

Ashley Arigoni, Ph.D.

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<http://inside.mines.edu/Ashley-Arigoni-Bio>

Ashley specializes in the application of optimization problems, specifically within the energy industry. Her doctoral research developed minimum cost solutions to commodity procurement under uncertainty using both two-stage and multi-stage stochastic optimization. Ashley has experience developing integer and non-linear optimization problems to accurately capture real world phenomena. In industry, Ashley has experience building and implementing unit commit and dispatch models, inventory stockpiling models, and long term utility planning models along with developing trade strategy in both power and commodity markets. Additionally, she has experience working with and analyzing large data sets as well as building regression models to develop forecasts. Ashley is proficient in a variety of programming languages including R, AMPL, VBA, SQL, and C++, as well as production cost modeling software including Plexos, PaR, and PCI.

EDUCATION

Colorado School of Mines - beginning Fall 2012

- Ph.D. student in Operations Research with Engineering, December 2016
- Research on employing two-stage and multi-stage stochastic programming approximation methods to optimize current and future purchase strategies in both the domestic and global thermal coal markets.
- Dissertation: *Optimization techniques in coal markets: a global cost minimization and a multi-stage procurement strategy*

Princeton University - beginning Fall 2004

- B.S.E. in Operations Research and Financial Engineering, June 2008
 - Certificate in Engineering Management Systems, June 2008
 - Certificate in Teacher Preparation, concentration in secondary mathematics, January 2009
 - Senior Thesis: *Project Based Transactions in the Cap and Trade Market for Carbon Emissions*
 - Princeton Women's Varsity Soccer Team, 2004-2008, *2004 Ivy League Champions, 2004 NCAA National Semi-Finalist*
 - Princeton Women's Varsity Soccer Volunteer Assistant Coach, 2008, *2008 Ivy League Champions*
 - Princeton Tiger Inn Eating Club, 2006-2008, *Treasurer, 2007-2008*
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PROFESSIONAL EXPERIENCE

Xcel Energy

Senior Trade Analyst

May 2017 - Present

- * Duties include post-analysis, price signal development and system reporting, day-ahead planning, and ad-hoc studies to support the reliable, minimum cost operation of the electrical grid in Colorado
- * Building electric, ancillary services, and gas supply co-optimization, minimum cost model
- * Developing optimization model for day-ahead commit and dispatch decisions which includes stochastic gas burn forecasts

Trade Analyst

June 2016 - May 2017

- Constructed and implemented minimum cost commit and dispatch model to assist grid operators in real-time generation decisions
- Provided assistance in maintenance and improvement of optimization models for electric systems in Colorado, Minnesota, and Texas

Commercial Operations Intern

June 2013 - June 2016

- Ad hoc projects providing energy trading support and power system analysis

Trade Analyst

November 2011 - August 2012

- Built, maintained, and ran long term power system production cost model
- Provided pricing signals to energy traders based on system incremental and avoided costs
- Assessed economic viability of potential transactions and future projects

Associate Trade Analyst

July 13, 2009 - November 2011

Prima-Temp

Consultant

January 2015 - August 2016

- Assisted in a project designing and implementing algorithm to predict fertility using real time body temperature data

Colorado School of Mines

Teaching Assistant

August 2013 - Present

- Nonlinear Optimization (Spring 2016)
- Engineering Design Optimization (Fall 2015)
- Network Optimization (Fall 2015)
- Advanced Integer Programming (Spring 2015)
- Linear Programming (Fall 2014)
- Operations Research Methods (Fall 2013)

Runge Pincock Minarco

Operations Research Associate

August 2012 - August 2015

- Built network model to optimize global thermal coal flows subject to operational constraints
- Implemented high impact, low probability event impacts to optimal coal stockpiling models

Pincock Allen and Holt

Consulting Analyst

June 2009 - July 2009

- Assisted in construction of model to determine optimal coal inventory levels at a power plant

Citco Fund Services

Pricing and Valuation Team Intern

June 2007 - August 2007

- Hedge fund administration group
- Provided valuation of hedge fund positions

REFERENCES**Nick Detmer**

Manager, Commercial Operations
Xcel Energy
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Dr. Cameron Turner

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Rene Carmona

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