Electrical and Computer Engineering (ECpE) Work by L. Tesfatsion


https://www2.econ.iastate.edu/ECpEWork.LTesfatsion.pdf

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ITD PROJECT SITE:

Integrated Transmission and Distribution (ITD) Project: ISU Homepage
https://www2.econ.iastate.edu/tesfatsi/ITDProjectHome.htm

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WILEY/IEEE PRESS BOOK:


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IEEE JOURNAL PUBLICATIONS:


DOI: 10.1109/TSG.2020.3008611


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OTHER ECpE PUBLICATIONS:


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FERC/NATIONAL LAB REPORTS:

https://www2.econ.iastate.edu/tesfatsi/LeighTesfatsion.EFiledComments.FERC.AD21-10-000.pdf


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ECpE WORKING PAPERS:

https://www2.econ.iastate.edu/tesfatsi/LMPWhenAndWhyNot.LTesfatsion.pdf


Hongyan Li, Junjie Sun, and Leigh Tesfatsion (2009), “Separation and Volatility of Locational Marginal Prices in Restructured Wholesale Power Markets,” ISU Econ. WP #9-2009, Dept. of Econ., ISU, June.


ECpE PRESENTATIONS:

Leigh Tesfatsion (2023), "Economics of Grid-Supported Electric Power Markets: A Fundamental Reconsideration" (HandOut.pdf), (SlideSetShort.pdf,985KB), [YouTube, Day 2, 7:34:00], Virtual (Zoom) Presentation to the FERC Technical Conference 2023, Docket No. AD10-12-014 (Increasing Real-Time and Day-Ahead Market Planning Efficiency Through Improved Software), Washington, D.C., June 27-29.


Leigh Tesfatsion (2021), “A Multiperiod Consensus-Based Transactive Energy System for Unbalanced Distribution Networks,” PI Project Presentation (Virtual), **Power Systems Engineering Research Center (PSERC), Industrial Advisors Board (IAB) Meeting, May 12-14**.


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ECpE OPEN-SOURCE SOFTWARE (OSS) TEST-SYSTEM PLATFORM RELEASES:
(With Documentation & Illustrative Applications)

AMES Market Package (Java/Python): Homepage
Agent-Based Modeling of Electricity Systems (AMES)
https://www2.econ.iastate.edu/tesfatsi/AMESMarketHome.htm

AMES V5.0 (Java/Python) -- Latest AMES release (2020): GitHub Repository
https://github.com/ames-market/AMES-V5.0


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**DCOPFJ (Java) -- A DC Optimal Power Flow solver for AMES V2.06: Homepage**

https://www2.econ.iastate.edu/tesfatsi/DCOPFJHome.htm


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**Eight-Zone ISO-NE Test System (Java/Python): BitBucket Repository**

An eight-zone test system for an ISO-managed wholesale electric power market based on ISO New England data, implemented via AMES V4.0.  https://bitbucket.org/kdheepak/eightbustestbedrepo


ERCOT Test System (Java/Python): GitHub Repository
An agent-based test system modeling wholesale power market operations in the Electric Reliability Council of Texas (ERCOT), using AMES V5.0. [https://github.com/ITDProject/ERCOTTestSystem](https://github.com/ITDProject/ERCOTTestSystem)


FLS (Fortran): Flexible Least Squares (FLS) for time-varying linear regression.
Homepage: [https://www2.econ.iastate.edu/tesfatsi/FLSHome.htm](https://www2.econ.iastate.edu/tesfatsi/FLSHome.htm)

GFLS (Fortran): Generalized Flexible Least Squares (GFLS): A multicriteria optimization method for the specification of approximately linear systems. [https://www2.econ.iastate.edu/tesfatsi/FLSHome.htm](https://www2.econ.iastate.edu/tesfatsi/FLSHome.htm)


ITD Project/Household Formulation (Python): GitHub Repository
[https://github.com/ITDProject/HouseholdFormulationRepository](https://github.com/ITDProject/HouseholdFormulationRepository)

ITD TES Platform V2 (Co-Simulated, Java/Python/C++/C): GitHub Repository: [https://github.com/ITDProject/ITDTESPlatform](https://github.com/ITDProject/ITDTESPlatform)


TNGLab (C++/Visual Basic) -- Trade Network Game Laboratory. Homepage
https://www2.econ.iastate.edu/tesfatsi/TNGHome.htm

Evolutionary Trade Networks,” IEEE Transactions on Evolutionary Computation, Vol. 5, No. 5,
October, 546-560.

Transactions on Evolutionary Computation, Vol. 5, No. 5, October, 437-441.