

# Kimberley A. Mullins, PhD

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## Experience

- Aug. 2017 to present *Senior Consulting Analyst*, Lumina Decision Systems, Los Gatos CA
- Work on consulting projects for Lumina customers, including engaging with customers to clarify their needs, and design, develop, test, apply, and document computer models to meet those needs. Currently working with Electric Power Research Institute, Transdev, and Husch Vineyards & Winery.
  - Develop web content, wiki content, blog articles, and outreach campaigns to support current users and attract new business.
  - Provide Analytica software users with technical support.
- Feb. 2016 to Aug. 2017 *Research Associate*, Humphrey School of Public Affairs, University of Minnesota
- Wrote a successful grant proposal to the McKnight Foundation for \$100,000 to comprehensively study distributed energy resource (DER) issues among rural electric cooperative and municipal electric utilities in Minnesota
  - Lead a team to assess the regulatory, technological, and financial opportunities and challenges that municipal and rural electric cooperative utilities face related to DER deployment
- June to Sept. 2016 *Economic Development Fellow*, University Economic Development Office, University of Minnesota
- Managed five graduate students consulting for a small public benefit corporation (Miss Merit) to secure funding to expand their anti-bullying workshops, increase brand visibility, and expand product offerings
- Dec. 2012 to Jan. 2016 *Research Associate*, Department of Bioproducts & Biosystems Engineering, University of Minnesota
- Designed a simplified version of a widely used transportation fuel impact assessment model (GREET) to help an energy industry association conduct 'what if?'-type assessments to support policy analysis
  - Wrote a report commissioned by the Clean Air Task Force explaining how modeling choices (structural, parameter) within Environmental Protection Agency models would affect comparisons between alternative and fossil fuels
  - Built model of U.S. corn supply chain using environmentally extended economic input-output analysis, communicated essential quantitative results to project funders from Environmental Defense Fund
  - Briefed key Congressional staffers on my policy analysis findings on life-cycle greenhouse gas impacts of corn ethanol as related to the federal Renewable Fuel Standard
  - Designed and taught a course, Environmental Life Cycle Analysis, at the undergraduate and graduate levels
- Aug. 2008 to Sept. 2012 *Graduate Research Assistant*, Department of Engineering & Public Policy, Carnegie Mellon University
- Developed a Monte Carlo simulation model in Excel to evaluate the likelihood that key transportation energy policies, namely the federal Renewable Fuel Standard and California Low Carbon Fuel Standard, would achieve life-cycle greenhouse gas emissions reductions
  - Built an optimization model in Matlab and GAMS to allocate biomass resources to transportation, heating, and electricity energy demand across the United States while minimizing system costs and/or greenhouse gas emissions
  - Designed an energy crop (Switchgrass) growth model and linked it to a stochastic weather simulation model in Matlab to assess energy crop profitability under potential drought conditions across the United States
  - Published five peer-reviewed journal articles stemming from dissertation research (one selected as a best policy analysis piece from *Environmental Science & Technology*)
- May 2006 to Aug. 2007 *Transportation Systems Analyst*, IBI Group, Toronto ON
- Developed passenger queueing models, visualized traffic safety information from incident reports, forecasted tolling system demand, and conducted benefit-cost analysis on intelligent transportation system designs

## Education

- 2012 PhD in Engineering & Public Policy and Civil & Environmental Engineering (dual degree), Carnegie Mellon University, Pittsburgh PA
- 2008 BAsc (hon.) in Engineering Science (Infrastructure Specialization), University of Toronto, Canada

## Skills

*Software:* Matlab, @Risk and CrystalBall Excel plug-ins, STATA, Python, Analytica, Adobe Illustrator and InDesign  
*Methods:* Monte Carlo simulation, Benefit-cost analysis, Optimization, Interview protocol design, Life cycle assessment, Policy analysis, Risk assessment, Input-output analysis, Data analysis