Niles Lehman

List of Publications by Year
in descending order

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92 papers	4,282 citations	147566 31 h-index	114278 63 g-index
231 all docs	231 docs citations	231 times ranked	2954 citing authors

#	Article	IF	Citations
1	Constraint Closure Drove Major Transitions in the Origins of Life. Entropy, 2021, 23, 105.	1.1	8
2	Mineral surfaces select for longer RNA molecules. Chemical Communications, 2019, 55, 2090-2093.	2.2	23
3	Spontaneous advent of genetic diversity in RNA populations through multiple recombination mechanisms. Rna, 2019, 25, 453-464.	1.6	21
4	Limited Sequence Diversity Within a Population Supports Prebiotic RNA Reproduction. Life, 2019, 9, 20.	1.1	11
5	Spontaneous Covalent Selfâ€Assembly of the Azoarcus Ribozyme from Five Fragments. ChemBioChem, 2018, 19, 217-220.	1.3	13
6	Coupled catabolism and anabolism in autocatalytic RNA sets. Nucleic Acids Research, 2018, 46, 9660-9666.	6.5	36
7	Topological and thermodynamic factors that influence the evolution of small networks of catalytic RNA species. Rna, 2017, 23, 1088-1096.	1.6	16
8	Reaction: Systematic Hope for Lifeâ€™s Origins. CheM, 2017, 2, 604-605.	5.8	0
9	Lifeâ€™s Late Digital Revolution and Why It Matters for the Study of the Origins of Life. Life, 2017, 7, 34.	1.1	6
10	Prebiotic RNA Network Formation: A Taxonomy of Molecular Cooperation. Life, 2017, 7, 38.	1.1	12
11	Group I Intron Internal Guide Sequence Binding Strength as a Component of Ribozyme Network Formation. Molecules, 2016, 21, 1293.	1.7	5
12	The elusive quest for RNA knots. RNA Biology, 2016, 13, 134-139.	1.5	10
13	Dynamics of prebiotic RNA reproduction illuminated by chemical game theory. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 5030-5035.	3.3	31
14	Sex in a test tube: testing the benefits of in vitro recombination. Philosophical Transactions of the Royal Society B: Biological Sciences, 2016, 371, 20150529.	1.8	14
15	The RNA World: 4,000,000,050 years old. Life, 2015, 5, 1583-1586.	1.1	18
16	Prebiotic network evolution: six key parameters. Molecular BioSystems, 2015, 11, 3206-3217.	2.9	93
17	The RNA World: molecular cooperation at the origins of life. Nature Reviews Genetics, 2015, 16, 7-17.	7.7	373
18	RNA-Directed Recombination of RNA In Vitro. Methods in Molecular Biology, 2015, 1240, 27-37.	0.4	2

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19	Special Issue on the Early Evolution of Life. Journal of Molecular Evolution, 2014, 79, 153-154.	0.8	0
20	Empirical demonstration of environmental sensing in catalytic RNA: evolution of interpretive behavior at the origins of life. BMC Evolutionary Biology, 2014, 14, 248.	3.2	10
21	Private Funding for Molecular Evolution. Journal of Molecular Evolution, 2014, 78, 243-244.	0.8	0
22	Where Do We Go from Here? Astrobiology Editorial Board Opinions. Astrobiology, 2014, 14, 629-644.	1.5	1
23	Serial transfer can aid the evolution of autocatalytic sets. Journal of Systems Chemistry, 2014, 5, 4.	1.7	12
24	Editorial Changes at the Journal of Molecular Evolution. Journal of Molecular Evolution, 2013, 76, 1-3.	0.8	2
25	Recycling of Informational Units Leads to Selection of Replicators in a Prebiotic Soup. Chemistry and Biology, 2013, 20, 241-252.	6.2	34
26	Cold-hearted RNA heats up life. Nature Chemistry, 2013, 5, 987-989.	6.6	11
27	Partitioning the Fitness Components of RNA Populations Evolving In Vitro. PLoS ONE, 2013, 8, e84454.	1.1	3
28	The Chemical Origin of Behavior is Rooted in Abiogenesis. Life, 2012, 2, 313-322.	1.1	6
29	The theoretical underpinnings of primordial RNA replication. Physics of Life Reviews, 2012, 9, 274-276.	1.5	1
30	Spontaneous network formation among cooperative RNA replicators. Nature, 2012, 491, 72-77.	13.7	299
31	Evolution Finds Shelter in Small Spaces. Chemistry and Biology, 2012, 19, 439-440.	6.2	1
32	Protein evolution at warp speed. Nature Chemical Biology, 2011, 7, 252-253.	3.9	0
33	Templateâ€Directed RNA Polymerization: The Taming of the Milieu. ChemBioChem, 2011, 12, 2727-2728.	1.3	3
34	Complexity through Recombination: From Chemistry to Biology. Entropy, 2011, 13, 17-37.	1.1	11
35	Cooperation in an All-RNA Network. Lecture Notes in Computer Science, 2011, , 32-32.	1.0	0
36	The Continuous Evolution In Vitro Technique. Current Protocols in Nucleic Acid Chemistry, 2010, 40, Unit 9.7.1-17.	0.5	2

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37	RNA in evolution. Wiley Interdisciplinary Reviews RNA, 2010, 1, 202-213.	3.2	21
38	Enhancing the Prebiotic Relevance of a Set of Covalently Self-Assembling, Autorecombining RNAs Through In Vitro Selection. Journal of Molecular Evolution, 2010, 70, 233-241.	0.8	10
39	Quasispecies-like behavior observed in catalytic RNA populations evolving in a test tube. BMC Evolutionary Biology, 2010, 10, 80.	3.2	19
40	An all RNA Hypercyclic Network. FASEB Journal, 2010, 24, 882.6.	0.2	0
41	One RNA plays three roles to provide catalytic activity to a group I intron lacking an endogenous internal guide sequence. Nucleic Acids Research, 2009, 37, 3981-3989.	6.5	14
42	A ghost in the RNA machine. Nature Chemical Biology, 2009, 5, 73-74.	3.9	2
43	Gel purification of radiolabeled nucleic acids via phosphorimaging: Dip-N-Dot. Analytical Biochemistry, 2009, 388, 351-352.	1.1	11
44	DNA Before Proteins? Recent Discoveries in Nucleic Acid Catalysis Strengthen the Case. Astrobiology, 2009, 9, 125-130.	1.5	22
45	Darwinâ€™s concepts in a test tube: Parallels between organismal and in vitro evolution. International Journal of Biochemistry and Cell Biology, 2009, 41, 266-273.	1.2	8
46	Accommodation of Ca(II) ions for catalytic activity by a group I ribozyme. Journal of Inorganic Biochemistry, 2008, 102, 1495-1506.	1.5	5
47	Ancient DNA reveals genotypic relationships among Oregon populations of the sea otter (Enhydra) Tj ETQq1 1 0.784314 rgBT /Overlo	0.8	21
48	A Recombinationâ€Based Model for the Origin and Early Evolution of Genetic Information. Chemistry and Biodiversity, 2008, 5, 1707-1717.	1.0	37
49	Systems Chemistry on Ribozyme Selfâ€Construction: Evidence for Anabolic Autocatalysis in a Recombination Network. Angewandte Chemie - International Edition, 2008, 47, 8424-8428.	7.2	70
50	The molecular underpinnings of genetic phenomena. Heredity, 2008, 100, 6-12.	1.2	4
51	Accumulation of Deleterious Mutations in Small Abiotic Populations of RNA. Genetics, 2007, 175, 267-275.	1.2	18
52	Genetic Exchange Leading to Self-Assembling RNA Species upon Encapsulation in Artificial Protocells. Artificial Life, 2007, 13, 279-289.	1.0	4
53	Mechanisms of covalent self-assembly of the Azoarcus ribozyme from four fragment oligonucleotides. Nucleic Acids Research, 2007, 36, 520-531.	6.5	38
54	Calcium(II)-dependent catalytic activity ofÂtheÂAzoarcus ribozyme: testing theÂlimits ofÂresolution forÂinÂvitro selection. Biochimie, 2006, 88, 819-825.	1.3	18

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55	Detection of high levels of recombination generated during PCR amplification of RNA templates. BioTechniques, 2006, 40, 499-507.	0.8	22
56	Self-Assembly of a Group I Intron from Inactive Oligonucleotide Fragments. Chemistry and Biology, 2006, 13, 909-918.	6.2	90
57	Pinniped phylogeny and a new hypothesis for their origin and dispersal. Molecular Phylogenetics and Evolution, 2006, 41, 345-354.	1.2	222
58	Conservation of MHC class II DOA sequences among carnivores*. Tissue Antigens, 2005, 65, 283-286.	1.0	8
59	Recombination During In Vitro Evolution. Journal of Molecular Evolution, 2005, 61, 245-252.	0.8	16
60	Special Issue on Experimental Evolution. Journal of Molecular Evolution, 2005, 61, 151-152.	0.8	0
61	RNA-directed construction of structurally complex and active ligase ribozymes through recombination. Rna, 2005, 11, 1678-1687.	1.6	39
62	Special Issue on Experimental Evolution. Journal of Molecular Evolution, 2005, 61, 151.	0.8	0
63	Assessing the Likelihood of Recurrence during RNA Evolution in Vitro. Artificial Life, 2004, 10, 1-22.	1.0	32
64	DIVERGENT PATTERNS OF VARIATION IN MAJOR HISTOCOMPATIBILITY COMPLEX CLASS II ALLELES AMONG ANTARCTIC PHOCID PINNIPEDS. Journal of Mammalogy, 2004, 85, 1215-1224.	0.6	21
65	Major histocompatibility complex variation at three class II loci in the northern elephant seal. Molecular Ecology, 2004, 13, 711-718.	2.0	79
66	A Case for the Extreme Antiquity of Recombination. Journal of Molecular Evolution, 2003, 56, 770-777.	0.8	60
67	Generalized RNA-Directed Recombination of RNA. Chemistry and Biology, 2003, 10, 1233-1243.	6.2	51
68	Expanded divalent metal-ion tolerance of evolved ligase ribozymes. Biochimie, 2003, 85, 683-689.	1.3	4
69	Spatial Models of Persistence in RNA Worlds: Exploring the Origins of Life. Lecture Notes in Computer Science, 2002, , 896-903.	1.0	1
70	Molecular evolution: Please release me, genetic code. Current Biology, 2001, 11, R63-R66.	1.8	14
71	An empirical genetic assessment of the severity of the northern elephant seal population bottleneck. Current Biology, 2000, 10, 1287-1290.	1.8	94
72	The Genotypic Landscape During In Vitro Evolution of a Catalytic RNA: Implications for Phenotypic Buffering. Journal of Molecular Evolution, 2000, 50, 481-490.	0.8	22

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73	The Quantitative and Molecular Genetic Architecture of a Subdivided Species. Evolution; International Journal of Organic Evolution, 1999, 53, 100.	1.1	102
74	Non-unity molecular heritability demonstrated by continuous evolution in vitro. Chemistry and Biology, 1999, 6, 857-869.	6.2	52
75	THE QUANTITATIVE AND MOLECULAR GENETIC ARCHITECTURE OF A SUBDIVIDED SPECIES. Evolution; International Journal of Organic Evolution, 1999, 53, 100-110.	1.1	192
76	Conservation biology: Genes are not enough. Current Biology, 1998, 8, R722-R724.	1.8	14
77	A Randomized Nearest-Neighbor Approach for Assessment of Character Displacement: the Vulture Guild as a Model. Journal of Theoretical Biology, 1998, 190, 51-61.	0.8	22
78	Allozyme and mtDNA variation in populations of the Daphnia pulex complex from both sides of the Rocky Mountains. Heredity, 1997, 79, 242-251.	1.2	53
79	A Hierarchical Molecular Phylogeny within the Genus Daphnia. Molecular Phylogenetics and Evolution, 1995, 4, 395-407.	1.2	68
80	Evolution in vitro of an RNA enzyme with altered metal dependence. Nature, 1993, 361, 182-185.	13.7	209
81	Evolution in vitro: analysis of a lineage of ribozymes. Current Biology, 1993, 3, 723-734.	1.8	74
82	Mitochondrial DNA Variability of the Gray Wolf: Genetic Consequences of Population Decline and Habitat Fragmentation. Conservation Biology, 1992, 6, 559-569.	2.4	173
83	A study of the genetic relationships within and among wolf packs using DNA fingerprinting and mitochondrial DNA. Behavioral Ecology and Sociobiology, 1992, 30, 83.	0.6	123
84	The Use of Morphologic and Molecular Techniques to Estimate Genetic Variability and Relationships of Small Populations. , 1992, , 217-236.		2
85	A Morphologic and Genetic Study of the Island Fox, Urocyon littoralis. Evolution; International Journal of Organic Evolution, 1991, 45, 1849.	1.1	76
86	Introgression of Coyote Mitochondrial DNA Into Sympatric North American Gray Wolf Populations. Evolution; International Journal of Organic Evolution, 1991, 45, 104.	1.1	127
87	A MORPHOLOGIC AND GENETIC STUDY OF THE ISLAND FOX,UROCYON LITTORALIS. Evolution; International Journal of Organic Evolution, 1991, 45, 1849-1868.	1.1	85
88	INTROGRESSION OF COYOTE MITOCHONDRIAL DNA INTO SYMPATRIC NORTH AMERICAN GRAY WOLF POPULATIONS. Evolution; International Journal of Organic Evolution, 1991, 45, 104-119.	1.1	272
89	Genetic fingerprinting reflects population differentiation in the California Channel Island fox. Nature, 1990, 344, 764-767.	13.7	355
90	Genetic code development by stop codon takeover. Journal of Theoretical Biology, 1988, 135, 203-214.	0.8	39

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91	Purification of Circular DNA Using Benzoylated Naphthoylated DEAE-Cellulose. DNA and Cell Biology, 1985, 4, 157-164.	5.1	24
92	Allozyme and mtDNA variation in populations of the Daphnia pulex complex from both sides of the Rocky Mountains. , 0, .		10