

Leigh Tesfatsion

List of Publications by Year in descending order

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129
papers

4,529
citations

186265

28
h-index

128289

60
g-index

135
all docs

135
docs citations

135
times ranked

2433
citing authors

#	ARTICLE	IF	CITATIONS
1	Agent-Based Computational Economics: Growing Economies From the Bottom Up. <i>Artificial Life</i> , 2002, 8, 55-82.	1.3	547
2	Chapter 16 Agent-Based Computational Economics: A Constructive Approach to Economic Theory. <i>Handbook of Computational Economics</i> , 2006, 2, 831-880.	1.6	360
3	Market power and efficiency in a computational electricity market with discriminatory double-auction pricing. <i>IEEE Transactions on Evolutionary Computation</i> , 2001, 5, 504-523.	10.0	300
4	Modeling Macroeconomies as Open-Ended Dynamic Systems of Interacting Agents. <i>American Economic Review</i> , 2008, 98, 246-250.	8.5	239
5	Agent-based computational economics: modeling economies as complex adaptive systems. <i>Information Sciences</i> , 2003, 149, 262-268.	6.9	210
6	Introduction to the special issue on agent-based computational economics. <i>Journal of Economic Dynamics and Control</i> , 2001, 25, 281-293.	1.6	194
7	Dynamic Testing of Wholesale Power Market Designs: An Open-Source Agent-Based Framework. <i>Computational Economics</i> , 2007, 30, 291-327.	2.6	180
8	Agent-based computational economics. <i>Scholarpedia Journal</i> , 2007, 2, 1970.	0.3	123
9	Preferential partner selection in an evolutionary study of Prisoner's Dilemma. <i>BioSystems</i> , 1996, 37, 99-125.	2.0	122
10	Time-varying linear regression via flexible least squares. <i>Computers and Mathematics With Applications</i> , 1989, 17, 1215-1245.	2.7	109
11	Development of open source software for power market research: the AMES test bed. <i>Journal of Energy Markets</i> , 2009, 2, 111-128.	0.1	92
12	Stochastic Dominance and the Maximization of Expected Utility. <i>Review of Economic Studies</i> , 1976, 43, 301.	5.4	88
13	Appendix A A Guide for Newcomers to Agent-Based Modeling in the Social Sciences. <i>Handbook of Computational Economics</i> , 2006, 2, 1647-1659.	1.6	88
14	Structure, behavior, and market power in an evolutionary labor market with adaptive search. <i>Journal of Economic Dynamics and Control</i> , 2001, 25, 419-457.	1.6	82
15	An 8-Zone Test System Based on ISO New England Data: Development and Application. <i>IEEE Transactions on Power Systems</i> , 2016, 31, 234-246.	6.5	63
16	A Trade Network Game with Endogenous Partner Selection. <i>Advances in Computational Economics</i> , 1997, , 249-269.	0.1	60
17	An Agent-Based Test Bed Study of Wholesale Power Market Performance Measures. <i>IEEE Computational Intelligence Magazine</i> , 2008, 3, 56-72.	3.2	59
18	Short-Term Congestion Forecasting in Wholesale Power Markets. <i>IEEE Transactions on Power Systems</i> , 2011, 26, 2185-2196.	6.5	54

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19	Intelligent Residential Air-Conditioning System With Smart-Grid Functionality. IEEE Transactions on Smart Grid, 2012, 3, 2240-2251.	9.0	51
20	Economic agents and markets as emergent phenomena. Proceedings of the National Academy of Sciences of the United States of America, 2002, 99, 7191-7192.	7.1	50
21	Financial Bilateral Contract Negotiation in Wholesale Electricity Markets Using Nash Bargaining Theory. IEEE Transactions on Power Systems, 2012, 27, 251-267.	6.5	48
22	Agent-based Modeling: The Right Mathematics for the Social Sciences?. , 2011, , .		46
23	Guest editorial agent-based modeling of evolutionary economic systems. IEEE Transactions on Evolutionary Computation, 2001, 5, 437-441.	10.0	45
24	Macroeconomies as constructively rational games. Journal of Economic Dynamics and Control, 2015, 61, 152-182.	1.6	39
25	Derivation of locational marginal prices for restructured wholesale power markets. Journal of Energy Markets, 2009, 2, 3-27.	0.1	39
26	Solving nonlinear equations by adaptive homotopy continuation. Applied Mathematics and Computation, 1991, 41, 99-115.	2.2	38
27	The flexible least squares approach to time-varying linear regression. Journal of Economic Dynamics and Control, 1988, 12, 43-48.	1.6	36
28	Agent-Based Computational Economics: Growing Economies from the Bottom Up. SSRN Electronic Journal, 2002, , .	0.4	36
29	Locational marginal pricing basics for restructured wholesale power markets. , 2009, , .		34
30	Modeling economic systems as locally-constructive sequential games. Journal of Economic Methodology, 2017, 24, 384-409.	1.4	34
31	U.S. money demand instability A flexible least squares approach. Journal of Economic Dynamics and Control, 1990, 14, 151-173.	1.6	32
32	Flexible least squares for approximately linear systems. IEEE Transactions on Systems, Man, and Cybernetics, 1990, 20, 978-989.	0.9	31
33	Title is missing!. Journal of Economic Growth, 1997, 2, 305-329.	1.9	31
34	ISO Net Surplus Collection and Allocation in Wholesale Power Markets Under LMP. IEEE Transactions on Power Systems, 2011, 26, 627-641.	6.5	31
35	An agent-based platform for the study of watersheds as coupled natural and human systems. Environmental Modelling and Software, 2017, 89, 40-60.	4.5	30
36	An integrated transmission and distribution test system for evaluation of transactive energy designs. Applied Energy, 2019, 240, 666-679.	10.1	28

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37	A C++ Platform for the Evolution of Trade Networks. Computational Economics, 1999, 14, 109-134.	2.6	27
38	How Economists Can Get ALife. , 0, , 533-564.		27
39	Variational equations for the eigenvalues and eigenvectors of nonsymmetric matrices. Journal of Optimization Theory and Applications, 1981, 33, 1-8.	1.5	26
40	A computational laboratory for evolutionary trade networks. IEEE Transactions on Evolutionary Computation, 2001, 5, 546-560.	10.0	25
41	Agent-Based Computational Modeling and Macroeconomics. , 2006, , 175-202.		25
42	Agents come to bits: Towards a constructive comprehensive taxonomy of economic entities. Journal of Economic Behavior and Organization, 2007, 63, 333-346.	2.0	25
43	Individual tracking of an eigenvalue and eigenvector of a parameterized matrix. Nonlinear Analysis: Theory, Methods & Applications, 1981, 5, 337-340.	1.1	24
44	Methodological Issues of Spatial Agent-Based Models. Jasss, 2020, 23, .	1.8	23
45	A finite algorithm for the exact evaluation of higher order partial derivatives of functions of many variables. Journal of Mathematical Analysis and Applications, 1983, 92, 552-563.	1.0	22
46	Modeling of Suppliers' Learning Behaviors in an Electricity Market Environment. , 2007, , .		22
47	Fair division with uncertain needs and tastes. Social Choice and Welfare, 1985, 2, 295-309.	0.8	20
48	A least-squares model specification test for a class of dynamic nonlinear economic models with systematically varying parameters. Journal of Optimization Theory and Applications, 1980, 32, 537-567.	1.5	18
49	Integrated retail and wholesale power system operation with smart-grid functionality. , 2010, , .		18
50	Electric Power Markets in Transition: Agent-Based Modeling Tools for Transactive Energy Support. Handbook of Computational Economics, 2018, , 715-766.	1.6	18
51	Time inconsistency of benevolent government economies. Journal of Public Economics, 1986, 31, 25-52.	4.3	17
52	The AMES wholesale power market test bed: A computational laboratory for research, teaching, and training. , 2009, , .		17
53	A new approach to filtering and adaptive control. Journal of Optimization Theory and Applications, 1978, 25, 247-261.	1.5	16
54	Direct Updating of Intertemporal Criterion Functions for a Class of Adaptive Control Problems. IEEE Transactions on Systems, Man, and Cybernetics, 1979, 9, 143-151.	0.9	15

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55	Nonlocal automated sensitivity analysis. Computers and Mathematics With Applications, 1990, 20, 53-65.	2.7	14
56	An Agent-Based Computational Laboratory for Wholesale Power Market Design. IEEE Power Engineering Society General Meeting, 2007, , .	0.0	14
57	Auction basics for wholesale power markets: Objectives and pricing rules. , 2009, , .		14
58	A Nash Approach to Planning Merchant Transmission for Renewable Resource Integration. IEEE Transactions on Power Systems, 2013, 28, 2086-2100.	6.5	14
59	An exact sequential solution procedure for a class of discrete-time nonlinear estimation problems. IEEE Transactions on Automatic Control, 1981, 26, 1144-1149.	5.7	13
60	Capacity withholding in restructured wholesale power markets: An agent-based test bed study. , 2009, , .		13
61	Braided Cobwebs: Cautionary Tales for Dynamic Pricing in Retail Electric Power Markets. IEEE Transactions on Power Systems, 2018, 33, 6870-6882.	6.5	13
62	Global and approximate global optimality of myopic economic decisions. Journal of Economic Dynamics and Control, 1980, 2, 135-160.	1.6	12
63	Complete comparative static differential equations. Nonlinear Analysis: Theory, Methods & Applications, 1981, 5, 821-833.	1.1	12
64	A multicriteria approach to model specification and estimation. Computational Statistics and Data Analysis, 1996, 21, 193-214.	1.2	12
65	Dynamic LMP response under alternative price-cap and price-sensitive demand scenarios. , 2008, , .		12
66	A dual approach to Bayesian inference and adaptive control. Theory and Decision, 1982, 14, 177-194.	1.0	10
67	Facilitating appropriate compensation of electric energy and reserve through standardized contracts with swing. Journal of Energy Markets, 2015, 8, 93-121.	0.1	10
68	A note on dependence between a venture and a current prospect. Journal of Economic Theory, 1977, 15, 381-391.	1.1	9
69	Sequential nonlinear estimation with nonaugmented priors. Journal of Optimization Theory and Applications, 1989, 60, 421-438.	1.5	9
70	Effects of price-responsive residential demand on retail and wholesale power market operations. , 2012, , .		9
71	An ERCOT test system for market design studies. Applied Energy, 2020, 275, 115182.	10.1	9
72	Testing Institutional Arrangements via Agent-Based Modeling: A U.S. Electricity Market Application. Dynamic Modeling and Econometrics in Economics and Finance, 2011, , 135-158.	0.5	9

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73	A conditional expected utility model for myopic decision makers. Theory and Decision, 1980, 12, 185-206.	1.0	8
74	Local and nonlocal comparative static analysis of economic systems. Applied Mathematics and Computation, 1981, 9, 227-234.	2.2	8
75	Exact sequential filtering, smoothing and prediction for nonlinear systems. Nonlinear Analysis: Theory, Methods & Applications, 1988, 12, 599-615.	1.1	8
76	An organizing principle for dynamic estimation. Journal of Optimization Theory and Applications, 1990, 64, 445-470.	1.5	8
77	Financial risk management in restructured wholesale power markets: Concepts and tools. , 2010, , .		8
78	Co-learning patterns as emergent market phenomena: An electricity market illustration. Journal of Economic Behavior and Organization, 2012, 82, 395-419.	2.0	8
79	Elements of Dynamic Economic Modeling: Presentation and Analysis. Eastern Economic Journal, 2017, 43, 192-216.	1.0	8
80	Hysteresis in an Evolutionary Labor Market with Adaptive Search. Studies in Fuzziness and Soft Computing, 2002, , 189-210.	0.8	8
81	EVOLUTION OF WORKER-EMPLOYER NETWORKS AND BEHAVIORS UNDER ALTERNATIVE NON-EMPLOYMENT BENEFITS: AN AGENT-BASED COMPUTATIONAL STUDY. , 2004, , .		8
82	A new differential equation method for finding the Perron root of a positive matrix. Applied Mathematics and Computation, 1980, 7, 187-193.	2.2	7
83	Open-Source Software for Power Industry Research, Teaching, and Training: A DC-OPF Illustration. IEEE Power Engineering Society General Meeting, 2007, , .	0.0	7
84	Global sensitivity analysis for the short-term prediction of system variables. , 2010, , .		7
85	Agent-based Modeling and Institutional Design. Eastern Economic Journal, 2011, 37, 13-19.	1.0	7
86	Agent-based simulation of distribution systems with high penetration of photovoltaic generation. , 2011, , .		7
87	A Swing-Contract Market Design for Flexible Service Provision in Electric Power Systems. The IMA Volumes in Mathematics and Its Applications, 2018, , 105-127.	0.5	7
88	A Customer-Centric Approach to Bid-Based Transactive Energy System Design. IEEE Transactions on Smart Grid, 2020, 11, 4996-5008.	9.0	7
89	A sequential method for nonlinear filtering: Numerical implementation and comparisons. Journal of Optimization Theory and Applications, 1981, 34, 541-559.	1.5	6
90	An invariant-embedding solution of general linear two-point boundary-value problems. Applied Mathematics and Computation, 1988, 26, 237-244.	2.2	6

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91	A FORTRAN program for time-varying linear regression via flexible least squares. Computational Statistics and Data Analysis, 1989, 7, 291-309.	1.2	6
92	Market provision of flexible energy/reserve contracts: Optimization formulation. , 2016, , .		6
93	Pure strategy Nash equilibrium points and the Lefschetz fixed point theorem. International Journal of Game Theory, 1983, 12, 181-191.	0.5	5
94	Automation of nested matrix and derivative operations. Applied Mathematics and Computation, 1987, 23, 243-268.	2.2	5
95	Overlapping generations, intermediation, and the First Welfare Theorem. Journal of Economic Behavior and Organization, 1991, 15, 325-345.	2.0	5
96	Preferential partner selection in evolutionary labor markets: A study in agent-based computational economics. Lecture Notes in Computer Science, 1998, , 13-24.	1.3	5
97	Scenario generation for price forecasting in restructured wholesale power markets. , 2009, , .		5
98	A new approach to filtering and adaptive control: stability results. Applied Mathematics and Computation, 1978, 4, 27-44.	2.2	4
99	Dynamic investment, risk aversion, and foresight sensitivity. Journal of Economic Dynamics and Control, 1981, 3, 65-96.	1.6	4
100	Welfare implications of net social security wealth. Journal of Public Economics, 1984, 24, 1-27.	4.3	4
101	ACTIVE INTERMEDIATION IN OVERLAPPING GENERATIONS ECONOMIES WITH PRODUCTION AND UNSECURED DEBT. Macroeconomic Dynamics, 1998, 2, 183-212.	0.7	4
102	A Consensus-Based Transactive Energy Design for Unbalanced Distribution Networks. IEEE Transactions on Power Systems, 2023, 38, 114-128.	6.5	4
103	C3 modeling with symmetrical rationality. Applied Mathematics and Computation, 1980, 6, 51-61.	2.2	3
104	Nonlocal automated comparative static analysis. Computer Science in Economics and Management, 1992, 5, 313-331.	0.5	3
105	Active intermediation in a monetary overlapping generations economy. Journal of Economic Dynamics and Control, 1998, 22, 1543-1574.	1.6	3
106	Parameter-sensitivity study for a linear-quadratic control problem with random state coefficients. Information Sciences, 1978, 15, 101-125.	6.9	2
107	Macro implications of government redistributive tax-transfer policies. Journal of Public Economics, 1982, 19, 139-169.	4.3	2
108	Games, goals, and bounded rationality. Theory and Decision, 1984, 17, 149-175.	1.0	2

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109	Systematic testing and comparison of deterministic and stochastic unit commitment on an 8-zone test case based on ISO New England data. , 2015, , .		2
110	Swing Contracts With Dynamic Reserves for Flexible Service Management. IEEE Transactions on Power Systems, 2019, 34, 4024-4037.	6.5	2
111	Nonlocal sensitivity analysis, automatic derivative evaluation, and sequential nonlinear estimation. Computational Statistics and Data Analysis, 1986, 4, 79-91.	1.2	1
112	Work by Robert Kalaba on automated sensitivity analysis. Applied Mathematics and Computation, 1991, 45, 121-133.	2.2	1
113	Complexity at large. Complexity, 1998, 3, 3-10.	1.6	1
114	Standardized contracts with swing for the market-supported procurement of energy and reserve. , 2015, , .		1
115	An agent-based computational model for the evolution of trade networks. Lecture Notes in Computer Science, 1997, , 73-83.	1.3	1
116	Code Reusability and Transparency of Agent-Based Modeling: A Review from a Cyberinfrastructure Perspective. Geotechnologies and the Environment, 2020, , 115-134.	0.3	1
117	Probability Theory With the Essential Analysis. Applied Mathematics and Computation, 1977, 3, 281.	2.2	0
118	A stability theorem for symmetrically rational counterplanning. Journal of Optimization Theory and Applications, 1982, 37, 379-385.	1.5	0
119	Utilitarianism and beyond. Journal of Economic Behavior and Organization, 1985, 6, 210-212.	2.0	0
120	A further note on flexible least squares and Kalman filtering. Journal of Economic Dynamics and Control, 1990, 14, 183-185.	1.6	0
121	Work by Robert Kalaba on multicriteria estimation. Applied Mathematics and Computation, 1991, 45, 159-171.	2.2	0
122	A unified approach to dynamic estimation. Information Sciences, 1991, 57-58, 159-169.	6.9	0
123	Complexity at large. Complexity, 1998, 3, 3-18.	1.6	0
124	Complexity at large. Complexity, 1998, 3, 3-11.	1.6	0
125	Complexity at large. Complexity, 1998, 4, 3-9.	1.6	0
126	Complexity at large. Complexity, 1999, 4, 3-10.	1.6	0

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127	Complexity at Large. Complexity, 2000, 5, 3-10.	1.6	0
128	Two-settlement electric power markets with dynamic-price customers. , 2011, , .		0
129	Time-series properties of the power grid with real-time pricing load customers. , 2012, , .		0