing Kernel Hilbert Spaces of Spike Trains. 2010, 3-29 571 Time Accounting Artificial Neural Networks for Biochemical Process Models. 2010, 181-199 570 Bibliography. 2010, 349-382 569 Delayed Synapses: An LSM Model for Studying Aspects of Temporal Context in Memory. 2011, 138-144 568 Pattern Recognition Using a Recurrent Neural Network Inspired on the Olfactory Bulb. 2011, 275-285 567 566 What Makes a Brain Smart? Reservoir Computing as an Approach for General Intelligence. 2011, 407-413 565 On the Learning of ESN Linear Readouts. 2011, 124-133 O Determining Reservoir Topologies from Short-Term Memory in Echo State Networks. 2012, 64-71 564 Optimization of Feature Extraction Filter for Facial Expression Utilizing GP. 2012, 132, 1656-1666 563 Encyclopedia of the Sciences of Learning. 2012, 1566-1568 562 Encyclopedia of the Sciences of Learning. 2012, 1893-1898 561 O 560 Optimized Simulation Framework for Spiking Neural Networks using GPU's. 2012, 12, 61-68 A Novel Photonics Approach to Unconventional Information Processing. 2012, 559 Temporal Finite-State Machines: A Novel Framework for the General Class of Dynamic Networks. 558 1 2012, 425-434 Continuous Classification of Spatio-temporal Data Streams Using Liquid State Machines. 2012, 626-633 557 4 556 Symbol Representations in Evolving Droplet Computers. **2012**, 130-140 Neural Networks in Cognitive Science. 2012, 58-83 555 3 Self-Organized Functional Hierarchy Through Multiple Timescales: Neuro-dynamical Accounts for 554 Behavioral Compositionality. 2013, 47-62

553	Towards a Wearable Coach: Classifying Sports Activities with Reservoir Computing. 2013, 233-242	1
552	Multidisciplinary Trends in Modern Artificial Intelligence: Turing∃ Way. 2013 , 319-343	
551	A Neurorobotics Approach to Investigating Word Learning Behaviors. 2013 , 270-295	
550	Sequential Memory Retention by Stabilization of Cell Assemblies. 2013 , 641-648	
549	Memory Trace in Spiking Neural Networks. 2013 , 264-271	
548	Strukturen kognitiver Systeme. 2013 , 153-219	
547	Real-Time Estimation of Speech Quality through the Internet Using Echo State Networks. 2013 , 183-188	1
546	Perceptrons. 2014 , 67-81	O
545	Encyclopedia of Computational Neuroscience. 2014 , 1-5	
544	Encyclopedia of Machine Learning and Data Mining. 2014 , 1-1	
211	Encyclopedia of Machine Learning and Data Milling. 2014, 1 1	
543	Artificial Neurogenesis: An Introduction and Selective Review. 2014 , 1-60	3
		3
543	Artificial Neurogenesis: An Introduction and Selective Review. 2014 , 1-60	
543 542	Artificial Neurogenesis: An Introduction and Selective Review. 2014 , 1-60 Unorganized Machines. 2014 , 221-236	O
543 542 541	Artificial Neurogenesis: An Introduction and Selective Review. 2014, 1-60 Unorganized Machines. 2014, 221-236 Nonlinear Adaptive Filtering in Kernel Spaces. 2014, 715-734	O
543 542 541 540	Artificial Neurogenesis: An Introduction and Selective Review. 2014, 1-60 Unorganized Machines. 2014, 221-236 Nonlinear Adaptive Filtering in Kernel Spaces. 2014, 715-734 Brain-like Information Processing for Spatio-Temporal Pattern Recognition. 2014, 813-834 Application of Precise-Spike-Driven Rule in Spiking Neural Networks for Optical Character	0
543 542 541 540 539	Artificial Neurogenesis: An Introduction and Selective Review. 2014, 1-60 Unorganized Machines. 2014, 221-236 Nonlinear Adaptive Filtering in Kernel Spaces. 2014, 715-734 Brain-like Information Processing for Spatio-Temporal Pattern Recognition. 2014, 813-834 Application of Precise-Spike-Driven Rule in Spiking Neural Networks for Optical Character Recognition. 2015, 65-75	0

535	Networks: A Reservoir Computing Approach. 2015 , 47-55	1
534	Potential Future Research Directions. 2015 , 111-114	
533	Scalable Digital CMOS Architecture for Spike Based Supervised Learning. 2015 , 149-158	1
532	Summary and Outlook. 2015 , 171-172	
531	Towards Fuzzy Logic Based Multimodal Speech Filtering. 2015 , 75-90	
530	Echo state networks with multiple readout modules.	
529	Graceful Degradation Under Noise on Brain Inspired Robot Controllers. 2016 , 195-204	2
528	How Much Computation and Distributedness is Needed in Sequence Learning Tasks?. 2016 , 274-283	1
527	Konnektomik mit zellul⊡er Pr⊠ision. 2016 , 22, 69-72	
526	Time Accounting Artificial Neural Networks for Biochemical Process Models. 2017 , 45-64	
525	Time Series from a Nonlinear Dynamical Systems Perspective. 2017 , 199-263	
524	A Spiking Neural Network System for Robust Sequence Recognition. 2017 , 89-113	1
523	A Spike-Timing Based Integrated Model for Pattern Recognition. 2017 , 43-63	
522	Building Scalable Integrated Silicon Photonics Reservoirs for Signal Processing. 2017,	
521	Learning Behavioural Routines for Early Detection of Health Changes. 2017, 173-179	
520	Encyclopedia of Machine Learning and Data Mining. 2017 , 1103-1104	0
519	Theoretical principles of multiscale spatiotemporal control of neuronal networks: a complex systems perspective.	
518	Reservoir Computing with a Small-World Network for Discriminating Two Sequential Stimuli. 2017 , 277-284	

517	Compressed timeline of recent experience in monkey lPFC.	1
516	Initial-state-dependent, robust, transient neural dynamics encode conscious visual perception.	
515	Hebbian Learning in a Random Network Captures Selectivity Properties of Prefrontal Cortex.	2
514	Individual differences in perceptual decision making reflect neural variability in medial frontal cortex.	
513	Familiarity Detection is an Intrinsic Property of Cortical Microcircuits with Bidirectional Synaptic Plasticity. 2017 , 4,	1
512	Specific Patterns of Bold Variability Associated with the Processing of Pain Stimuli.	
511	A random-matrix theory of the number sense.	
510	Encoding Sensory and Motor Patterns as Time-Invariant Trajectories in Recurrent Neural Networks.	Ο
509	Evolution in Nanomaterio: The NASCENCE Project. 2018 , 87-111	
508	Chunking sequence information by mutually predicting recurrent neural networks.	
507	Leveraging heterogeneity for neural computation with fading memory in layer 2/3 cortical microcircuits.	
506	Unsupervised clustering of temporal patterns in high-dimensional neuronal ensembles using a novel dissimilarity measure.	1
505	Supervised Learning Algorithm for Multi-spike Liquid State Machines. 2018 , 243-253	
504	Photonic Reservoir Computer with Output Feedback. 2018, 91-121	
503	Effects of Temporal Integration on Computational Performance of Spiking Neural Network. 2018 , 127-133	
502	Applying Macroclimatic Variables to Improve Flow Rate Forecasting Using Neural Networks Techniques. 2018 , 58-69	
501	Compressed Timeline of Recent Experience in Monkey lPFC.	
500	Use of Neural Networks in Q-Learning Algorithm. 2018 , 188-195	O

499	Introduction. 2018 , 1-37	
498	Silicon photonics for neuromorphic information processing. 2018,	
497	Learning recurrent dynamics in spiking networks.	
496	Spatiotemporal discrimination in attractor networks with short-term synaptic plasticity.	
495	Reinforcement Learning of a Memory Task Using an Echo State Network with Multi-layer Readout. 2019 , 17-26	O
494	Reservoir computing with delay in structured networks. 2018,	
493	Toward neuro-inspired computing using a small network of micro-ring resonators on an integrated photonic chip. 2018 ,	
492	Hardware based spatio-temporal neural processing backend for imaging sensors: Towards a smart camera. 2018 ,	
491	Randomness and isometries in echo state networks and compressed sensing. 2018,	
490	Towards integrated parallel photonic reservoir computing based on frequency multiplexing. 2018,	1
489	From Brain-Inspired AI to a Symbiosis of Human Intelligence and Artificial Intelligence. 2019 , 701-714	
488	Methods of Spiking Neural Networks. 2019 , 127-167	O
487	Integrating Time-Space and Orientation. A Case Study on fMRI + DTI Brain Data. 2019, 397-427	1
486	Modeling Cortical Neural Circuits with the Infomax Principle. 2018 , 25, 104-112	
485	Turbulence in the Hippocampus: An Ansatz for the Energy Cascade Hypothesis.	
484	Analysis of the Dynamics of the Echo State Network Model Using Recurrence Plot. 2019 , 353-361	
483	Comparison of Feature Extraction Techniques for Handwritten Digit Recognition with a Photonic Reservoir Computer. 2019 , 175-179	
482	Recurrent Neural Networks. 2019 , 351-371	3

481	Computing Hubs in the Hippocampus and Cortex.	О
480	Hyper-spherical Reservoirs for Echo State Networks. 2019 , 89-93	
479	From Morphological Computation to Morphological Intelligence. 2019 , 1-28	
478	Classification of Human Actions in Videos with a Large-Scale Photonic Reservoir Computer. 2019 , 156-160	
477	Reservoir-Size Dependent Learning in Analogue Neural Networks. 2019 , 184-192	
476	Perceptrons. 2019 , 81-95	O
475	Laser networks for reservoir computing: How can we optimize the performance?. 2019,	
474	Self-organization and Emergence of Dynamical Structures in Neuromorphic Atomic Switch Networks. 2019 , 391-427	2
473	A Theory of Morphological Intelligence. 2019 , 57-107	
472	Analysis of Tensor-Based Image Segmentation Using Echo State Networks. 2019 , 490-499	
471	Optimal biochemical information processing at criticality.	
470	A Robust Model of Gated Working Memory.	1
469	Short term memory properties of sensory neural architectures.	
468	Spatial and temporal structure of choice representations in primate prefrontal cortex.	
467	Adaptive Synergetic Controller for Stabilizing the Altitude and Angle of Mini Helicopter. 2019 , 38, 251-258	
466	Toward a continuous authentication system using a biologically inspired machine learning approach. 2019 ,	
465	On Buildings that Compute. A Proposal. 2020 , 311-335	
464	Towards Physical Biomimetic and Neuromorphic Device Consisting of Nanomaterial. 2019 , 62, 356-362	

463	Localist plasticity identified by mutual information.	
462	Sparsified and Twisted Residual Autoencoders. 2020 , 321-332	
461	Drifting codes within a stable coding scheme for working memory.	1
460	Randomly connected networks generate emergent selectivity and predict decoding properties of large populations of neurons.	
459	Aging, computation, and the evolution of neural regeneration processes.	Ο
458	A complete set of spintronic hardware building blocks for low power, small footprint, high performance neuromorphic architectures. 2019 ,	O
457	Neuromorphic information processing using silicon photonics. 2019,	1
456	Product Demand Forecasting Based on Reservoir Computing. 2020 , 15-25	1
455	Stable and dynamic representations of value in the prefrontal cortex.	
454	A Model for Navigation in Unknown Environments Based on a Reservoir of Hippocampal Sequences.	
453	A spiking neural-network model of goal-directed behaviour.	1
452	Reservoir Computing Using Asynchronous Cellular Automata. 2020 , 56, 8-15	
451	The Material Basis of Perceptual Information. 2020 , 52, 21-40	
450	Spike frequency adaptation supports network computations on temporally dispersed information.	1
449	Compiling Spiking Neural Networks to Neuromorphic Hardware. 2020,	17
448	Performance optimization of a reservoir computing system based on a solitary semiconductor laser under electrical-message injection. 2020 , 59, 6932-6938	1
447	. 2020,	2
446	Model-free inference of unseen attractors: Reconstructing phase space features from a single noisy trajectory using reservoir computing. 2021 , 31, 103127	4

445	Echo state network activation function based on bistable stochastic resonance. 2021 , 153, 111503	2
444	Method of Recurrent Neural Network Hardware Implementation. 2020 , 429-437	3
443	Morphological Computation of Skin Focusing on Fingerprint Structure. 2020, 470-481	
442	. 2020,	
441	Inverse mechano-electrical reconstruction of cardiac excitation wave patterns from mechanical deformation using deep learning. 2020 , 30, 123134	2
440	Minimally produced inkjet-printed tactile sensor model for improved data reliability. 2020,	1
439	Experimental Demonstration of Optoelectronic Equalization for Short-reach Transmission with Reservoir Computing. 2020 ,	1
438	Reducing the Size of Spiking Convolutional Neural Networks by Trading Time for Space. 2020 ,	O
437	The role of anatomical connection strength for interareal communication in macaque cortex.	
436	PaintKG: the painting knowledge graph using bilstm-crf. 2020 ,	
435	Hybrid Convolutional Optoelectronic Reservoir Computing for Image Recognition. 2021, 1-1	1
434	Neural Schrdinger Equation: Physical Law as Deep Neural Network. 2021 , PP,	2
433	Nonlinear Systems for Unconventional Computing. 2020 , 345-369	1
432	When Artificial Intelligence and Computational Neuroscience Meet. 2020 , 303-335	O
431	Analysis of Reservoir Structure Contributing to Robustness Against Structural Failure of Liquid State Machine. 2020 , 435-446	1
431		
	State Machine. 2020 , 435-446 Dynamic core periphery structure of information sharing networks in entorhinal cortex and	1

427	Liquid State Machine Applications Mapping for NoC-Based Neuromorphic Platforms. 2020, 277-289	Ο
426	Organization at criticality enables processing of time-varying signals by receptor networks. 2020 , 16, e8870	2
425	Effect of Diverse Recoding of Granule Cells on Optokinetic Response in A Cerebellar Ring Network with Synaptic Plasticity.	Ο
424	A Machine-Learning-Based Global Atmospheric Forecast Model.	
423	Learning precise spatiotemporal sequences via biophysically realistic circuits with modular structure.	
422	Soft-wired long-term memory in a natural recurrent neuronal network.	
421	H-Mem: Harnessing synaptic plasticity with Hebbian Memory Networks.	O
420	A Neurorobotics Approach to Investigating Word Learning Behaviors. 1738-1764	
419	Time-Varying Signals Classification Using a Liquid State Machine. 2005 , 133-139	
418	Life and Cognition. 2007 , 315-343	
417	Liquid State Constis Programming 2007, 220, 220	
	Liquid State Genetic Programming. 2007 , 220-229	1
416	A Testbed for Neural-Network Models Capable of Integrating Information in Time. 2006 , 189-217	1
416 415		1
	A Testbed for Neural-Network Models Capable of Integrating Information in Time. 2006 , 189-217	
415	A Testbed for Neural-Network Models Capable of Integrating Information in Time. 2006, 189-217 Can Get You Out of My Head: A Connectionist Model of Cyclic Rehearsal. 2008, 310-335	1
415 414	A Testbed for Neural-Network Models Capable of Integrating Information in Time. 2006, 189-217 CanEl Get You Out of My Head: A Connectionist Model of Cyclic Rehearsal. 2008, 310-335 Covert Attention with a Spiking Neural Network. 2008, 56-65	1
415 414 413	A Testbed for Neural-Network Models Capable of Integrating Information in Time. 2006, 189-217 Can B Get You Out of My Head: A Connectionist Model of Cyclic Rehearsal. 2008, 310-335 Covert Attention with a Spiking Neural Network. 2008, 56-65 Perception for Action in Insects. 2009, 3-42 Impact of optical coherence on the performance of large-scale spatiotemporal photonic reservoir	1

409 Chaotification as a Method for the Treatment of Uncertainty. **2021**,

	Comparison of Memory Mechanisms Based on Adaptive Threshold Potential and Short-Term	
408	Synaptic Plasticity. 2022 , 334-343	1
407	Bio-inspired computing by nonlinear network dynamics - a brief introduction.	О
406	Unifying framework for information processing in stochastically driven dynamical systems. 2021 , 3,	7
405	Microring resonators with external optical feedback for time delay reservoir computing 2022, 30, 522-537	1
404	An echo state network with attention mechanism for production prediction in reservoirs. 2021 , 209, 109920	3
403	Traveling Waves in Quasi-One-Dimensional Neuronal Minicolumns. <i>Neural Computation</i> , 2021 , 1-26 2.9	О
402	Optimal information loading into working memory in prefrontal cortex.	O
401	Using top-down modulation to optimally balance shared versus separated task representations 2021 , 146, 256-271	O
400	Second-Order Information Bottleneck based Spiking Neural Networks for sEMG Recognition. 2021,	3
399	Supervised training of spiking neural networks for robust deployment on mixed-signal neuromorphic processors. 2021 , 11, 23376	3
398	Performance Improvement of FORCE Learning for Chaotic Echo State Networks. 2021 , 262-272	O
397	A Nonlinear Hidden Layer Enables Actor-Critic Agents to Learn Multiple Paired Association Navigation 2022 ,	0
396	Processing-Response Dependence on the On-Chip Readout Positions in Spin-Wave Reservoir Computing. 2021 , 296-307	
395	Testing the state-dependent model of time perception against experimental evidence.	
394	Probabilistic Deterministic Finite Automata and Recurrent Networks, Revisited 2022, 24,	
393	Reservoir Computing Meets Extreme Learning Machine in Real-Time MIMO-OFDM Receive Processing. 2022 , 1-1	2
392	ZIZO: A Novel Zoom-Indoom-Out Search Algorithm for the Global Parameters of Echo-State Networks. 2017 , 40, 210-216	

391	ILS-based Reservoir Computing for Handwritten Digits Recognition. 2020,	O
390	Recent Advances in Reservoir Computing With A Focus on Electronic Reservoirs. 2020,	O
389	Exploration of Input Patterns for Enhancing the Performance of Liquid State Machines. 2020,	2
388	Technological and Legal Aspects of the Use of Machine Learning Elements in Chaotic Information Processing Systems. 2020 ,	
387	Split-Stack 2D-CNN for Hand Gestures Recognition Based on Surface EMG Decoding. 2020 ,	1
386	Robust Implementation of Memristive Reservoir Computing with Crossbar Based Readout Layer. 2020 ,	1
385	FPGA Implementation of Random Vector Functional Link Networks based on Elementary Cellular Automata. 2020 ,	
384	Generalised Synchronisation for Continuous Time Reservoir Computers.	
383	Effect of Neural Decay Factors on Prediction Performance in Chaotic Echo State Networks. 2021,	1
382	Approaching the Area of Neuromorphic Computing Circuit and System Design. 2021,	
381	Improving full-FORCE with dynamical data coupling and multilayer architecture. 2021,	
380	Implementation of a Chaotic Neural Network Reservoir on a TSV/\$mutext{Bump}\$ Stacked 3D Cyclic Neural Network Integrated Circuit. 2021 ,	1
379	Embedding information onto a dynamical system. 2022 , 35, 1131-1151	1
378	Signal denoising through topographic modularity of neural circuits.	
377	Forecasting high-frequency spatio-temporal wind power with dimensionally reduced echo state networks.	2
376	Photonic neuromorphic technologies in optical communications. 2022,	1
375	Photonic reservoir computer based on frequency multiplexing 2022 , 47, 782-785	O
374	SERS-based ssDNA composition analysis with inhomogeneous peak broadening and reservoir computing. 2022 , 120, 023701	o

373	2022 roadmap on neuromorphic computing and engineering.	24
372	Parallel Time-Delay Reservoir Computing With Quantum Dot Lasers. 2022 , 58, 1-9	2
371	Nonlinear input transformations are ubiquitous in quantum reservoir computing.	1
370	Supermind: a survey of the potential of superconducting electronics for neuromorphic computing.	7
369	Reservoir Computing Using DNA Oscillators 2022,	1
368	Surface electromyography classification using extreme learning machines and echo state networks. 1	1
367	Natural quantum reservoir computing for temporal information processing 2022, 12, 1353	1
366	Reservoir weights learning based on adaptive dynamic programming and its application in time series classification. 1	O
365	Performance of reservoir computing in a random network of single-walled carbon nanotubes complexed with polyoxometalate. 2022 , 2, 014003	2
364	Bluetooth Indoor Localization with Gaussian-Bernoulli Restricted Boltzmann Machine plus Liquid State Machine. 2022 , 1-1	2
363	Emerging dynamic memristors for neuromorphic reservoir computing 2021,	5
362	Numerical simulation of reservoir computing with magnetic nanowire lattices without inversion symmetry. 2022 , 120, 022404	O
361	Time-delayed reservoir computing based on an optically pumped spin VCSEL for high-speed processing. 2022 , 107, 2619	2
360	The role of delay-times in delay-based photonicreservoir computing.	6
359	Noise effects on time delay reservoir computing using silicon microring resonators. 2022,	
358	LSMCore: A 69k-Synapse/mm\(\)Single-Core Digital Neuromorphic Processor for Liquid State Machine. 2022 , 1-14	2
357	Nanosecond Pulse Generation in Optically Pumped Dual-Wavelength Vertical-External-Cavity Surface-Emitting Laser. 2022 , 1-1	
356	On the Nature of Functional Differentiation: The Role of Self-Organization with Constraints 2022 , 24,	1

355	Machine learning characterization of cancer patients-derived extracellular vesicles using vibrational spectroscopies: results from a pilot study 1	1
354	Hardware-aware liquid state machine generation for 2D/3D Network-on-Chip platforms. 2022 , 102429	
353	Consciousness is supported by near-critical slow cortical electrodynamics 2022, 119,	3
352	Learning Temporal Quantum Tomography 2021 , 127, 260401	2
351	Drowsiness Estimation of Drivers Using Echo State Networks. 2022 , 13, 60-67	
350	Covariance Features Improve Low-Resource Reservoir Computing Performance in Multivariate Time Series Classification. 2022 , 587-601	
349	Neuromorphic behaviour in discontinuous metal films 2022,	О
348	Artificial intelligence based learning for wireless application 🖪 survey. 2022,	
347	Functional connectivity analysis on hierarchical reservoir computing model. 2022, 13, 446-451	
346	Neuromorphic Neural Interfaces. 2022 , 1-33	Ο
345	Next generation reservoir computing implemented by memristor array. 2022,	
		0
344	Multi-Joint Motion Estimation of a Soft Gait Assistive Suit Using Pneumatic Reservoir Computing. 2022 ,	0
344		0
	Spatiotemporal forecasting for dengue, chikungunya fever and Zika using machine learning and	
343	Spatiotemporal forecasting for dengue, chikungunya fever and Zika using machine learning and artificial expert committees based on meta-heuristics. 1 Predicting vertical ground reaction forces from 3D accelerometery using reservoir computers leads	
343	Spatiotemporal forecasting for dengue, chikungunya fever and Zika using machine learning and artificial expert committees based on meta-heuristics. 1 Predicting vertical ground reaction forces from 3D accelerometery using reservoir computers leads to accurate gait event detection.	O
343 342 341	Spatiotemporal forecasting for dengue, chikungunya fever and Zika using machine learning and artificial expert committees based on meta-heuristics. 1 Predicting vertical ground reaction forces from 3D accelerometery using reservoir computers leads to accurate gait event detection. Virtual reservoir computer using an optical resonator. 2022, 12, 1140	O

337	Spatiotemporal dynamics in spiking recurrent neural networks using modified-full-FORCE on EEG signals 2022 , 12, 2896	О
336	Enhancing the Recognition Task Performance of MEMS Resonator-Based Reservoir Computing System via Nonlinearity Tuning 2022 , 13,	o
335	Neural Kernels for Recursive Support Vector Regression as a Model for Episodic Memory.	
334	Liquid State Machine on SpiNNaker for Spatio-Temporal Classification Tasks 2022 , 16, 819063	1
333	Photonic Kernel Machine Learning for Ultrafast Spectral Analysis. 2022 , 17,	0
332	Experimental photonic quantum memristor. 2022 , 16, 318-323	5
331	Phase-change memtransistive synapses for mixed-plasticity neural computations 2022,	10
330	A Bifunctional Memristor Enables Multiple Neuromorphic Computing Applications. 2101235	1
329	Elect of biologically-motivated energy constraints on liquid state machine dynamics and classiflation performance.	
328	Processing IMU action recognition based on brain-inspired computing with microfabricated MEMS resonators.	O
327	Fuzzy-Weighted Echo State Networks. 2022 , 9,	
326	Integrating Recurrent Neural Networks With Data Assimilation for Scalable Data-Driven State Estimation. 2022 , 14,	2
325	Artificial Intelligence in Classical and Quantum Photonics. 2100399	1
324	Breast Cancer Recognition Using Saliency-Based Spiking Neural Network. 2022 , 2022, 1-17	
323	Rotating neurons for all-analog implementation of cyclic reservoir computing 2022, 13, 1549	3
322	Transient chaos in bidirectional encoder representations from transformers. 2022, 4,	
321	Predicting remaining useful life of turbofan engines using degradation signal based echo state network. 2022 ,	
320	Reservoir time series analysis: Using the response of complex dynamical systems as a universal indicator of change 2022 , 32, 033109	1

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318	Filter-based photonic reservoir computing as a key-enabling platform for all-optical, high-speed processing of time-stretched images and telecomm data. 2022 ,	0
317	Automotive Radar Processing With Spiking Neural Networks: Concepts and Challenges 2022, 16, 851774	2
316	Adaptive time-delayed photonic reservoir computing based on Kalman-filter training 2022, 30, 13647-13658	2
315	Deep learning in optics and photonics for statistical inference, computing, and inverse design.	1
314	Learning to represent continuous variables in heterogeneous neural networks 2022 , 39, 110612	O
313	Synchronization between two linearly coupled reservoir computers. 2022 , 157, 111882	O
312	P-CRITICAL: a reservoir autoregulation plasticity rule for neuromorphic hardware.	O
311	Rate chaos and memory lifetime in spiking neural networks. 2022 , 158, 112011	1
310	Predicting chaotic time series and replicating chaotic attractors based on two novel echo state network models. 2022 , 491, 321-332	O
309	Dynamic resistive switching devices for neuromorphic computing. 2022 , 37, 024003	2
308	Tradeoffs with physical delay feedback reservoir computing. 2021 ,	
307	Analysis of visual processing capabilities and neural coding strategies of a detailed model for laminar cortical microcircuits in mouse V1.	
306	A preliminary evaluation of Echo State Networks for Brugada syndrome classification. 2021 ,	О
305	Evolving spiking neuron cellular automata and networks to emulate in vitro neuronal activity. 2021,	
304	Measuring context dependency in birdsong using artificial neural networks 2021 , 17, e1009707	О
303	Neuromorphic Computing Systems with Emerging Devices. 2022 , 173-216	
302	Nonlinear computations in spiking neural networks through multiplicative synapses. 1,	1

301	Reservoir computing with random and optimized time-shifts 2021 , 31, 121103	O
300	Comparing different nonlinearities in readout systems for optical neuromorphic computing networks 2021 , 11, 24152	
299	Robust forecasting using predictive generalized synchronization in reservoir computing 2021 , 31, 123118	1
298	Fourier Reservoir Computing for data-driven prediction of multi-scale coupled quasi-geostrophic dynamics.	
297	Second-order Time Delay Reservoir Computing for Nonlinear Time Series Problems. 2021,	O
296	Graceful Degradation of Recurrent Neural Networks as a Function of Network Size, Memory Length, and Connectivity Damage.	
295	Neural kernels for recursive support vector regression as a model for episodic memory 2022, 1	O
294	Resonant neuronal groups. 2022 , 100104	
293	Reservoir Computing for Temporal Data Classification Using a Dynamic Solid Electrolyte ZnO Thin Film Transistor. 2022 , 3,	1
292	Classification of Whisker Deflections From Evoked Responses in the Somatosensory Barrel Cortex With Spiking Neural Networks 2022 , 16, 838054	О
291	Neural echo state network using oscillations of gas bubbles in water 2022 , 105, 044206	1
290	Applications and Techniques for Fast Machine Learning in Science 2022 , 5, 787421	O
289	Wavelength dimension in waveguide-based photonic reservoir computing 2022 , 30, 15634-15647	2
288	Parallel Machine Learning for Forecasting the Dynamics of Complex Networks 2022, 128, 164101	О
287	Durable Pneumatic Artificial Muscles with Electric Conductivity for Reliable Physical Reservoir Computing. 2022 , 34, 240-248	1
286	In-materio computing in random networks of carbon nanotubes complexed with chemically dynamic molecules: a review.	O
285	Data_Sheet_1.docx. 2018,	
284	Table_1.xlsx. 2018 ,	

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283 Table_2.xlsx. 2018, Data_Sheet_1.pdf. 2019, 282 Data_Sheet_1.docx. 2020, 281 Data_Sheet_1.PDF. 2020, 280 Data_Sheet_1.PDF. 2020, 279 Data_Sheet_1.PDF. 2020, 278 277 Video_1.MP4. 2020, 276 Presentation1.pdf. 2018, Video1.MP4. 2018, 275 Video2.MP4. 2018, 274 Presentation1.pdf. 2018, 273 Data_Sheet_1.PDF. 2020, 272 Data_Sheet_1.pdf. 2019, 271 Data_Sheet_1.pdf. 2018, 270 Data_Sheet_1.PDF. 2020, 269 268 Image_1.PDF. **2020**, Image_2.PDF. 2020, 267 Image_3.PDF. 2020, 266



247	Presentation_1.pdf. 2020 ,	
246	Data_Sheet_1.PDF. 2018 ,	
245	Data_Sheet_1.PDF. 2019 ,	
244	In Search of a Neural Model for Serial Order: a Brain Theory for Memory Development and Higher-Level Cognition. 2022 , 1-1	o
243	In-materio reservoir working at low frequencies in a AgS-island network 2022,	1
242	Efficient Optimized Spike Encoding of Multivariate Time-series. 2022 ,	o
241	Learning Dynamics by Reservoir Computing (In Memory of Prof. Pavol Brunovsk)	1
240	Optimal Population Coding for Dynamic Input by Nonequilibrium Networks. 2022 , 24, 598	
239	Evolutionary Neural Architecture Design of Liquid State Machine for Image Classification. 2022,	
238	DNA Memristors and Their Application to Reservoir Computing 2022,	
237	Machine-learning potential of a single pendulum. 2022 , 105,	
		1
236	Modulo Event-Driven Sampling: System Identification and Hardware Experiments. 2022,	1
236	Modulo Event-Driven Sampling: System Identification and Hardware Experiments. 2022 , Information Processing Capacity in the Rat Auditory Cortex. 2022 , 142, 569-577	1
		1
235	Information Processing Capacity in the Rat Auditory Cortex. 2022 , 142, 569-577	0
235	Information Processing Capacity in the Rat Auditory Cortex. 2022 , 142, 569-577 Information Processing Capacity of Dissociated Culture of Cortical Neurons. 2022 , 142, 578-585	
235 234 233	Information Processing Capacity in the Rat Auditory Cortex. 2022, 142, 569-577 Information Processing Capacity of Dissociated Culture of Cortical Neurons. 2022, 142, 578-585 Revisiting the edge of chaos: Again?. 2022, 104693 High-Speed Reservoir Computing Based on Circular-Side Hexagonal Resonator Microlaser with	

229	Motor pattern generation is robust to neural network anatomical imbalance favoring inhibition but not excitation.	О
228	Continual Sequence Modeling With Predictive Coding. 2022 , 16,	O
227	Developing a structural-based local learning rule for classification tasks using ionic liquid space-based reservoir.	
226	Thermodynamic State Machine Network. 2022 , 24, 744	0
225	A Long Short-Term Memory for AI Applications in Spike-based Neuromorphic Hardware. 2022 , 4, 467-479	3
224	Reservoir Computing for Early Stage Alzheimer Disease Detection. 2022, 1-1	O
223	Seeking optimal parameters for achieving a lightweight reservoir computing: A computational endeavor. 2022 , 30, 3004-3018	
222	Exploring Parameter and Hyper-Parameter Spaces of Neuroscience Models on High Performance Computers With Learning to Learn. 16,	O
221	Short-wavelength reverberant wave systems for physical realization of reservoir computing. 2022 , 4,	
220	Convolutional Echo-State Network with Random Memristors for Spatiotemporal Signal Classification. 2200027	1
219	Flexible cognition in rigid reservoir networks modulated by behavioral context.	0
218	An Event Based Gesture Recognition System Using a Liquid State Machine Accelerator. 2022,	
217	Operative dimensions in unconstrained connectivity of recurrent neural networks.	
216	Adapting reservoir computing to solve the Schrdinger equation. 2022 , 32, 063111	
215	PyRCN: A toolbox for exploration and application of Reservoir Computing Networks. 2022, 113, 104964	1
214	Echo State Networks in Data Marketplaces for Digital Content Creation. 2022 , 375-385	
213	Research on the optimization of the photonics reservoir computing using short internal cavity laser. 2022 ,	
212	Numerical Bifurcation Analysis of PDEs From Lattice Boltzmann Model Simulations: a Parsimonious Machine Learning Approach. 2022 , 92,	1

211	Codimension-2 parameter space structure of continuous-time recurrent neural networks.	О
210	Spintronic reservoir computing without driving current or magnetic field. 2022 , 12,	O
209	Dissecting cell fate dynamics in pediatric glioblastoma through the lens of complex systems and cellular cybernetics.	
208	Hopping-Transport Mechanism for Reconfigurable Logic in Disordered Dopant Networks. 2022 , 17,	O
207	Gradient-based learning drives robust representations in recurrent neural networks by balancing compression and expansion. 2022 , 4, 564-573	0
206	Simulation platform for pattern recognition based on reservoir computing with memristor networks. 2022 , 12,	O
205	Boosting learning ability of overdamped bistable stochastic resonance system based physical reservoir computing model by time-delayed feedback. 2022 , 161, 112314	О
204	Recurrent Network Models, Reservoir Computing. 2022 , 3003-3006	
203	FPGA-based Reservoir Computing with Optimized Reservoir Node Architecture. 2022,	
202	Online Assistance Control of a Pneumatic Gait Assistive Suit Using Physical Reservoir Computing Exploiting Air Dynamics. 2022 ,	1
201	SaARSP: An Architecture for Systolic-Array Acceleration of Recurrent Spiking Neural Networks.	
200	KNOWM memristors in a bridge synapse delay-based reservoir computing system for detection of epileptic seizures. 1-16	O
199	Complicated Dynamics of a Delayed Photonic Reservoir Computing System. 2022 , 32,	
198	Strong and reliable synaptic communication between pyramidal neurons in adult human cerebral cortex.	O
197	Generative Models of Brain Dynamics. 5,	O
196	Spoken digit recognition utilizing a reservoir computing system based on mutually coupled VCSELs under optical injection. 2022 , 1, 1593	
195	Hands-on reservoir computing: a tutorial for practical implementation.	1
194	Hilbert space as a computational resource in reservoir computing. 2022 , 4,	1

193	A systematic exploration of reservoir computing for forecasting complex spatiotemporal dynamics. 2022 , 153, 530-552	1
192	Ultra-Compact, Scalable, Energy-Efficient \$VO_{2}\$ Insulator-Metal-Transition Oxide Based Spiking Neurons for Liquid State Machines. 2020 ,	
191	Synchrony-Based State Representation for Classification by Liquid State Machines. 2021,	
190	Beyond CMOS. 2021 ,	O
189	A Review of Mathematical and Computational Methods in Cancer Dynamics. 12,	0
188	Dynamic Nonlinear Behavior of Ionic Liquid-Based Reservoir Computing Devices.	3
187	Policy-based Fully Spiking Reservoir Computing for Multi-Agent Distributed Dynamic Spectrum Access. 2022 ,	0
186	Experimental demonstration of novel scheme of HZO/Si FeFET reservoir computing with parallel data processing for speech recognition. 2022 ,	O
185	3D Reservoir Computing with High Area Efficiency (5.12 TOPS/mm2) Implemented by 3D Dynamic Memristor Array for Temporal Signal Processing. 2022 ,	
184	A Simple Memristive Circuit for Pattern Classification Based on Reservoir Computing. 2022 , 32,	
183	Reservoir computing with diverse timescales for prediction of multiscale dynamics. 2022, 4,	О
182	Biomorphic robot controls: event driven model free deep SNNs for complex visuomotor tasks. 2022 , 27, 429-440	
181	Thin liquid film as an optical nonlinear-nonlocal medium and memory element in integrated optofluidic reservoir computer. 2022 , 4,	
180	Unicorn. 2022,	Ο
179	Training a Neural Network with Exciton-Polariton Optical Nonlinearity. 2022, 18,	О
178	Reservoir computing on a silicon platform with a ferroelectric field-effect transistor. 2022 , 1,	O
177	Anticipating measure synchronization in coupled Hamiltonian systems with machine learning. 2022 , 32, 083136	
176	Machine Learning Prediction of 6-DOF Motions of KVLCC2 Ship Based on RC Model. 2022 ,	

175	Enhanced Prediction Performance of Reservoir Computing Based on Mutually Delay-Coupled Semiconductor Lasers via Parameter Mismatch. 2022 , 11, 2577	
174	Semiconductor technologies and related topics for implementation of electronic reservoir computing systems.	
173	Neuromorphic Liquids, Colloids and Gels: A´Review.	
172	Polyoxometalate Accelerated Cationic Migration for Reservoir Computing. 2204721	1
171	Synchronization phenomena in dual-transistor spiking oscillators realized experimentally towards physical reservoirs. 2022 , 162, 112415	1
170	Reservoir consisting of diverse dynamical behaviors and its application in time series classification.	Ο
169	Real-time thermoacoustic data assimilation. 2022 , 948,	1
168	Continuum-Body-Pose Estimation From Partial Sensor Information Using Recurrent Neural Networks. 2022 , 7, 11244-11251	1
167	EEG-based emotion recognition using random Convolutional Neural Networks. 2022, 116, 105349	1
166	Assessing the robustness of critical behavior in stochastic cellular automata. 2022 , 441, 133507	O
165	Photonic Reservoir Computing: Exploiting Complex Photonics for Information Processing. 2020 , 48, 228	О
164	An Inkjet-Printed Artificial Neuron for Physical Reservoir Computing. 2022, 1-1	1
163	Model Predictive Control for Active Vibration Control of HEV Powertrains Using Reservoir Computing. 2022 , 58, 429-441	O
162	Misestimation of the Performance in Vcsel-Based Reservoir Computing Experimental Systems with Optical Information Injection Resulted by High Surface Reflectivity.	O
161	Liquid State Machine on Loihi: Memory Metric for Performance Prediction. 2022, 692-703	O
160	RF Fingerprinting Based on Reservoir Computing Using Narrowband Optoelectronic Oscillators. 2022 , 1-12	1
159	Dynamic Vision Sensor Based Gesture Recognition Using Liquid State Machine. 2022, 618-629	O
158	Create Efficient and Complex Reservoir Computing Architectures with ReservoirPy. 2022 , 91-102	O

157	Causal Influences Decouple From Their Underlying Network Structure In Echo State Networks. 2022 ,	O
156	Proposal of Reconstructive Reservoir Computing to Detect Anomaly in Time-series Signals. 2022,	O
155	Memristor Based Circuit Design for Liquid State Machine Verified with Temporal Classification. 2022 ,	O
154	Efficient Fake News Detection using Bagging Ensembles of Bidirectional Echo State Networks. 2022 ,	O
153	Ground Reaction Force Estimation in a Quadruped Robot via Liquid State Networks. 2022,	0
152	Heterogeneous Reservoir Computing Models for Persian Speech Recognition. 2022,	O
151	Assembly of Echo State Networks Driven by Segregated Low Dimensional Signals. 2022,	O
150	A conceptual analysis for the measurement of stress intensity by deep learning using EEG signals. 2022 ,	O
149	Efficient Time Series Classification using Spiking Reservoir. 2022,	О
148	Learning in Feedback-driven Recurrent Spiking Neural Networks using full-FORCE Training. 2022,	O
147	Deep Reservoir Computing Based Random Vector Functional Link for Non-sequential Classification. 2022 ,	0
146	Exploring the limits of multifunctionality across different reservoir computers. 2022,	O
145	Structural plasticity driven by task performance leads to criticality signatures in neuromorphic oscillator networks. 2022 , 12,	O
144	How critical is brain criticality?. 2022,	2
143	Optimal Mapping of Spiking Neural Network to Neuromorphic Hardware for Edge-Al. 2022 , 22, 7248	O
142	Focused surface acoustic wave induced nano-oscillator based reservoir computing. 2022 , 121, 102402	O
141	Thermal Management in Neuromorphic Materials, Devices, and Networks. 2205098	O
140	Spike-train level supervised learning algorithm based on bidirectional modification for liquid state machines.	O

139	Topology-Aware Mapping of Spiking Neural Network to Neuromorphic Processor. 2022, 11, 2867	О
138	Generalized multiplicative stochastic processes arising from one-dimensional maps with noise.	O
137	A Coupled Spintronics Neuromorphic Approach for High-Performance Reservoir Computing. 2200123	О
136	Hybrid quantum-classical reservoir computing of thermal convection flow. 2022 , 4,	O
135	A memristor-based analogue reservoir computing system for real-time and power-efficient signal processing.	7
134	Film-penetrating transducers applicable to on-chip reservoir computing with spin waves. 2022 , 132, 123902	O
133	Synchronization of reservoir computing models via a nonlinear controller. 2022, 128205	О
132	On the benefits and limitations of Echo State Networks for turbulent flow prediction.	O
131	Prediction of dynamic systems driven by L $\overline{\mathbb{Q}}$ y noise based on deep learning.	О
130	Time series reconstructing using calibrated reservoir computing. 2022 , 12,	O
130	Time series reconstructing using calibrated reservoir computing. 2022, 12, Deriving task specific performance from the information processing capacity of a reservoir computer. 2022,	2
	Deriving task specific performance from the information processing capacity of a reservoir	
129	Deriving task specific performance from the information processing capacity of a reservoir computer. 2022 ,	2
129	Deriving task specific performance from the information processing capacity of a reservoir computer. 2022 , Guiding principle of reservoir computing based on Emall-world[hetwork. 2022 , 12,	2
129 128 127	Deriving task specific performance from the information processing capacity of a reservoir computer. 2022, Guiding principle of reservoir computing based on Emall-world[hetwork. 2022, 12, Self-organization of an inhomogeneous memristive hardware for sequence learning. 2022, 13,	2 1
129 128 127	Deriving task specific performance from the information processing capacity of a reservoir computer. 2022, Guiding principle of reservoir computing based on Bmall-world[hetwork. 2022, 12, Self-organization of an inhomogeneous memristive hardware for sequence learning. 2022, 13, Composite FORCE Learning of Chaotic Echo State Networks for Time-Series Prediction. 2022,	2 1 0
129 128 127 126	Deriving task specific performance from the information processing capacity of a reservoir computer. 2022, Guiding principle of reservoir computing based on Bmall-world[hetwork. 2022, 12, Self-organization of an inhomogeneous memristive hardware for sequence learning. 2022, 13, Composite FORCE Learning of Chaotic Echo State Networks for Time-Series Prediction. 2022, Extended liquid state machines for speech recognition. 16,	2 1 0 0 0

121	Online Time-Series Forecasting using Spiking Reservoir. 2022 ,	1
120	Computational capacity of LRC , memristive, and hybrid reservoirs. 2022 , 106,	O
119	Data-driven prediction and control of extreme events in a chaotic flow. 2022 , 7,	0
118	An optoelectronic synapse based on <code>Bn2Se3</code> with controllable temporal dynamics for multimode and multiscale reservoir computing.	6
117	Mechanical neural networks: Architected materials that learn behaviors. 2022 , 7,	1
116	Reservoir Computing-Based Design of ZnO Memristor-Type Digital Identification Circuits. 2022 , 13, 1700	Ο
115	Integration of velocity-dependent spatio-temporal structure of place cell activation during navigation in a reservoir model of prefrontal cortex.	O
114	Analysis of Neuroevolution for Feedforward Neural Networks. 2023 , 387-400	O
113	Lipreading Using Liquid State Machine with STDP-Tuning. 2022 , 12, 10484	O
112	Learn one size to infer all: Exploiting translational symmetries in delay-dynamical and spatiotemporal systems using scalable neural networks. 2022 , 106,	Ο
111	Learning Ocean Circulation Models with Reservoir Computing.	O
110	Parallel and deep reservoir computing using semiconductor lasers with optical feedback. 2022,	1
109	Precipitation forecast in China based on reservoir computing.	Ο
108	Learning unseen coexisting attractors. 2022 , 32, 113107	O
107	A data-based large-scale model for primary visual cortex enables brain-like robust and versatile visual processing. 2022 , 8,	O
106	InputDutput BMI Models. 2007, 57-98	O
105	Ensemble Deep Random Vector Functional Link Neural Network for Regression. 2022 , 1-12	O
104	Variability-Controlled HfZrO\$_{text{2}}\$ Ferroelectric Tunnel Junctions for Reservoir Computing. 2022 , 1-7	О

103	Neuromorphic Computing for Interactive Robotics: A Systematic Review. 2022, 1-1	O
102	Hotspot Prediction of Network-on-Chip for Neuromorphic Processor with Liquid State Machine. 2022 ,	O
101	Predicting shallow water dynamics using echo-state networks with transfer learning. 2022, 13,	O
100	Cerebellar-driven cortical dynamics enable task acquisition, switching and consolidation.	О
99	State-transfer modeling collective behavior of multi-ball Bernoulli system based on local interaction forces. 9,	0
98	Misestimate of the performance in VCSEL-basedreservoir computing systems with optical informationinjection resulted by high surface reflectivity.	O
97	Key role of neuronal diversity in structured reservoir computing. 2022 , 32, 113130	О
96	On the Optimization of Machine Learning Techniques for Chaotic Time Series Prediction. 2022 , 11, 3612	O
95	Equivalence of machine learning models in modeling chaos. 2022 , 165, 112831	O
94	Optoelectronic integrated circuits for analog optical computing: Development and challenge. 10,	O
93	A novel Bayesian ensembling model for wind power forecasting. 2022 , e11599	О
92	Echo state networks for embodied evolution in robotic swarms.	O
91	Insect-Inspired Spiking Neural Controllers for Adaptive Behaviors in Bio-Robots. 2022 , 25, 19-27	О
90	A Novel Approach to Time Series Complexity via Reservoir Computing. 2022 , 442-455	O
89	Parameterizing echo state networks for multi-step time series prediction. 2023, 522, 214-228	1
88	A Physical Reservoir Computing Model Based on Volatile Memristor for Temporal Signal Processing. 2022 ,	O
87	Benchmarking the Role of Particle Statistics in Quantum Reservoir Computing. 2200100	0
86	An overview of brain-like computing: Architecture, applications, and future trends. 16,	O

85	A Perovskite Memristor with Large Dynamic Space for Analog-Encoded Image Recognition.	О
84	Artificial Intelligence and Advanced Materials. 2208683	1
83	Machine intelligence-driven classification of cancer patients-derived extracellular vesicles using fluorescence correlation spectroscopy: results from a pilot study.	0
82	Edge-of-chaos learning achieved by ion-electronfloupled dynamics in an ion-gating reservoir. 2022 , 8,	О
81	Multi-task photonic time-delay reservoir computing based on polarization modulation. 2022, 47, 6464	0
80	Asynchronous photonic time-delay reservoir computing.	O
79	Ag2S island network reservoir that works with direct optical signal inputs.	0
78	Input-driven chaotic dynamics in vortex spin-torque oscillator. 2022 , 12,	О
77	Trends in recurrence analysis of dynamical systems.	1
76	Forecasting Solar Cycle 25 with Physical Model-Validated Recurrent Neural Networks. 2023 , 298,	О
75	Spatial and temporal correlations in neural networks with structured connectivity. 2023, 5,	0
74	Photonic multiplexing techniques for neuromorphic computing. 2023,	1
73	Association between different sensory modalities based on concurrent time series data obtained by a collaborative reservoir computing model. 2023 , 13,	0
7 ²	Data assimilation with hybrid modeling. 2023 , 167, 113069	o
71	Recurrent Spectral Network (RSN): Shaping a discrete map to reach automated classification. 2023 , 168, 113128	0
70	Memristor based Reservoir Network for Chaotic Time Series Prediction. 2022,	o
69	Voltage prognosis of PEMFC estimated using Multi-Reservoir Bidirectional Echo State Network. 2022 ,	0
68	Spiking Reservoir Computing for Temporal Edge Intelligence on Loihi. 2022,	О

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67	Hybrid Enhanced Echo State Network for Nonlinear Prediction of Multivariate Chaotic Time Series. 2022 ,	О
66	Precise traits from sloppy components. I. Perception and the origin of phenotypic response.	O
65	Reservoir modeling of distributed-parameter systems. 2022 ,	O
64	Signal denoising through topographic modularity of neural circuits. 12,	О
63	Nanowire memristor as artificial synapse in random networks. 2023 , 219-246	O
62	Programming Neuromorphics Using the Neural Engineering Framework. 2023 , 1519-1561	О
61	Open-Cavity Fluid Flow as an Information Processing Medium. 2023,	О
60	Decision-making based on an improved visual analytics approach for emotion prediction. 2023 , 1-20	О
59	Neuromorphic Neural Interfaces. 2023, 1421-1453 Recognition of printed Urdu script in Nastaleeq font by using CNN-BiGRU-GRU Based	0
58	Encoder-Decoder Framework. 2023 , 18, 200194	O
57	Improving the processing rate of VCSEL-based reservoir computing through adopting variable polarization information injection. 2023 , 161, 109200	0
56	Reservoir Computing-Based Real-Time Prediction for Quantized Conductance of Au Atomic Junctions. 2022 ,	О
55	A Cerebellum-Inspired Model-Free Kinematic Control Method with RCM Constraint. 2023, 136-147	О
54	Computational capability for physical reservoir computing using a spin-torque oscillator with two free layers. 2023 , 107,	O
53	Short-term synaptic plasticity in emerging devices for neuromorphic computing. 2023 , 26, 106315	О
52	On forecasting of COVID-19 transmission in Saudi Arabia and Egypt using reservoir computing model. 2023 , 70, 115-131	O
51	Multilayer time delay reservoir with double feedback loops for time series forecasting task. 2023 , 138, 110179	О
50	Forecasting chaotic weather variables with echo state networks and a novel swing training approach. 2023 , 269, 110506	О

49	Deep echo state networks in data marketplaces. 2023 , 12, 100456	0
48	In-materio reservoir computing based on nanowire networks: fundamental, progress, and perspective.	O
47	Transport in reservoir computing. 2023 , 449, 133744	0
46	Klistliche Intelligenz. 2022, 177-261	О
45	Where is the mind within the brain? Transient selection of subnetworks by metabotropic receptors and G protein-gated ion channels. 2023 , 103, 107820	O
44	In materia implementation strategies of physical reservoir computing with memristive nanonetworks. 2023 , 56, 084005	o
43	Predicting solutions of the stochastic fractional order dynamical system using machine learning. 2023 , 100433	0
42	Pulse width dependent operations of a Ag2S island network reservoir. 2023 , 62, SG1032	О
41	Hardware optimization for photonic time-delay reservoir computer dynamics. 2023, 3, 014008	0
40	A Progressive Surrogate Gradient Learning for Memristive SNN.	О
39	A shallow hybrid classicalquantum spiking feedforward neural network for noise-robust image classification. 2023 , 136, 110099	1
38	In-memory computing with emerging memory devices: Status and outlook. 2023 , 1, 010902	О
37	The roles of Kerr nonlinearity in a bosonic quantum neural network. 2023 , 25, 023028	0
36	Handwritten Digits Recognition Based on a Parallel Optoelectronic Time-Delay Reservoir Computing System. 2023 , 10, 236	O
35	Neural population dynamics of computing with synaptic modulations. 12,	0
34	In Liquido Computation with Electrochemical Transistors and Mixed Conductors for Intelligent Bioelectronics. 2209516	O
33	Replay as a basis for backpropagation through time in the brain.	0
32	Using machine learning to anticipate tipping points and extrapolate to post-tipping dynamics of non-stationary dynamical systems. 2023 , 33, 023143	o

31	Emergent computations in trained artificial neural networks and real brains. 2023, 18, C02060	O
30	Electronic/Optoelectronic Memory Device Enabled by Tellurium-based 2D van der Waals Heterostructure for in-Sensor Reservoir Computing at the Optical Communication Band.	O
29	RC-FODS algorithm for solving numerical solutions of fractional order dynamical system. 2023 , 13, 035307	O
28	Noise Resistance of Next Generation Reservoir Computing: A Comparative Study with High-Order Correlation Computation.	O
27	Minimum complexity integrated photonic architecture for delay-based reservoir computing. 2023 , 31, 11610	О
26	Reservoir Computing. 2023, 1-1	O
25	Reservoir computing as digital twins for nonlinear dynamical systems. 2023, 33, 033111	O
24	Detecting Weak Physical Signal from Noise: A Machine-Learning Approach with Applications to Magnetic-Anomaly-Guided Navigation. 2023 , 19,	O
23	The Computing Chips in Unmanned Systems from Electron to Photon. 2023 , 3643-3652	O
22	Multitask computation through dynamics in recurrent spiking neural networks. 2023, 13,	O
21	Application of Augmented Echo State Networks and Genetic Algorithm to Improve Short-Term Wind Speed Forecasting. 2023 , 16, 2635	O
20	Performance Enhancement of a Spin-Wave-Based Reservoir Computing System Utilizing Different Physical Conditions. 2023 , 19,	O
19	Path integral approach to universal dynamics of reservoir computers. 2023, 107,	O
18	Nonstationary Time Series Prediction Based on Deep Echo State Network Tuned by Bayesian Optimization. 2023 , 11, 1503	O
17	Audio Classification with Skyrmion Reservoirs. 2200388	O
16	On Reservoir Computing Approach for Digital Image Encryption and Forecasting of Hyperchaotic Finance Model. 2023 , 7, 282	O
15	Dopant network processing units as tuneable extreme learning machines. 5,	O
14	Time series analysis using persistent homology of distance matrix. 2023 , 14, 79-91	O

13	A delayed deep reservoir computer for dynamical modelling.	0
12	Computational capabilities of a multicellular reservoir computing system. 2023 , 18, e0282122	0
11	Real-time respiratory motion prediction using photonic reservoir computing. 2023, 13,	О
10	Generic optimization by fast chaotic exploration and slow feedback fixation. 2023, 5,	O
9	Training Echo-State Networks for Big Data Prediction using Variation of Parameters. 2022,	О
8	LiNbO3 dynamic memristors for reservoir computing. 17,	O
7	Multimodal Learning of Audio-Visual Speech Recognition with Liquid State Machine. 2023, 552-563	О
6	A Spatio-Temporal Event Data Augmentation Method for Ɗynamic Vision Sensor. 2023 , 422-433	O
5	A distributed and efficient population code of mixed selectivity neurons for flexible navigation decisions. 2023 , 14,	0
4	Computational capability of ecological dynamics. 2023, 10,	O
3	Spiking neural networks provide accurate, efficient and robust models for whisker stimulus classification and allow for inter-individual generalization.	О
2	Reservoir Computing in Epidemiological Forecasting: Predicting Chicken Pox incidence.	O
1	Modulation format recognition in a UVLC system based on reservoir computing with coordinate transformation and folding algorithm. 2023 , 31, 17331	0