Niles Lehman

List of Publications by Year
in descending order

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	The RNA World: molecular cooperation at the origins of life. Nature Reviews Genetics, 2015, 16, 7-17.	7.7	373
2	Genetic fingerprinting reflects population differentiation in the California Channel Island fox. Nature, 1990, 344, 764-767.	13.7	355
3	Spontaneous network formation among cooperative RNA replicators. Nature, 2012, 491, 72-77.	13.7	299
4	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
5	Pinniped phylogeny and a new hypothesis for their origin and dispersal. Molecular Phylogenetics and Evolution, 2006, 41, 345-354.	1.2	222
6	Evolution in vitro of an RNA enzyme with altered metal dependence. Nature, 1993, 361, 182-185.	13.7	209
7	THE QUANTITATIVE AND MOLECULAR GENETIC ARCHITECTURE OF A SUBDIVIDED SPECIES. Evolution; International Journal of Organic Evolution, 1999, 53, 100-110.	1.1	192
8	Mitochondrial DNA Variability of the Gray Wolf: Genetic Consequences of Population Decline and Habitat Fragmentation. Conservation Biology, 1992, 6, 559-569.	2.4	173
9	Introgression of Coyote Mitochondrial DNA Into Sympatric North American Gray Wolf Populations. Evolution; International Journal of Organic Evolution, 1991, 45, 104.	1.1	127
10	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
11	The Quantitative and Molecular Genetic Architecture of a Subdivided Species. Evolution; International Journal of Organic Evolution, 1999, 53, 100.	1.1	102
12	An empirical genetic assessment of the severity of the northern elephant seal population bottleneck. Current Biology, 2000, 10, 1287-1290.	1.8	94
13	Prebiotic network evolution: six key parameters. Molecular BioSystems, 2015, 11, 3206-3217.	2.9	93
14	Self-Assembly of a Group I Intron from Inactive Oligonucleotide Fragments. Chemistry and Biology, 2006, 13, 909-918.	6.2	90
15	A MORPHOLOGIC AND GENETIC STUDY OF THE ISLAND FOX,<i>UROCYON LITTORALIS</i>. Evolution; International Journal of Organic Evolution, 1991, 45, 1849-1868.	1.1	85
16	Major histocompatibility complex variation at three class II loci in the northern elephant seal. Molecular Ecology, 2004, 13, 711-718.	2.0	79
17	A Morphologic and Genetic Study of the Island Fox, Urocyon littoralis. Evolution; International Journal of Organic Evolution, 1991, 45, 1849.	1.1	76
18	Evolution in vitro: analysis of a lineage of ribozymes. Current Biology, 1993, 3, 723-734.	1.8	74

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19	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
20	A Hierarchical Molecular Phylogeny within the Genus Daphnia. Molecular Phylogenetics and Evolution, 1995, 4, 395-407.	1.2	68
21	A Case for the Extreme Antiquity of Recombination. Journal of Molecular Evolution, 2003, 56, 770-777.	0.8	60
22	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
23	Non-unity molecular heritability demonstrated by continuous evolution in vitro. Chemistry and Biology, 1999, 6, 857-869.	6.2	52
24	Generalized RNA-Directed Recombination of RNA. Chemistry and Biology, 2003, 10, 1233-1243.	6.2	51
25	Genetic code development by stop codon takeover. Journal of Theoretical Biology, 1988, 135, 203-214.	0.8	39
26	RNA-directed construction of structurally complex and active ligase ribozymes through recombination. Rna, 2005, 11, 1678-1687.	1.6	39
27	Mechanisms of covalent self-assembly of the Azoarcus ribozyme from four fragment oligonucleotides. Nucleic Acids Research, 2007, 36, 520-531.	6.5	38
28	A Recombinationâ€Based Model for the Origin and Early Evolution of Genetic Information. Chemistry and Biodiversity, 2008, 5, 1707-1717.	1.0	37
29	Coupled catabolism and anabolism in autocatalytic RNA sets. Nucleic Acids Research, 2018, 46, 9660-9666.	6.5	36
30	Recycling of Informational Units Leads to Selection of Replicators in a Prebiotic Soup. Chemistry and Biology, 2013, 20, 241-252.	6.2	34
31	Assessing the Likelihood of Recurrence during RNA Evolution in Vitro. Artificial Life, 2004, 10, 1-22.	1.0	32
32	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
33	Purification of Circular DNA Using Benzoylated Naphthoylated DEAE-Cellulose. DNA and Cell Biology, 1985, 4, 157-164.	5.1	24
34	Mineral surfaces select for longer RNA molecules. Chemical Communications, 2019, 55, 2090-2093.	2.2	23
35	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
36	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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37	Detection of high levels of recombination generated during PCR amplification of RNA templates. BioTechniques, 2006, 40, 499-507.	0.8	22
38	DNA Before Proteins? Recent Discoveries in Nucleic Acid Catalysis Strengthen the Case. Astrobiology, 2009, 9, 125-130.	1.5	22
39	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
40	Ancient DNA reveals genotypic relationships among Oregon populations of the sea otter (Enhydra) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50	0.8	21
41	RNA in evolution. Wiley Interdisciplinary Reviews RNA, 2010, 1, 202-213.	3.2	21
42	Spontaneous advent of genetic diversity in RNA populations through multiple recombination mechanisms. Rna, 2019, 25, 453-464.	1.6	21
43	Quasispecies-like behavior observed in catalytic RNA populations evolving in a test tube. BMC Evolutionary Biology, 2010, 10, 80.	3.2	19
44	Calcium(II)-dependent catalytic activity ofÂtheÂAzoarcus ribozyme: testing theÂlimits ofÂresolution forÂinÂvitro selection. Biochimie, 2006, 88, 819-825.	1.3	18
45	Accumulation of Deleterious Mutations in Small Abiotic Populations of RNA. Genetics, 2007, 175, 267-275.	1.2	18
46	The RNA World: 4,000,000,050 years old. Life, 2015, 5, 1583-1586.	1.1	18
47	Recombination During In Vitro Evolution. Journal of Molecular Evolution, 2005, 61, 245-252.	0.8	16
48	Topological and thermodynamic factors that influence the evolution of small networks of catalytic RNA species. Rna, 2017, 23, 1088-1096.	1.6	16
49	Conservation biology: Genes are not enough. Current Biology, 1998, 8, R722-R724.	1.8	14
50	Molecular evolution: Please release me, genetic code. Current Biology, 2001, 11, R63-R66.	1.8	14
51	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
52	Sex in a test tube: testing the benefits of <i>in vitro</i> recombination. Philosophical Transactions of the Royal Society B: Biological Sciences, 2016, 371, 20150529.	1.8	14
53	Spontaneous Covalent Selfâ€Assembly of the <i>Azoarcus</i> Ribozyme from Five Fragments. ChemBioChem, 2018, 19, 217-220.	1.3	13
54	Serial transfer can aid the evolution of autocatalytic sets. Journal of Systems Chemistry, 2014, 5, 4.	1.7	12

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55	Prebiotic RNA Network Formation: A Taxonomy of Molecular Cooperation. Life, 2017, 7, 38.	1.1	12
56	Gel purification of radiolabeled nucleic acids via phosphorimaging: Dip-N-Dot. Analytical Biochemistry, 2009, 388, 351-352.	1.1	11
57	Complexity through Recombination: From Chemistry to Biology. Entropy, 2011, 13, 17-37.	1.1	11
58	Cold-hearted RNA heats up life. Nature Chemistry, 2013, 5, 987-989.	6.6	11
59	Limited Sequence Diversity Within a Population Supports Prebiotic RNA Reproduction. Life, 2019, 9, 20.	1.1	11
60	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
61	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
62	The elusive quest for RNA knots. RNA Biology, 2016, 13, 134-139.	1.5	10
63	Allozyme and mtDNA variation in populations of the Daphnia pulex complex from both sides of the Rocky Mountains. , 0, .		10
64	Conservation of MHC class II DOA sequences among carnivores*. Tissue Antigens, 2005, 65, 283-286.	1.0	8
65	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
66	Constraint Closure Drove Major Transitions in the Origins of Life. Entropy, 2021, 23, 105.	1.1	8
67	The Chemical Origin of Behavior is Rooted in Abiogenesis. Life, 2012, 2, 313-322.	1.1	6
68	Lifeâ€™s Late Digital Revolution and Why It Matters for the Study of the Origins of Life. Life, 2017, 7, 34.	1.1	6
69	Accommodation of Ca(II) ions for catalytic activity by a group I ribozyme. Journal of Inorganic Biochemistry, 2008, 102, 1495-1506.	1.5	5
70	Group I Intron Internal Guide Sequence Binding Strength as a Component of Ribozyme Network Formation. Molecules, 2016, 21, 1293.	1.7	5
71	Expanded divalent metal-ion tolerance of evolved ligase ribozymes. Biochimie, 2003, 85, 683-689.	1.3	4
72	Genetic Exchange Leading to Self-Assembling RNA Species upon Encapsulation in Artificial Protocells. Artificial Life, 2007, 13, 279-289.	1.0	4

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73	The molecular underpinnings of genetic phenomena. Heredity, 2008, 100, 6-12.	1.2	4
74	Templateâ€Directed RNA Polymerization: The Taming of the Milieu. ChemBioChem, 2011, 12, 2727-2728.	1.3	3
75	Partitioning the Fitness Components of RNA Populations Evolving In Vitro. PLoS ONE, 2013, 8, e84454.	1.1	3
76	A ghost in the RNA machine. Nature Chemical Biology, 2009, 5, 73-74.	3.9	2
77	The Continuous Evolution In Vitro Technique. Current Protocols in Nucleic Acid Chemistry, 2010, 40, Unit 9.7.1-17.	0.5	2
78	Editorial Changes at the Journal of Molecular Evolution. Journal of Molecular Evolution, 2013, 76, 1-3.	0.8	2
79	RNA-Directed Recombination of RNA In Vitro. Methods in Molecular Biology, 2015, 1240, 27-37.	0.4	2
80	The Use of Morphologic and Molecular Techniques to Estimate Genetic Variability and Relationships of Small Populations. , 1992, , 217-236.		2
81	The theoretical underpinnings of primordial RNA replication. Physics of Life Reviews, 2012, 9, 274-276.	1.5	1
82	Evolution Finds Shelter in Small Spaces. Chemistry and Biology, 2012, 19, 439-440.	6.2	1
83	Where Do We Go from Here? <i>Astrobiology</i> Editorial Board Opinions. Astrobiology, 2014, 14, 629-644.	1.5	1
84	Spatial Models of Persistence in RNA Worlds: Exploring the Origins of Life. Lecture Notes in Computer Science, 2002, , 896-903.	1.0	1
85	Special Issue on Experimental Evolution. Journal of Molecular Evolution, 2005, 61, 151-152.	0.8	0
86	Protein evolution at warp speed. Nature Chemical Biology, 2011, 7, 252-253.	3.9	0
87	Special Issue on the Early Evolution of Life. Journal of Molecular Evolution, 2014, 79, 153-154.	0.8	0
88	Private Funding for Molecular Evolution. Journal of Molecular Evolution, 2014, 78, 243-244.	0.8	0
89	Reaction: Systematic Hope for Lifeâ€™s Origins. CheM, 2017, 2, 604-605.	5.8	0
90	An all RNA Hypercyclic Network. FASEB Journal, 2010, 24, 882.6.	0.2	0

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91	Cooperation in an All-RNA Network. Lecture Notes in Computer Science, 2011, , 32-32.	1.0	0
92	Special Issue on Experimental Evolution. Journal of Molecular Evolution, 2005, 61, 151.	0.8	0