Revision Date:
Jun. 7, 2018

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Education

Aug'07–Sep'11 University of Maryland, College Park, MD
Ph.D., Applied Mathematics & Statistics, and Scientific Computation
Dissertation: *Solving Two-Level Optimization Problems with Applications to Robust Design and Energy Markets*

Aug'03–May'07 Franklin & Marshall College, Lancaster, PA
A.B., Mathematics and Corruption Studies

Jan'06–Jun'06 American University in Cairo, Cairo, Egypt
Study Abroad, International Law, International Development, Arabic

Appointments

Jul'12–Present Assistant Professor
Department of Civil Engineering, Johns Hopkins University
Secondary Appointment: Department of Applied Mathematics and Statistics

May'15–Present Research Fellow
Department of Energy, Transportation, and Environment, German Economic Research Institute (DIW Berlin)

May'16–Nov'16 Research Fellow
Energy Modeling Team, King Abdullah Petroleum Studies and Research Center (KAPSARC)

Sep'11–Jun'12 Associate
Environmental Markets, ICF International

May'10–Jun'11 Consultant
Development Research Group, Environment and Energy Team, The World Bank

Honors

Nov'17 Article Selected for Promotion, Institute for Industrial and Systems Engineering (IISE)
The article "Nurse Staffing in Perianesthesia Care Units Using Discrete Event Simulation" was selected for special promotion by the Industrial and Systems Engineering (ISE) Magazine.

Nov'16 Young Researcher Prize, ENRE, INFORMS
Awarded annually at the INFORMS Annual Meeting for an outstanding paper on the application of OR/MS to an important problem in energy, natural resources, or the environment.

Dec'15 Article Selected for Promotion, Elsevier
The article "Tracking global bicycle ownership patterns" was selected for special promotion by Elsevier.

Sept'14 Albright Challenge Invitee
One of 17 rising leaders invited from varied backgrounds to create a dynamic collaborative environment for solving problems in Big Data and its influx into Healthcare.
MIT Collaborative Initiatives, Cambridge, MA

May'10 Distinguished Teaching Award
Center for Teaching Excellence, University of Maryland, College Park, MD

May'09 Gold Medal in Teaching Excellence
Department of Mathematics, University of Maryland, College Park, MD

Publications

Submitted Journal Publications

J. Strand, S. Siddiqui (2018) "Value of Improved Information about Forest Protection Values, with Application to Rainforest Valuation," *Resource and Energy Economics*, In 1st Review.

M. Madani[1], C. Ruiz, S. Siddiqui, M. Van Vyve (2018) "Convex Hull, IP and European Electricity Pricing in a European Power Exchanges setting with efficient computation of Convex Hull Prices," *European Journal of Operational Research*, In 1st Review.

W. Jiang[2], P. Lakshminarayanan, X. Hui, P. Han, Z. Cheng, M. Bowers, I. Shpitser, S. Siddiqui, R. Taylor, H. Quon, T. McNutt (2018) "Machine learning methods uncover radio-morphologic dose patterns in salivary glands that predict xerostomia in head and neck cancer patients," *International Journal of Radiation Oncology, Biology, Physics*, In 2nd Review.

Refereed Journal Publications
H-Index: 12
(Google Scholar)

[J31] F. Feijoo[1], G. Iyer, C. Avraam[2], S. Siddiqui, L. Clarke , M. Binsted, P. Patel, N. Prates[3], S. Sankaranarayanan[2], E. Torres-Alfaro[3], M. Wise (2018) "The Future of Natural Gas Infrastructure Development in the United States," *Applied Energy*, 228: 149-166.

[J30] C. Bakker[1], B. Zaitchik, S. Siddiqui, B. Hobbs, E. Broaddus, R. Neff, J. Haskett, C. Parker (2018) "A Multi-Scale Energy Food Systems Modeling Framework For Climate Adaptation," *Agricultural Systems*, 164: 165-184.

[J29] O. Oke[2], D. Huppmann[1], M. Marshall[3], R. Poulton[3], S. Siddiqui (2018) "A Crude Oil Infrastructure and Market Model for the United States," *Networks & Spatial Economics*, DOI:10.1007/s11067-018-9387-0.

[J28] S. Sankaranarayanan[2], F. Feijoo[1], S. Siddiqui (2018) "Sensitivity and Covariance in Stochastic Complementarity Problems with an Application to Natural Gas Markets," *European Journal of Operational Research*, 268(1): 25-36.

[J27] D. Huppmann[1], S. Siddiqui (2018) "An exact solution method for binary equilibrium problems with compensation and the power market uplift problem," *European Journal of Operational Research*, 266(2): 622-638.

[J26] O. Oke[2], K. Bhalla, D. Love, S. Siddiqui (2018) "Spatial associations in global household bicycle ownership," *Annals of Operations Research*, 263(1-2): 529-549.

[J25] S. Siddiqui, E. Morse, S. Levin (2017) "Evaluating Nurse Staffing Levels in Perianesthesia Care Units Using Discrete Event Simulation," *IIE Journal on Healthcare Systems Engineering*, 7(4): 215-223.

[J24] T. Brijs[2], A. van Stiphout, S. Siddiqui, R. Belmans (2017) "Evaluating the Role of Electricity Storage by Considering Short-Term Operation in Long-Term Planning," *Sustainable Energy, Grids, and Networks*, 10: 104-117.

[1] PostDoc Advisee
[2] PhD Advisee
[3] Undergraduate Advisee

[J23] W. Jiang[2], S. Searle, S. Siddiqui (2017) "Policy analysis of global woodchip trade using a spatial equilibrium model," *Biofuels, Bioproducts and Biorefining*, 11(3): 505-520.

[J22] S. Siddiqui, S.A. Gabriel (2017) "Modeling Market Power in the U.S. Shale Gas Market," *Optimization and Engineering*, 18(1): 203-213.

[J21] T. Brijs[2], D. Huppmann[1], S. Siddiqui, R. Belmans (2016) "Auction-Based Allocation of Shared Electricity Storage Resources through Physical Storage Rights," *Journal of Energy Storage*, 7: 82-92.

[J20] T. Brijs[2], F. Geth, S. Siddiqui, B. Hobbs, R. Belmans (2016) "Price-Based Unit Commitment Electricity Storage Arbitrage with Piecewise Linear Price-Effects," *Journal of Energy Storage*, 7: 52-62.

[J19] F. Feijoo[1], D. Huppmann[1], L. Sakiyama[3], S. Siddiqui (2016) "North American Natural Gas Model: Impact of cross-border trade with Mexico," *Energy*, 112: 1084-1095.

[J18] S. Barnes, M. Toerper, E. Hamrock, S. Siddiqui, S. Levin (2016) "Real-Time Prediction of Inpatient Length of Stay for Discharge Prioritization," *Journal of the Medical Informatics Association*, 23(e1): e2-e10.

[J17] M. Toerper, E. Flanagan, S. Siddiqui, J. Appelbaum, E. Kasper, S. Levin (2016) "Cardiac Catheterization Lab Inpatient Forecast Tool: A Prospective Evaluation," *Journal of the Medical Informatics Association*, 23(e1): e49-e57.

[J16] S. Siddiqui, A. Christensen (2016) "Determining Energy and Climate Market Policy Using Multiobjective Programs with Equilibrium Constraints," *Energy*, 94: 316-325.

[J15] L. Karp, S. Siddiqui, J. Strand (2016) "Dynamic climate policy with both strategic and non-strategic agents: Taxes versus quantities," *Environmental and Resource Economics*, 65(1): 135-158.

[J14] O. Oke[2], K. Bhalla, D. Love, S. Siddiqui (2015) "Tracking global bicycle ownership patterns," *Journal of Transport & Health*, 2(4): 490-501.

[J13] A. Christensen, S. Siddiqui (2015) "Fuel price impacts and compliance costs associated with the Renewable Fuel Standard (RFS)," *Energy Policy*, 86: 614-624.

[J12] O. Oke[2], S. Siddiqui (2015) "Efficient automated schematic map drawing using multiobjective mixed integer programming," *Computers & Operations Research*, 61: 1-17.

[J11] A. Christensen, S. Siddiqui (2015) "A Complementarity Model of the US Biofuels Market," *Biofuels, Bioproducts, and Biorefining*, 9(4): 397-411.

[J10] S. Satti[2], B. Zaitchik, S. Siddiqui (2015) "The Question of Sudan: A Hydroeconomic Optimization Model for the Sudanese Nile," *Hydrology and Earth System Sciences*, 19: 2275-2293.

[J9] S. Siddiqui, S.A. Gabriel, S. Azarm (2015) "Solving Mixed-Integer Robust Optimization Problems with Interval Uncertainty Using Benders Decomposition," *Journal of the Operational Research Society*, 66: 657-663.

[1] PostDoc Advisee
[2] PhD Advisee
[3] Undergraduate Advisee

[J8] J. Strand, S. Miller, S. Siddiqui (2014) "Long-run carbon emission implications of energy-intensive infrastructure investments with a retrofit option," *Energy Economics*, 46: 308-317.

[J7] S.A. Gabriel, S. Siddiqui, A.J. Conejo, C. Ruiz (2013) "Solving Discretely-Constrained Nash-Cournot Games with an Applications to Power Markets," *Networks and Spatial Economics*, 13(3): 307-326.

[J6] S. Siddiqui, S.A. Gabriel (2013) "An SOS1-Based Approach for Solving MPECs with a Natural Gas Market Application," *Networks and Spatial Economics*, 13(2): 205-227.

[J5] S.A. Gabriel, A.J. Conejo, C. Ruiz, S. Siddiqui (2013) "Solving discretely-constrained, mixed linear complementarity problems with applications in energy," *Computers & Operations Research*, 40(5): 1339-1350.

[J4] S. Siddiqui, S. Azarm, S.A. Gabriel (2012) "On improving normal boundary intersection method for generation of Pareto frontier," *Structural and Multidisciplinary Optimization*, 46(6): 839-852.

[J3] S.A. Gabriel, K.E. Rosendahl, R. Egging, H. Avetisyan, S. Siddiqui (2012) "Cartelization in gas markets: Studying the potential for a 'Gas OPEC'," *Energy Economics*, 34(1): 137-152.

[J2] S. Siddiqui, S. Azarm, S.A. Gabriel (2011) "A modified Benders decomposition method for efficient robust optimization under interval uncertainty," *Structural and Multidisciplinary Optimization*, 44(2): 259-275.

[J1] D. Merritts, R. Walter, M. Rahnis, J. Hartranft, S. Cox, A. Gellis, N. Potter, W. Hilgartner, M. Langland, L. Manion, C. Lippincott, S. Siddiqui, Z. Rehman, C. Scheid, L. Kratz, A. Shilling, M. Jenschke, K. Datin, F. Cranmer, A. Reed, D. Matuszewski, M. Voli, E. Ohlson, A. Neugebauer, A. Ahamed, C. Neal, A. Winter, S. Becker (2011) "Anthropocene streams and base-level controls from historic dams in the unglaciated mid-Atlantic region," *Philosophical Transactions of The Royal Society A*, 369(1938): 976-1009.

Working Papers

[W9] T. Brijs[2], A. van Stiphout, S. Siddiqui, R. Belmans (2016) "Evaluating the Role of Electricity Storage by Considering Short-Term Operation in Long-Term Planning," *DIW Berlin Discussion Paper No. 1624.*

[W8] O. Oke[2], D. Huppmann[1], M. Marshall[3], R. Poulton[3], S. Siddiqui (2016) "Mitigating environmental and public-safety risks of United States crude-by-rail transport," *DIW Berlin Discussion Paper No. 1575.*

[W7] T. Brijs[2], F. Geth, S. Siddiqui, B. Hobbs, R. Belmans (2016) "Price-Based Unit Commitment Electricity Storage Arbitrage with Piecewise Linear Price-Effects," *DIW Berlin Discussion Paper No. 1567.*

[W6] F. Feijoo[1], D. Huppmann[1], L. Sakiyama[3], S. Siddiqui (2016) "North American Natural Gas Model: Impact of cross-border trade with Mexico," *DIW Berlin Discussion Paper No. 1553.*

[1] PostDoc Advisee
[2] PhD Advisee
[3] Undergraduate Advisee

[W5] T. Brijs[2], D. Huppmann[1], S. Siddiqui, R. Belmans (2016) "Auction-Based Allocation of Shared Electricity Storage Resources through Physical Storage Rights," *DIW Berlin Discussion Paper No. 1566*.

[W4] J. Strand, S. Siddiqui (2015) "Value of Improved Information about Forest Protection Values, with Application to Rainforest Valuation," *World Bank Policy Research Working Paper No. 7423*, September, 2015.

[W3] D. Huppmann[1], S. Siddiqui (2015) "An exact solution method for binary equilibrium problems with compensation and the power market uplift problem," *DIW Berlin Discussion Paper No. 1475*.

[W2] L. Karp, S. Siddiqui, J. Strand (2013) "Dynamic climate policy with both strategic and non-strategic agents: Taxes versus quantities," *World Bank Policy Research Working Paper No. 6679*, October, 2013.

[W1] J. Strand, S. Miller, S. Siddiqui (2011) "Infrastructure Investments under Uncertainty with the Possibility of Retrofit: Theory and Simulations," *World Bank Policy Research Working Paper No. 5516*, January, 2011.

Book Chapters

[B2] S. Levin, S. Siddiqui, P. Satjapot (2014) "SMART Vaccines Software Updates," *Ranking Vaccines: Applications of a Prioritization Software Tool: Phase III: Use Case Studies and Data Framework*, The National Academies Press.

[B1] W. Lucas, S. Siddiqui (2013) "Game Theory," *Encyclopedia of Operations Research & Management Science, 3rd Edition*, Springer.

Refereed Conference Proceedings & Extended Abstracts

[P5] C. Bakker[1], B. Zaitchik, S. Siddiqui, B. Hobbs, E. Broaddus, R. Neff, J. Haskett, C. Parker (2016) "A Multi-Scale Energy Food Systems Modeling Framework For Climate Adaptation," *AGU Fall Meeting Abstracts*, San Francisco, US, 2016.

[P4] S. Satti[2], B. Zaitchik, S. Siddiqui (2013) "Determining the effect of climate change and development on water resources management in the Sudan," *AGU Fall Meeting Abstracts*, San Francisco, US, 2013.

[P3] L. Karp, S. Siddiqui, J. Strand (2013) "Dynamic climate policy with both strategic and non-strategic agents: Taxes versus quantities," *Proceedings of The International Energy Workshop*, Paris, France, June 2013.

[P2] H. Avetisyan, S. Gabriel, S. Siddiqui, S. Moryadee (2011) "Analyzing the Effects of CO2e Pricing and US Shale Gas Availability on Global Natural Gas Market," *Changing Roles of Industry, Government and Research, 30th USAEE/IAEE North American Conference*, Washington, DC, October 2011.

[P1] D. Merritts, R. Walter, C. Lippincott, S. Siddiqui (2004) "High suspended sediment yields of the Conestoga River watershed to the Susquehanna River and Chesapeake Bay are the result of ubiquitous post-settlement mill dams," *AGU Fall Meeting Abstracts*, San Francisco, US, 2004.

[1] PostDoc Advisee
[2] PhD Advisee

Presentations

INVITED LECTURES

[S30] SEMINAR (2018) "Modeling Policy Decisions in Energy Markets and Health Systems Using Multiobjective Programs with Equilibrium Constraints," *Weston Roundtable Series, Center for Sustainability and the Global Environment (SAGE), University of Wisconsin-Madison*, Madison, Wisconsin, September, 2018.

[S29] SEMINAR (2018) "An exact solution method for binary equilibrium problems with compensation and the power market uplift problem," *Department of Electric Power Engineering, Norwegian University of Science and Technology (NTNU)*, Trondheim, Norway, June, 2018.

[S28] PLENARY (2018) "Understanding the Future of Natural Gas Infrastructure," *Commodities and Energy Market Organization in the Energy Transition Context [EM 2018]*, Paris, France, June, 2018.

[S27] SEMINAR (2018) "An exact solution method for binary equilibrium problems with compensation and the power market uplift problem," *Department of Statistical Science, University College London*, London, UK, March, 2018.

[S26] SEMINAR (2018) "Modeling Policy Decisions in Energy Markets and Health Systems Using Multiobjective Programs with Equilibrium Constraints," *John and Willie Leone Family Department of Energy and Mineral Engineering, Pennsylvania State University*, State College, PA, February, 2018.

[S25] SEMINAR (2018) "Modeling Policy Decisions in Energy Markets and Health Systems Using Multiobjective Programs with Equilibrium Constraints," *School of Civil and Environmental Engineering, University of New South Wales*, Sydney, Australia, January, 2018.

[S24] SEMINAR (2017) "Designing Policies to Mitigate United States Crude-by-Rail Transport," *Department of Geography, Environment, & Society, University of Minnesota*, Minneapolis, Minnesota, November, 2017.

[S23] SPEAKER (2017) "Natural Gas Infrastructure Development in the United States," *GCAM Community Modeling Meeting, Joint Global Change Research Institute, Pacific Northwest National Lab*, College Park, MD, November, 2017.

[S22] PLENARY (2017) "Research Strategy and Application to Resource Markets," *Berlin Conference on Sustainable Energy and Electricity Economics (BELEC)*, Berlin, Germany, October, 2017.

[S21] SEMINAR (2017) "An exact solution method for binary equilibrium problems with compensation and the power market uplift problem," *Del and Beth Kimbler Lecture, Department of Industrial and Management Systems Engineering, University of South Florida*, Tampa, Florida, August, 2017.

[S20] SEMINAR (2017) "An exact solution method for binary equilibrium problems with compensation and the power market uplift problem," *Department of Electrical Engineering, Katholieke Universiteit Leuven*, Leuven, Belgium, July, 2017.

[S19] SEMINAR (2017) "An exact solution method for binary equilibrium problems with compensation and the power market uplift problem," *Center for Operations Research and Econometrics (CORE), Universit catholique de Louvain*, Louvain-la-Neuve, Belgium, June, 2017.

[S18] SEMINAR (2017) "Modeling Policy Decisions in Biofuel Markets and Health Systems Using Multiobjective Programs with Equilibrium Constraints," *Energy Research Center of the Netherlands (ECN)*, Amsterdam, Netherlands, June, 2017.

[S17] Speaker (2017) "Proposed Recommendations for the Clinical Trials System," *Forum on Drug Discovery, Development, and Translation; National Academy of Medicine*, Washington, DC, March, 2017.

[S16] Seminar (2016) "Value of Improved Information about Forest Protection Values, with Application to Rainforest Valuation," *National Center for Environmental Economics, Environmental Protection Agency*, Washington, DC, April, 2016.

[S15] Seminar (2015) "Rethinking the Mathematics of Decisions in Systems," *Center for Social Design, Maryland Institute College of Art*, Baltimore, MD, November, 2015.

[S14] Seminar (2015) "The Future of Transportation Fuel in the United States in Concert with Energy and Climate Policy," *Department of Mathematics, Franklin & Marshall College*, Lancaster, PA, October, 2015.

[S13] Speaker (2015) "Risk Adaptive Triage in Emergency Medicine," *BD-STEP Kick-Off, U.S. Department of Veterans Affairs*, Washington, DC, September, 2015.

[S12] Seminar (2015) "The Future of Transportation Fuel in the United States in Concert with Energy and Climate Policy," *Group for Research in Decision Analysis, Ecole Polytechnique de Montreal*, Montreal, Quebec, Canada, September, 2015.

[S11] Seminar (2015) "A Systems View: Why Engineers Should Solve the Grand Challenges of Today (and some practical advice on how to do it)," *NED University, Department of Civil Engineering*, Karachi, Pakistan, August, 2015.

[S10] Speaker (2015) "The Future of Transportation Fuel in Concert with Energy and Climate Policy," *Carnegie Endowment for International Peace*, Washington, DC, June, 2015.

[S9] Seminar (2014) "Modeling Policy Decisions in Energy Markets and Health Systems Using Multiobjective Programs with Equilibrium Constraints," *Department of Civil and Environmental Engineering, University of Maryland*, College Park, MD, April, 2014.

[S8] Seminar (2014) "Modeling Policy Decisions in Energy Markets Using Optimization Problems with Equilibrium Constraints," *International Council on Clean Transportation*, Washington, DC, March, 2014.

[S7] Seminar (2014) "US Biofuel Market Model: Analysis of the Environmental Protection Agency's 2014 Recent Rulemaking Activities," *Office of Transportation and Air Quality, Environmental Protection Agency*, Washington, DC, March, 2014.

[S6] Seminar (2014) "Dynamic climate policy with both strategic and non-strategic agents: Taxes versus quantities," *Mercator Research Institute on Global Commons and Climate Change, Technische Universitt Berlin*, Berlin, Germany, January, 2014.

[S5] Seminar (2013) "New Algorithms for Solving Equilibrium Problems with Equilibrium Constraints," *Energy, Transport, Environment Section, DIW Berlin*, Berlin, Germany, July, 2013.

[S4] Seminar (2012) "Decomposition Methods for Two-Level Optimization Problems with Applications to Robust Engineering Design and Natural Gas Markets," *Department of Applied Mathematics & Statistics, Johns Hopkins University*, Baltimore, MD, November, 2012.

[S3] Seminar (2012) "Solving MPECs with an Application to the US Natural Gas Market," *Department of Geography and Environmental Engineering, Johns Hopkins University*, Baltimore, MD, September, 2012.

[S2] Seminar (2012) "Solving Two-Level Optimization Problems with Applications to Robust Engineering Design and Operations Research," *Department of Civil Engineering, Johns Hopkins University*, Baltimore, MD, March, 2012.

[S1] Seminar (2011) "Solving Two-Level Optimization Problems with Engineering Applications," *American Air Liquide*, Newark, DE, May, 2011.

Conference Talks

[C60] S. Siddiqui* (2018) "Solving Problems with Equilibrium Constraints with an Application to Energy Markets," *European Conference On Operational Research*, Valencia, Spain, July 2018.

[C59] S. Siddiqui* (2018) "Solving Problems with Equilibrium Constraints with an Application to Energy Markets," *International Symposium on Mathematical Programming*, Bordeaux, France, July 2018.

[C58] S. Siddiqui* (2018) "Solving Problems with Equilibrium Constraints with an Application to Energy Markets," *International Workshop on Bilevel Programming*, Lille, France, June 2018.

[C57] W. Jiang[2]*, P. Lakshminarayanan, X. Hui, P. Han, Z. Cheng, M. Bowers, I. Shpitser, S. Siddiqui, R. Taylor, H. Quon, T. McNutt (2017) "Predictive Modeling for Toxicities in Head and Neck Cancer Patients," *INFORMS Annual Conference*, Houston, TX, November 2017.

[C56] S. Sankaranarayanan[2]*, Y. Zhang[1], J. Carney[3] S. Siddiqui (2017) "Integrated Modeling of Food-Energy-Water in Ethiopia," *INFORMS Annual Conference*, Houston, TX, November 2017.

[C55] S. Siddiqui* (2017) "Solving Problems with Equilibrium Constraints with an Application to Energy Markets," *INFORMS Annual Conference*, Houston, TX, November 2017.

[C54] W. Jiang[2]*, S. Siddiqui (2017) "Hyper-parameter Optimization for Support Vector Machine as a Bilevel Problem ," *MOPTA Conference*, Lehigh University, PA, August, 2017.

[C53] S. Sankaranarayanan[2]*, Y. Zhang[1], J. Carney[3] S. Siddiqui (2017) "Integrated Modeling of Food-Energy-Water in Ethiopia," *MOPTA Conference*, Lehigh University, PA, August, 2017.

[C52] C. Bakker[1], B. Zaitchik, S. Siddiqui*, B. Hobbs, E. Broaddus, R. Neff, J. Haskett, C. Parker (2016) "A Multi-Scale Energy Food Systems Modeling Framework For Climate Adaptation," *AGU Fall Meeting*, San Francisco, CA, November, 2016.

[C51] D. Huppmann[1], S. Siddiqui* (2016) "An exact solution method for binary equilibrium problems with compensation and the power market uplift problem," *ENRE Awards Session, INFORMS Annual Conference*, Nashville, TN, November 2016.

*Presenting Author
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[2]PhD Advisee
[3]Undergraduate Advisee

[C50] F. Feijoo[1*], J. Bernstein, S. Siddiqui (2016) "Predicting Likelihood Of Drug Approval From Clinical Trials," *INFORMS Annual Conference*, Nashville, TN, November 2016.

[C49] S. Sankaranarayanan[2*], F. Feijoo[1], S. Siddiqui (2016) "First Order Approximation Methods For Estimating Decision Covariance In Stochastic Optimization," *INFORMS Annual Conference*, Nashville, TN, November 2016.

[C48] W. Jiang[2*], S. Cabral[3], D. Martinez, S. Barnes, F. Korley, L. Barouch, M. Toerper, E. Hamrock, S. Levin, S. Siddiqui (2016) "Machine Learning For Predicting Heart Failure Readmission," *INFORMS Annual Conference*, Nashville, TN, November 2016.

[C47] F. Feijoo[1*], S. Siddiqui (2016) "The North American Natural Gas Model: Analysis Of Long Term Natural Gas Exhaustion," *INFORMS Annual Conference*, Nashville, TN, November 2016.

[C46] C. Bakker[1], B. Zaitchik, S. Siddiqui[*], B. Hobbs, E. Broaddus, R. Neff, J. Haskett, C. Parker (2016) "Mixed Complementarity Modeling in Food Systems," *INFORMS Annual Conference*, Nashville, TN, November 2016.

[C45] S. Sankaranarayanan[2*], F. Feijoo[1], S. Siddiqui (2016) "Sensitivity and covariance in a large-scale Stochastic Complementarity problem using first order approximation," *Transatlantic Infraday, FERC*, Washington, DC, November, 2016.

[C44] S. Siddiqui[*] (2016) "Determining energy and climate market policy using multiobjective programs with equilibrium constraints," *Berlin Conference on Energy and Electricity Economics*, Berlin, Germany, October 2016.

[C43] W. Jiang[2*], S. Cabral[3], S. Barnes, F. Korley, M. Toerper, E. Hamrock, S. Levin, S. Siddiqui (2016) "Machine Learning For Predicting Heart Failure Readmission," *MOPTA Conference*, Lehigh University, PA, August, 2016.

[C42] S. Sankaranarayanan[2*], F. Feijoo[1], S. Siddiqui (2016) "Covariance of the decision vector in stochastic complementarity problem using first-order approximation," *MOPTA Conference*, Lehigh University, PA, August, 2016.

[C41] J. Strand, S. Siddiqui[*] (2016) "Value of Improved Information about Forest Protection Values, with Application to Rainforest Valuation," *European Association of Environmental and Resource Economics Conference*, Zurich, Switzerland, June, 2016.

[C40] D. Huppmann[1], S. Siddiqui[*] (2016) "An exact solution method for binary equilibrium problems with compensation and the power market uplift problem," *INFORMS Optimization Society Conference*, Princeton, NJ, March 2016.

[C39] S. Siddiqui[*], A. Christensen (2015) "Volumes for the Renewable Fuel Standard using Multiobjective Programs with Equilibrium Constraints," *INFORMS Annual Conference*, Philadelphia, PA, November 2015.

[C38] D. Huppmann[1*], S. Siddiqui (2015) "An exact solution method for binary equilibrium problems with compensation and the power market uplift problem," *INFORMS Annual Conference*, Philadelphia, PA, November 2015.

[*] Presenting Author
[1] PostDoc Advisee
[2] PhD Advisee
[3] Undergraduate Advisee

[C37] O. Oke[2*], D. Huppmann[1*], M. Marshall[3], R. Poulton[3], S. Siddiqui (2015) "A Crude Oil Market Model for the United States," *INFORMS Annual Conference*, Philadelphia, PA, November 2015.

[C36] D. Huppmann[1*], S. Siddiqui (2015) "The Trade-off Between Market Efficiency and Compensation Payments in Unit Commitment Problems," *INFORMS Annual Conference*, Philadelphia, PA, November 2015.

[C35] F. Feijoo[1*], D. Huppmann[1], L. Sakiyama[3], S. Siddiqui (2015) ''A Natural Gas Model for North America: Impact of Cross-border Flows of Natural Gas with Mexico," *INFORMS Annual Conference*, Philadelphia, PA, November 2015.

[C34] W. Jiang[2*], S. Cabral[3], S. Barnes, F. Korley, M. Toerper, E. Hamrock, S. Levin, S. Siddiqui (2015) "Machine Learning for Clinical Decision Support for Heart Failure(HF) Readmission," *INFORMS Annual Conference*, Philadelphia, PA, November 2015.

[C33] O. Oke[2*], D. Huppmann[1], M. Marshall[3], S. Siddiqui (2015) "Analyzing United States Crude Oil Flows," *Transatlantic Infraday, FERC*, Washington, DC, November, 2015.

[C32] W. Jiang[2*], S. Searle, S. Siddiqui (2015) "Policy analysis of global woodchip trade using a spatial equilibrium model," *Transatlantic Infraday, FERC*, Washington, DC, November, 2015.

[C31] F. Feijoo[1*], D. Huppmann[1], S. Siddiqui (2015) "A Natural Gas Model for North America: Impact of Cross-border Flows of Natural Gas with Mexico," *Transatlantic Infraday, FERC*, Washington, DC, November, 2015.

[C30] O. Oke[2*], D. Huppmann[1], M. Marshall[3], S. Siddiqui (2015) "An Oil Market Model for the United States," *MOPTA Conference*, Lehigh University, PA, July, 2015.

[C29] W. Jiang[2*], S. Searle, S. Siddiqui (2015) "Policy analysis of global woodchip trade using a spatial equilibrium model," *MOPTA Conference*, Lehigh University, PA, July, 2015.

[C28] S. Barnes*, M. Toerper, E. Hamrock, S. Siddiqui, S. Levin (2015) "Application of Supervised Machine Learning Methods to Predict Daily Hospital Discharges," *INFORMS Healthcare Conference*, Nashville, TN, July, 2015.

[C27] S. Siddiqui*, A. Christensen (2015) "Energy and Climate Market Policy using Multiobjective Programs with Equilibrium Constraints," *22nd International Symposium on Mathematical Programming, International Society on Mathematical Programming*, Pittsburgh, PA, July, 2015.

[C26] O. Oke[2*], D. Huppmann[1], M. Marshall[3], S. Siddiqui (2015) "A Dynamic Equilibrium Model of the US Crude Oil Market," *22nd International Symposium on Mathematical Programming, International Society on Mathematical Programming*, Pittsburgh, PA, July, 2015.

[C25] D. Huppmann[1*], S. Siddiqui (2015) "Exact Solutions to Binary Nash Games and an Application to the Power Market Uplift Problem," *Technical Conference on Increasing Market and Planning Efficiency through Improved Software, Federal Energy Regulatory Commission*, Washington, DC, June 2015.

*Presenting Author
[1]PostDoc Advisee
[2]PhD Advisee
[3]Undergraduate Advisee

[C24] S. Barnes*, M. Toerper, E. Hamrock, S. Siddiqui, S. Levin (2014) "Application of Supervised Machine Learning Methods to Predict Daily Hospital Discharges," *INFORMS Annual Conference*, San Francisco, CA, November, 2014.

[C23] S. Siddiqui*, R. Greenberg, C. Pio Roda, S. Levin (2014) "A Multiobjective Optimization Technique for CRNA Staffing," *INFORMS Annual Conference*, San Francisco, CA, November, 2014.

[C22] O. Oke[2]*, K. Bhalla, D. Love, S. Siddiqui (2014) "Global Bicycling Trends," *INFORMS Annual Conference*, San Francisco, CA, November, 2014.

[C21] S. Siddiqui*, A. Christensen (2014) "A Multiobjective Program with Equilibrium Constraints to Determine Volume Requirements for the RFS," *INFORMS Annual Conference*, San Francisco, CA, November, 2014.

[C20] O. Oke[2]*, K. Bhalla, D. Love, S. Siddiqui (2014) "Tracking Global Bicycle Availability," *INFORMS Data Mining and Analytics Workshop*, San Francisco, CA, November, 2014.

[C19] S. Siddiqui*, A. Christensen (2014) "Equilibrium Model of the Biofuel Market to Determine Optimal Volumes for the Renewable Fuel Standard," *Transatlantic Infraday, FERC*, Washington, DC, November, 2014.

[C18] S. Siddiqui*, A. Christensen (2014) "US Biofuel Market Model: Analysis of the Environmental Protection Agency's 2014 Recent Rulemaking Activities," *MOPTA Conference*, Lehigh University, PA, August, 2014.

[C17] O. Oke[2]*, S. Siddiqui (2014) "Multiobjective optimization for automatic schematic map drawing," *MOPTA Conference*, Lehigh University, PA, August, 2014.

[C16] S. Siddiqui*, A. Christensen (2014) "US Biofuel Market Model: Analysis of the Environmental Protection Agency's 2014 Recent Rulemaking Activities," *Conference of the International Federation of Operational Research Societies*, Barcelona, Spain, July, 2014.

[C15] L. Karp, S. Siddiqui*, J. Strand (2014) "Dynamic climate policy with both strategic and non-strategic agents: Taxes versus quantities," *World Congress of Environmental and Resource Economics*, Istanbul, Turkey, June 2014.

[C14] S. Siddiqui*, O. Oke[2] (2013) "Modeling Policy Decisions in Energy and Transportation Networks Using Multiobjective Programs with Equilibrium Constraints," *Transatlantic Infraday, FERC*, Washington, DC, November, 2013.

[C13] A. Christensen*, S. Siddiqui (2013) "Dynamics of Renewable Identification Numbers used for Compliance with the Renewable Fuel Standard," *INFORMS Annual Conference*, Minneapolis, MN, October, 2013.

[C12] O. Oke[2]*, S. Siddiqui (2013) "A Mixed-integer Programming Tool for Creating Effective Schematic Urban Transit Maps," *INFORMS Annual Conference*, Minneapolis, MN, October, 2013.

[C11] S. Siddiqui (2013) "Improving the Normal Boundary Intersection (NBI) Method for Generation of Pareto Frontiers in Nonconvex Multi-objective Optimization Problems," *26th European Conference on Operational Research*, Rome, Italy, July, 2013.

*Presenting Author
[2]PhD Advisee

[C10] S. Levin*, S. Siddiqui, M. Toerper, J. Appelbaum, E. Flanagan, E. Kasper (2013) "Cardiac Catheterization Lab Inpatient Forecast," *26th European Conference on Operational Research*, Rome, Italy, July, 2013.

[C9] S. Siddiqui*, S. Azarm, S. Gabriel (2013) "On improving normal boundary intersection method for generation of pareto frontier," *World Congress on Structural and Multidisciplinary Optimization*, Orlando, FL, May, 2013.

[C8] S. Siddiqui (2013) "A Decomposition Method for Solving Equilibrium Programs with Equilibrium Constraints," *10th International Conference on Computational Management*, Montreal, QC, May, 2013.

[C7] S. Siddiqui (2012) "An Efficient Algorithm for Solving Equilibrium Programs with Equilibrium Constraints," *Transatlantic Infraday, Resources for the Future*, Washington, DC, November, 2012.

[C6] S. Siddiqui (2012) "A Decomposition Method for Solving Equilibrium Programs with Equilibrium Constraints," *INFORMS Annual Conference*, Phoenix, AZ, October, 2012.

[C5] S. Siddiqui*, S. Gabriel (2011) "Using Schurs Decomposition and SOS Type 1 Variables to Model Shale Gas Market Dynamics in the US," *INFORMS Annual Conference*, Charlotte, NC, November, 2011.

[C4] S. Siddiqui (2011) "Using Schurs Decomposition and SOS Type 1 Variables to Solve MPECs and EPECs," *INFORMS Northeast Conference*, Amherst, MA, May, 2011.

[C3] S. Siddiqui*, S. Gabriel (2010) "Using SOS Type 2 Variables to Solve Mathematical Programs with Equilibrium Constraints," *INFORMS Annual Conference*, Austin, TX, November, 2010.

[C2] S. Siddiqui*, S. Gabriel, H. Avetisyan (2010) "Modeling Shale Gas Production In the US as a Mathematical Program with Equilibrium Constraints," *Transatlantic Infraday, Resources for the Future*, Washington, DC, November, 2010.

[C1] H. Avetisyan*, S. Siddiqui (2009) "Natural Gas Pipeline Projects in Europe," *Transatlantic Infraday, Resources for the Future*, Washington, DC, November, 2009.

Research Advisor

Post-Doc

[1] Daniel Huppmann, *Department of Civil Engineering*, 2015 – Currently Research Scholar at IIASA, Austria

[2] Felipe Feijoo, *Department of Civil Engineering*, 2015-2016 – Currently Assistant Professor at PUCV, Chile

[3] Ying Zhang, *Department of Civil Engineering*, 2017-Present

[4] Mehdi Madani, *Department of Civil Engineering*, 2017-Present

Post-Doc (Co-Advised)

[1] Craig Bakker, *DOGEE* (Co-advised with C. Parker), 2015-2016 – Currently Staff Post-Doc, PNNL

*Presenting Author

PhD

[1] Olufolajimi Oke, *Department of Civil Engineering*, (PhD, Spring 2016) – Currently Post-Doc at MIT

[2] Wei Jiang, *Department of Civil Engineering*, (PhD, Summer 2018) – Currently Research Associate at Staples

[3] Sriram Sankaranarayanan, *Department of Civil Engineering*, Expected Fall 2018

[4] Charalampos Avraam, *Department of Civil Engineering*, Expected Spring 2020

PhD (Co-Advised)

[1] Saleh Satti, *Department of Earth and Planetary Scienses* (Co-advised with B. Zaitchik), (PhD, Summer 2016) – Currently at Constellation Energy

PhD (Visiting)

[1] Tom Brijs, *Visiting Student, University of Leuven (KU Leuven)*, (PhD, Summer 2017) – Currently Senior Associate, Boston Consulting Group

[2] Michael Angelo, *Visiting Student, University of Hawaii*, Expected Spring 2019

[3] Dawud Ansari, *Visiting Student, DIW Berlin*, Expected Spring 2019

[4] Paul Neetzow, *Visiting Student, TU-Berlin*, Expected Spring 2019

MSE

[1] Ashley Feldman, *Department of Civil Engineering*, Class of 2015

[2] Lissy Langer, *Visiting Student, DIW Berlin*, Class of 2015

[3] Devin Conley, *Department of Mechanical Engineering*, Class of 2017

[4] David Williamson, *Department of Civil Engineering*, Class of 2018

[5] Jefferson Riera, *Environmental Health and Engineering*, Class of 2018

MPH

[1] Janice De Vito, *School of Public Health*, Class of 2014

[2] Emma Cogan, *School of Public Health*, Class of 2018

Undergraduate

[1] Molly Van Doren, *Department of Civil Engineering*, Class of 2014

[2] Max Marshall, *Department of Civil Engineering*, Class of 2016

[3] Daniel Takash, *Applied Mathematics & Statistics*, Class of 2016

[4] Paco Tantuico, *Department of Civil Engineering*, Class of 2016

[5] Richard Poulton, *Department of Civil Engineering*, Class of 2017

[6] Stephanie Cabral, *Applied Mathematics & Statistics*, Class of 2016

[7] Colin Friedman, *Department of Mechanical Engineering*, Class of 2016

[8] Carter Burns, *Department of Economics*, Class of 2016

[9] Erin Todaro, *Department of Civil Engineering*, Class of 2018

[10] Raegan Hensley, *Department of Civil Engineering*, Class of 2017

[11] Evelyn Torres-Alfaro, *Department of Civil Engineering*, Class of 2017

[12] John Stanton, *International Studies*, Class of 2017

[13] Benjamin Sokol, *Department Civil Engineering*, Class of 2019

[14] Jess Carney, *Appled Mathematics & Statistics*, Class of 2018

[15] Kayla Ostrow, *Department of Civil Engineering*, Class of 2021

[16] Naomi Meiselman, *Department of Civil Engineering*, Class of 2021

Undergraduate (Visiting)

[1] Larissa Sakiyama, *Cornell University*, Class of 2017

[2] Nathalia Prates, *The Ohio State University*, Class of 2018

[3] Karen Vasquez, *University of Kansas*, Class of 2020

High School
[1] Nampoina Randrianarivelo, *Bryn Mawr School*, Class of 2018
[2] Rory Johnson, *Bryn Mawr School*, Class of 2018
[3] Tenee Blacket, *Baltimore Polytechnic Institute*, Class of 2015
[4] Claire Blaudeau, *Bryn Mawr School*, Class of 2019

Advisee Honors
Olufolajimi Oke, *Croft Fellowship (E^2SHI, JHU)*, Fall 2015 - Spring 2016
Daniel Takash, *Provost Undergraduate Research Award (PURA, JHU)*, Fall 2015
Olufolajimi Oke, *HEART Instructor (JHU)*, Fall 2015
Max Marshall, *Summer Research, WINDINSPIRE (JHU)*, Summer 2015
Olufolajimi Oke, *Teaching and Research Fellow (CER, JHU)*, Spring 2015
Olufolajimi Oke, *Global Center on Childhood Obesity Fellow (JHU)*, Fall 2013

Research Funding

Sep'17-Jul'19 EAGER: SSDIM: Generating Synthetic Data on Interdependent Food, Energy, and Transportation Networks via Stochastic, Bi-level Optimization (PI)
National Science Foundation, CMMI, IMEE, $199,921
Co-PI: Neff, JHU

Sep'16-Aug'20 INFEWS/T1: Understanding multi-scale resilience options for climate-vulnerable Africa (Co-PI)
National Science Foundation, Behavioral and Cognitive Sciences, $2,999,021
PI: Zaitchik, JHU

May'16-Nov'17 Clinical Trials System Project Phase II (PI)
MIT Collaborative Initiatives, $264,000
Co-PI: Igusa, JHU

Sep'16-Aug'18 Establishing Feasibility of a Taxi Based Dispatcher Coordinated Layperson Emergency Medical System for Use in Low and Middle Income Countries (Co-PI)
National Institutes of Health, $388,940
PI: Bhalla, UChicago

Jul'15-Jun'16 Supervised Machine Learning for Clinical Decision Support for Heart Failure Readmission (Co-PI)
JHU Discovery Award, $100,000
PI: Korley, JHU, Co-PI: Levin, JHU

Jul'15-Jun'16 Modeling the impacts of Climate Change on the Global Food System (Co-PI)
JHU Discovery Award, $150,000
PI: Parker, JHU, Co-PI: Hobbs, JHU, Co-PI: Zaitchik, JHU, Co-PI: Neff, JHU, Co-PI Haskett, JHU

Nov'14-Apr'16 Clinical Trials System Project Phase I (Co-PI)
MIT Collaborative Initiatives, $869,376
PI: Igusa, JHU

Nov'15-Nov'16 Natural Gas Infrastructure Modeling (Sole PI)
Resources for the Future, $5000

Jan'15-Jun'15 General Electric PACU Project Support (Sole PI)
Johns Hopkins Hospital, $12,108

Jan'14-Dec'14 SMART Vaccines: A Software for Prioritizing New Vaccines (Phase III) (Co-PI)
National Academy of Engineering and Institute of Medicine, $39,946
PI: Levin, JHU

Jan'14-Dec'14 Global Health and Vaccination Research, Support for Event (Co-PI)
The Research Council of Norway, NOK 396,000 ($51,300)
PI: Egging, NTNU

Jul'13-Jun'14 Making Baltimore Bicycle Friendly Through a Public Health and Systems Engineering Analysis (PI)
Environment, Energy, Sustainability and Health Institute, $25,000
Co-PI: Bhalla, JSPH, Co-PI: Love, JSPH

Feb'13-Jan'14 Staff Forecasting and Optimization (Co-PI)
Johns Hopkins Medicine International, $96,546
PI: Levin, JHU

Dec'12-Jun'14 Patient Flow Prediction and Staff Optimization (Sole PI)
Johns Hopkins Hospital, $59,140

Jan'13-Jun'13 Multi-Hazard Scenario Development for Modeling Post-Disaster Behavior of Physical and Human Infrasructures (Co-PI)
NIH-PIONEER Subaward, $322,213
PI: Mitrani-Reiser, JHU, Co-PI: Dalrymple, JHU, Co-PI: Guest, JHU, Co-PI: Igusa, JHU

Dec'10-Jun'11 International Greenhouse Gas Mitigation Policy with Dynamic Fossil-Fuel Energy Markets: Implication for Emerging and Developing Countries (Co-PI)
The World Bank Group, $30,000
PI: Karp, UC Berkeley, Co-PI: Strand, World Bank

May'10-Jun'10 Climate Cost Uncertainty, Retrofit Cost Uncertainty, and Infrastructure Closedown: Further Simulation Work (Sole PI)
The World Bank Group, $10,000

Teaching

Undergraduate Courses

560.442 Equilibrium Modeling in Systems Engineering, *Johns Hopkins University.* Fall 2012 (8 Students), Spring 2016 (39 Students), Spring 2017 (16 Students), Fall 2017 (8 Students)

560.348 Probability and Statistics for Engineers, *Johns Hopkins University.* Spring 2013 (54 Students), Spring 2014 (85 Students), Spring 2015 (97 Students), Spring 2016 (103 Students)

MATH111 Introduction to Probability, *University of Maryland, College Park.* Fall 2007 (33,31 Students), Fall 2008 (30,32 Students), Spring 2009 (31,29 Students)

MATH111 Elementary Calculus I, *University of Maryland, College Park.* Fall 2009 (28,34,29,30 Students)

Graduate Courses	Systems Modeling for Ethiopia, Water IGERT Program Field Work in Ethiopia *Johns Hopkins University.* Summer 2017 (17 Students)
	560.608 Multilevel and Multiobjective Optimization in Systems, *Johns Hopkins University.* Fall 2016 (18 Students), Spring 2018 (4 Students)
	Operations Research 4, *TU-Berlin and DIW Berlin, Germany.* Fall 2015 (17 Students), Fall 2016 (19 Students), Fall 2017 (18 Students)
	Operations Research 3, *TU-Berlin and DIW Berlin, Germany.* Summer 2013 (7 Students), Summer 2014 (13 Students), Summer 2017 (17 Students)
	Operations Research 2, *TU-Berlin and DIW Berlin, Germany.* Winter 2014 (23 Students)
Short Courses	Advanced Complementarity Modeling Methods, *King Abdullah Petroleum Studies and Research Center, Riyadh, Saudi Arabia.* Summer 2016 (14 Students)
	Optimization and Equilibrium Modeling in Systems Engineering, *Johns Hopkins University.* Fall 2013 (9 Students), Fall 2014 (16 Students), Fall 2015 (15 Students)
	Equilibrium Problems with Equilibrium Constraints, *TU-Berlin and DIW, Berlin, Germany.* Summer 2013 (12 Students)
	Advanced Statistics, *Maryland Leadership Institute.* Summer 2009 (9 Students), Summer 2010 (19 Students), Summer 2011 (14 Students)

External Service & Activities

Leadership	Secretary/Treasurer. Energy Natural Resources and the Environment Section (2016-2018), INFORMS
	Chair, Energy Cluster. Energy Natural Resources and the Environment Section (2016), INFORMS
	Vice Chair. Linear and Conic Optimization, INFORMS Optimization Society (2015-2017), INFORMS
	Chair. Committee for Best Student Paper Award, Energy Natural Resources and the Environment Section (2015), INFORMS
Conference Leadership	Conference Chair, *10th Annual Transatlantic Infraday Conference*, Federal Energy Regulatory Commission, Washington, DC, November 2016
Editorial Board	Associate Editor, *Energy Systems*, Springer, March 2017 - Present
	Associate Editor, *Optimization & Engineering*, Springer, January 2016 - Present
Workshops	Infrastructure Group Lead, *Energy Modeling Forum 34*, 2017-2019
	Co-Organizer, *Workshop on Global Vaccination*, Berlin, Germany, June 12-13, 2014
Committee Work	Dissertation Committee, Florian Perrotton, *Department of Economics, Universit Paris Nanterre, France*, December 2017
	External Review Committee, *Young Scientists Summer Program, IIASA*, Vienna, Austria, October 2017
	Dissertation Committee, Roman Mendelevitch, *Department of Economics, TU-Berlin*, October 2016
	Paper Committee, *MOPTA Annual Conference*, Bethlehem, PA, August 2014

Dissertation Committee, Daniel Huppmann, *Department of Economics, TU-Berlin*, July 2014

Outreach

STEM Achievement in Baltimore Elementary Schools. Departmental Coordinator, August 2016 - July 2017; Faculty Volunteer, August 2014 - July 2016

Engineering Innovation Summer Program. Guest lecturer and activity coordinator for game theory. Summer 2013, Summer 2014, Summer 2015, Summer 2016

Conference Organization

Session Chair, *INFORMS Annual Conference*, November 2014, 2015, 2016, 2017

Session Chair, *IFORS Conference*, Barcelona, Spain, July 2014

Session Chair, *Transatlantic Infraday Conference*, Washington, DC, November 2010, 2012, 2013, 2014

Journal Reviewer

Applied Mathematical Modeling
Computational and Applied Mathematics
Computer-Aided Civil and Infrastructure Engineering
Computers & Operations Research
Energy Economics
Energy Policy
European Journal of Operational Research
IEEE Transactions on Power Systems
IIE Transactions
INFORMS Journal on Computing
Interfaces of Operations Research
Journal of the Operational Research Society
Journal of Infrastructure Systems
Journal of Mechanical Design
Natural Hazards Review
Networks & Spatial Economics
Operations Research
Optimization and Engineering
Risk Analysis
Structural & Multidisciplinary Optimization
The Energy Journal
Journal of Experimental & Theoretical Artificial Intelligence

Member

The Institute for Operations Research and the Management Sciences (INFORMS), 2010-Present

Society for Industrial and Applied Mathematics (SIAM), 2007-Present

American Mathematical Society (AMS), 2005-Present

JHU Service & Activities

University Service

Diversity Champion, *Civil Engineering Representative, Whiting School of Engineering*, 2017-2018

Faculty Search Committee (Diversity Advocate), *Malone Center for Engineering in Healthcare*, 2016-2017

UNDERGRADUATE CURRICULUM COMMITTEE, *Environmental Health and Engineering*, 2016-2017

FACULTY MARSHAL, COMMENCEMENT, *Johns Hopkins University*, 2016

FUTURE OF TECHNOLOGY IN EDUCATION AT HOMEWOOD COMMITTEE, *Johns Hopkins University*, 2015

MEDICAL SCHOOL APPLICANTS COMMITTEE, *Johns Hopkins University*, 2014

SYMPOSIA & WORKSHOPS

PANEL MEMBER, *Designing Healthy Communities: Collaborative Research Opportunities, Bloomberg American Health Initiative*, Baltimore, MD, August, 2017

PANEL MEMBER, *Best Practices in University Teaching Workshop, Center for Educational Resources*, Baltimore, MD, January, 2017, 2018

PANEL MODERATOR, *Systems Engineering Approaches to Improved Care Delivery, Inaugural Johns Hopkins Research Symposium on Engineering in Healthcare*, Baltimore, MD, November, 2016

ORGANIZER, *Systems Institute Symposium*, Baltimore, MD, October 2014

INVITED LECTURES

Center for Educational Resources, Faculty Lunch and Learn. Fall, 2017

Environmental Health and Engineering, Systems Seminar. Spring, 2017

Hopkins Engineering Sampler Seminar. Fall, 2014, 2015, 2016

Second Annual Green Research Sustainability Symposium. April, 2014

Students for Environmental Action Debate on Nuclear Energy. December, 2013

REVIEWER

Center for Global Health Pilot Grant, JHSPH, November 2014

DEPARTMENTAL SERVICE

GRADUATE STUDIES, *Department of Civil Engineering*, 2014

FACULTY SEARCH COMMITTEE (DIVERSITY ADVOCATE), *Department of Civil Engineering*, 2015-2018

SYSTEMS LEAD, GRADUATE STUDIES, *Department of Civil Engineering*, 2016-Present

GRADUATE TA AND SERVICE AWARDS, *Department of Civil Engineering*, 2015-Present

EXTERNAL AFFAIRS, *Department of Civil Engineering*, 2016-Present

UNDERGRADUATE STUDIES, *Department of Civil Engineering*, 2012-Present

STUDENT RECRUITMENT (COORDINATOR), *Department of Civil Engineering*, 2012-Present

DISSERTATION COMMITTEE

Andrew Gaynor, *Civil Engineering*

Olufolajimi Oke, *Civil Engineering*

Nan Zhou, *Economics*

Anya Castillo, *DOGEE*

YueLing Loh, *Applied Mathematics & Statistics*

Saleh Satti, *EPS*

Saamrat Kasina, *DOGEE*

Izzy Melendez, *DOGEE*

Dan Hudson, *Public Health*

Megan Boston, *Civil Engineering*

Wei Jiang, *Civil Engineering*

Robin Hytowitz, *EHE*

Graduate Board Oral	Andrew Gaynor, *Civil Engineering* Zhang Liu, *Civil Engineering* Olufolajimi Oke, *Civil Engineering* Yang Yang, *Civil Engineering* Nan Zhou, *Economics* Anya Castillo, *DOGEE* Julie Shortridge, *DOGEE* Andrea Staid, *DOGEE* YueLing Loh, *Applied Mathematics & Statistics* Hao Jiang, *Applied Mathematics & Statistics* Saleh Satti, *EPS* Gina Tonn, *DOGEE* Saamrat Kasina, *DOGEE* Izzy Melendez, *DOGEE* Anna Scott, *EPS* Megan Boston, *Civil Engineering* Robin Hytowitz, *DOGEE* Cynthia Bothwell, *DOGEE* Carl Shapiro, *Mechanical Engineering* Wei Jiang, *Civil Engineering* Zhaohao Fu, *Civil Engineering* Evangelina Spyrou, *EHE*
Academic Advisor	*Civil Engineering Class of 2017*. Advisor for the 17 undergraduate students in the 2017 class
JHU Labs, Institutes, & Centers	Director, Mathematical Optimization for Decisions Lab (MODL) Co-Director, Center for Systems Science and Engineering Member, Malone Center for Engineering in Health Core Team, Center for Systems Engineering in Health Associate, Environment, Energy, Health, and Sustainability Institute (E^2SHI)