
CONTACT INFORMATION	Department of Industrial Engineering 277 Freeman Hall, Clemson University Clemson, SC 29634	hkarimi@clemson.edu hkarimi.people.clemson.edu
EDUCATION	<p>Clemson University, Clemson, SC. Fall 2014 - present</p> <p>Ph.D. Candidate, Industrial Engineering, (ABD, May 2018 graduation)</p> <ul style="list-style-type: none"> • Dissertation: <i>Optimization Models to Analyze the Environmental and Economic Impacts of Bioenergy Supply Chains.</i> • Advisor: Dr. Sandra D. Ekşioğlu. • Past: Mississippi State University, Mississippi State, MS (Fall 2013-Summer 2014). <p>Amirkabir University of Technology, Tehran, Iran. Fall 2009 - Fall 2011</p> <p>M.Sc., Industrial & Systems Engineering.</p> <ul style="list-style-type: none"> • Thesis: <i>A new algorithm for the classic vehicle routing problem.</i> • Advisor: Dr. Abbas Seifi. <p>Kar Higher Education Institute, Tehran, Iran. Fall 2004 - Fall 2008</p> <p>B.Sc., Industrial Engineering (Industrial Safety).</p>	
RESEARCH INTERESTS	Mathematical Modeling and Optimization, Logistics and Supply Chain Management, Sustainable Operations Management, Energy Systems, Mixed Integer and Combinatorial Optimization, Stochastic Programming, Statistics and Machine Learning	
PUBLICATIONS	<p>Refereed Journal Articles</p> <ol style="list-style-type: none"> 1. Ekşioğlu, Sandra D., Karimi, H., and Ekşioğlu, B., “Optimization Models to Integrate Production and Transportation Planning for Biomass Co-Firing in Coal-Fired Power Plants.” <i>IIE Transactions</i>, 48(10): 901–920, 2016. doi:10.1080/0740817X.2015.1126004 *Featured in the September 2016 issue of <i>ISE Magazine</i>. 2. Karimi, H., and Seifi, A., “Analytic Center Stabilization of Column Generation Algorithm for the Capacitated Vehicle Routing Problem.” <i>Optimization Methods and Software</i>, 30(6): 1109–1125, 2015. doi:10.1080/10556788.2015.1025134 3. Ahmadi, T., Karimi, H., Davoudpour, H., and Hosseiniyou, S.A., “A Robust Decision Making Approach for P-hub Median Location Problems Based on Two-Stage Stochastic Programming and Mean-Variance Theory: a Real Case Study.” <i>The International Journal of Advanced Manufacturing Technology</i>, 77(9): 1943–1953, 2015. doi:10.1007/s00170-014-6569-x 4. Karimi, H., and Seifi, A., “Acceleration of Lagrangian Method for the Vehicle Routing Problem with Time Windows.” <i>International Journal of Industrial Engineering</i>, 23(4): 309–315, 2012. ISSN: 2008-4889 <p>Under Review</p> <ol style="list-style-type: none"> 1. Karimi, H., Ekşioğlu, Sandra D., and Khademi A., “Analyzing Tax Incentives for Producing Renewable Energy by Biomass Cofiring.” (Submitted to the <i>IIE Transactions</i>, submitted revision: UIIE-4866.R2, October 2017). 	

Book Chapter

1. Ekşioğlu, Sandra D., and **Karimi, H.**, “An Optimization Model in Support of Biomass Co-firing Decisions in Coal Fired Power Plants.” *Process Simulation and Optimization in Sustainable Logistics and Manufacturing*, Part II: 111–123, Springer International Publishing, 2014. ISBN: 978-3-319-07347-7

Refereed Conference Proceedings

1. Ekşioğlu, Sandra D., and **Karimi, H.**, “A Model for Analyzing the Impact of Production Tax Credit on Renewable Electricity Production.” *IIE Annual Conference*, Proceedings: 2407–2416, Institute of Industrial Engineers-Publisher, 2014.
2. Ekşioğlu, Sandra D., and **Karimi, H.**, “An Optimization Model in Support of Biomass Co-Firing Decisions in Coal Fired Power Plants.” *9th International Congress on Logistics and SCM Systems*, Poznan, Poland, 2014.
3. **Karimi, H.**, and Seifi, A., “A New Column Generation Algorithm for a Reverse Logistics Model.” *2nd International and 4th National Logistics and Supply Chain Conference*, Proceedings: 1807–1823, Tehran, Iran, 2011.

Conference Presentations and Talks

1. **Karimi, H.**, Ekşioğlu, Sandra D., and Carbajales-Dale, M., “A Biobjective Optimization Model for Analyzing the Environmental and Economic Impacts of Biopower Supply Chains.” *IISE Annual Conference & Expo*, Pittsburgh, 2017 (oral presentation).
2. **Karimi, H.**, Ekşioğlu, Sandra D., and Khademi A., “On the Effectiveness of Tax Incentives to Support Biomass Cofiring at Coal-fired Power Plants.” *INFORMS Annual Meeting*, Nashville, TN, 2016 (oral presentation).
3. **Karimi, H.**, and Ekşioğlu, Sandra D., “A Generalized Benders’ Decomposition Algorithm to Solve the Biomass Co-firing Optimization Model.” *IIE Annual Conference & Expo*, Anaheim, 2016 (oral presentation).
4. **Karimi, H.**, and Ekşioğlu, Sandra D., “Policy Analyses of Renewable Energy Incentive Schemes on Bioenergy Production with Biomass Supply Chain Integration.” *The Annual Graduate Research and Discovery Symposium (GRADS)*, Clemson University, 2016 (poster presentation).
5. **Karimi, H.**, and Ekşioğlu, Sandra D., “Analyzing the Impact of Flexible Tax Credit Schemes on Biomass Co-firing in Coal-fired Power Plants.” *INFORMS Annual Meeting*, Philadelphia, PA, 2015 (oral presentation).
6. **Karimi, H.**, and Ekşioğlu, Sandra D., “Models for Optimizing the Supply Chain in Support of Biomass CoFiring in Coal Plants.” *University Transportation Center (UTC) Conference for the Southeastern Region*, Georgia Institute of Technology, 2014 (poster presentation).
7. **Karimi, H.**, and Seifi, A., “Analytic Center Stabilization of Column Generation Algorithm for the Capacitated Vehicle Routing Problem.” *25th Conference of European Chapter on Combinatorial Optimization (ECCO XXV)*, Antalya, Turkey, 2012 (oral presentation).
8. **Karimi, H.**, and Ghodsipour, S. H., “A Fuzzy Multiperiod Multiobjective Model for the Power Generation Expansion Planning.” *4th International Conference of Iranian Operations Research Society*, Rasht, Iran, 2011 (oral presentation).

9. **Karimi, H.**, “Implementation of Column Generation Algorithms in GAMS/CPLEX.” *8th International Industrial Engineering Conference*, Tehran, Iran, 2012 (workshop).
10. **Karimi, H.**, “State-of-the-art Solution Methods and Algorithms for Facility Location Problems.” *Design of Industrial Systems*, Davoudpour H. (Instructor), Amirkabir University of Technology, Tehran, Iran 2012 (invited talk).

TEACHING
EXPERIENCE

Graduate Student Instructor, Summer 2016
IE3610: Industrial Applications of Probability and Statistics (II), Clemson University
 ◇ Undergraduate.
 • Prepared and taught a weekly 3 hour online course.

Graduate Teaching Assistant, Fall 2014-Fall 2016
IE6570: Transportation and Logistics Engineering, Clemson University
Instructor: Dr. Sandra D. Ekşioğlu
 ◇ Graduate and senior undergraduate.
 • Held office hours and moderated the online discussion board. Lectured occasionally. Assisted in conducting business simulation games (beergame).

Grader, Spring 2014
IE4934: Information Systems for IE, Mississippi State University
Instructor: Dr. Sandra D. Ekşioğlu
 ◇ Undergraduate.
 • Helped with the development and grading of assignments, quizzes, and exams.

Teaching Assistant, Fall 2012 & Spring 2013
Applied Mathematical Programming, Amirkabir University of Technology
Instructor: Dr. Abbas Seifi
 ◇ Graduate and senior undergraduate.
 • Graded exams and assignments. Taught GAMS/CPLEX via vehicle routing problems (VRPs).

Teaching Assistant, Fall 2012 & Spring 2013
Operations Research (II), Amirkabir University of Technology
Instructor: Dr. Abbas Seifi
 ◇ Undergraduate students.
 • Helped with the development and grading of assignments and exams. Taught XPRESS-MP for math modeling.

RESEARCH
EXPERIENCE &
SERVICE

Industrial Assessment Graduate Assistant, Spring 2017 - present
DOE Industrial Assessment Center, Clemson University (CU-IAC)
Collaborating in energy assessments for industrial and commercial facilities in South Carolina utilizing data acquisition tools, statistical analyses. Managing teams of 5-8 student interns to conduct energy audits and prepare recommendation reports. Contributed to an average of \$21,000 cost saving recommendations per client. Conducting research to develop a machine learning framework for industrial energy assessments.

Gradute Research Assistant, Fall 2014 - Fall 2016
Department of Industrial Engineering, Clemson University
Advisor: Sandra D. Ekşioğlu
Development and implementation of mathematical optimization models and solution algorithms in support of bio-energy networks and supply chains (modeling: AMPL, GAMS, Julia; solvers: CPLEX, Gurobi, BONMIN, BARON). Collection, analysis, and manipulation of the data related to the U.S. biomass supply and coal-fired power

plants using SQL scripts, R, and spreadsheets (U.S. Billion-Ton database, doe.gov). Assisting in preparing grant proposals, editorial reviews, and academic service activities. Presenting research findings in major conferences and seminars. Collaboration in publishing journal articles, proceedings, book chapters.

*2016 Outstanding Graduate Research Assistant Award

Invited Peer-review

- *OMEGA - The International Journal of Management Science.*
- *Operations Research Letters.*

Other Service Activities

- *President*, INFORMS Student Chapter, Clemson University.
- *Session Chair*, “Optimization Models in Environment and Sustainability”, 2017 INFORMS Annual Meeting, Houston TX.
- *Volunteer*, 2016 IISE Annual Conference Service Team, Anaheim CA.

PATENT APPLICATION

Karimi, H., and Lonski J. D., “DEVICE FOR TEACHING A DRIVER TO DRIVE IN A FUEL EFFICIENT MANNER.” U.S. Provisional Patent Application NO. 14798989 (filed June 22, 2017).

HONORS AND AWARDS

- **Best Presentation Award**, Spring 2017
Clemson IE Research Symposium, Clemson University.
- **NSF Grants Supplemental Support Award**, Summer 2016
PI: Dr. Sandra D. Ekşioğlu, Amount: \$6,487.
- **Outstanding Graduate Research Assistant Award**, Spring 2016
Department of Industrial Engineering, Clemson University.
- **Professional Enrichment Grant**, Spring 2016 & Fall 2016
Graduate Student Government, Clemson University, Amount: \$1500 (two times).
- **Selected Paper Award**, Spring 2012
8th International Industrial Engineering Conference, Tehran, Iran.
- **Ranked 18th**, Fall 2009
Nation-wide Entrance Exam for M.Sc. Programs in Industrial Engineering (about 7000 participants), Iran.

MEMBERSHIPS

- Institute for Operations Research and the Management Sciences (**INFORMS**).
- Production and Operations Management Society (**POMS**).
- Institute of Industrial and Systems Engineers (**IISE**).
- Decision Sciences Institute (**DCI**)
- **Alpha Pi Mu**: Industrial Engineering Honor Society.

COMPUTER SKILLS

- Programming Languages: Python, R, C++, MATLAB Programming
- Data Analysis: MySQL, Minitab, SAS, MS Office, Hadoop (familiarity-Boot Camp)
- Mathematical Modeling Languages: AMPL, GAMS, Express-MP, Julia, LINGO/LINDO
- Other Software: ArcGIS, OpenLCA, Mathematica, L^AT_EX, Inkscape, EndNote

CERTIFICATES

- **Research Computing and Data Insight Boot Camp**, Clemson Computing & Information Technology Center, Clemson.
- **Office Automation**, Technical and Vocational University (TUV), Tehran, Iran.

GRADUATE COURSEWORK

Data Analysis; Systems Analysis; Integer Programming; Advanced Linear Programming; Stochastic Programming and Modeling Under Uncertainty; Computation Fundamentals; Statistical Methods; Queuing Systems; Multi-criteria Decision Making; Design of Industrial

Systems; Nonlinear Programming; Power Systems Operations and Control; Stochastic Processes and Application; Human Factors Engineering; Discrete Optimization.

- VOLUNTEERING
- STEM Fields Promotion Outreach Events, 2014-2016
Clemson University.
 - Volunteering at Clemson Community Care and Tigers Serve, 2015-2016
Clemson University.
 - Society of Students Against Poverty, 2010-2013
Tehran, Iran.

- LANGAUGES
- English (Proficient, TOEFL Score: 109/120, GRE Verbal Score: 158/170)
 - Persian (Fluent, National Language)
 - Azerbaijani (Fluent, Mother Language)
 - Turkish (Familiarity)
 - Arabic (Familiarity)

REFERENCES

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