

# Industrial and Systems Engineering Seminar

## *Duality Theory via Fourier-Motzkin Elimination*

Wednesday, February 12

3:15 PM – Refreshments before the Seminar

3:30 PM – Graduate Seminar

Mechanical Engineering Room 4125 A & B



### **Professor Chris Ryan**

Assistant Professor of Operations Management

University of Chicago Booth

School of Business

We explore how Fourier-Motzkin elimination, a standard tool in finite dimensional linear programming, can be used to understand the duality theory of more general optimization problems, including convex programming and semi-infinite linear programming.

Joint work with Amitabh Basu (Johns Hopkins) and Kipp Martin (University of Chicago).

Link to paper: [http://www.optimization-online.org/DB\\_HTML/2013/04/3817.html](http://www.optimization-online.org/DB_HTML/2013/04/3817.html)

**Bio:** Chris Ryan has two major areas of interest. The first is in optimization theory and algorithms, including finite dimensional optimization, algorithmic game theory, bilevel and discrete optimization. His most recent co-authored paper in this area, “Projection: A Unified Approach to Semi-infinite Linear Programming”, was recently submitted to *Mathematics of Operations Research*. Professor Ryan’s second area of research interest is optimization and decision-making in interactive entertainment and online services.

Professor Ryan earned dual degrees from the University of British Columbia. In 2005 he received a BA in mathematics, and a PhD in 2010 from the Sauder School of Business. He has taught both statistics and operations management at the undergraduate level.