Peter Yun Zhang

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Education

PhD in Engineering Systems (2013 – present)
Massachusetts Institute of Technology; advisor: David Simchi-Levi

MASc in Mechanical and Industrial Engineering (2011 – 2013)
University of Toronto; advisor: Cristina Amon

BASc in Engineering Science, with Honours (2005 – 2011)
University of Toronto

BMath candidate, University of Waterloo (2004 – 2005)

Honours and Awards

Hatch Graduate Scholarship for Sustainable Energy Research ($10,000/year), 2011 – 2013

UofT MIE Graduate Fellowships ($4,950/year), 2011 – 2013

Gordon Cressy Student Leadership Award (UofT), 2013

NSERC Undergraduate Student Research Award, ($4,500), 2011

UofT ECE Summer Research Assistantship, ($6,000), 2006

National Réne Descartes Scholarship ($18,000), 2004

Bronze medal, 35th International Physics Olympiad, 2004

Ranked 1st in Canadian mathematics competition for high school seniors (Euclid), 2004

Publications

Journal Articles

1. Turner, S. D. O., **Zhang, P. Y.**, Romero, D., Chan, T. C. Y. A new mathematical programming approach to optimizing wind farm layouts (accepted at *Renewable Energy*).

2. **Zhang, P. Y.**, Romero, D., Beck, J. C., Amon, C. Solving Wind farm layout optimization with mixed integer programs and constraint programs (submitted to *EURO Journal on Computational Optimization*).

3. Kwong, P., **Zhang, P. Y.**, Romero, D., Moran, J., Morgenroth, M., and Amon, C. Multi-objective wind farm layout optimization with non-dominated sorting genetic algorithm (NSGA-II) (submitted to *ASME Journal of Mechanical Design*).

Refereed International Conference Articles

1. **Zhang, P. Y.**, Metcalfe, M., Cheng, Y.-L. Redefining affluence in China: carbon emission from private transportation. *The 3rd Climate Change Technology Conference*, Montreal, Quebec, May 27-29, 2013.

2. **Zhang, P. Y.**, Romero, D., Beck, J. C., Amon, C. Solving wind farm layout optimization with mixed-integer programming and constraint programming. *CPAIOR 2013: 10th International Conference on Integration of Artificial Intelligence and Operations Research Techniques in Constraint Programming*, IBM T. J. Watson Research Center, Yorktown Heights, New York, May 18-22, 2013.

3. Kwong, P., **Zhang, P. Y.**, Romero, D., Moran, J., Morgenroth, M., and Amon, C. Wind farm layout optimization considering energy generation and noise propagation. *Proceedings of the ASME International Design Engineering Technical Conferences*, Chicago, Illinois, August 12-15, 2012.

International Conference Presentations

1. Solving wind farm layout optimization with mixed-integer programming and constraint programming.

   CPAIOR 2013: 10th International Conference on Integration of Artificial Intelligence and Operations Research Techniques in Constraint Programming (May 18-22, 2013, IBM T. J. Watson Research Center, Yorktown Heights, New York)

2. Robust wind farm layout optimization with mixed-integer programming.

   Institute for Operations Research and the Management Sciences Annual Meeting (Oct 14-17, 2012, Phoenix)

3. Wind farm layout optimization considering energy generation and noise propagation.

   American Society of Mechanical Engineers International Design Engineering Technical Conferences (Aug 12-15, 2012, Chicago)

Teaching Assistantship

MIE1240 Wind Power (graduate), University of Toronto, Fall 2012

MIE468 Facility Planning (senior), University of Toronto, Winter 2013

Professional Activities

1. Student member of:

   American Society of Mechanical Engineers (ASME)

   Canadian Operational Research Society (CORS)

   Institute for Operations Research and the Management Sciences (INFORMS)

   Institute of Industrial Engineers (IIE)

2. Executive committee member of:

   Canadian Operational Research Society Toronto Student Chapter

   The Operations Research Challenge (TORCH, an OR competition for high school students)

   University of Toronto Operations Research Group (UTORG)

Internship

Analyst, Hubei High-tech Investment Ltd., 2010 (summer)

   Prepared due diligence report for various electronics manufacturing companies

Business analyst and software developer, Deckchair Learning Systems, 2009 – 2010

   Customer requirement gathering and software design for referee examination (Ontario Hockey League)

   Design and implementation of multi-media contents for user action data tracking

Computer Skills

Languages: C/C++, Java; PHP, HTML/CSS

Scientific Computing: MATLAB

Mathematical Modelling: CPLEX, Gurobi, AMPL, YALMIP

Extracurricular Activities

Question Master, The Operations Research Challenge, 2012 – 2013

   Consolidating competition questions and preparing training sessions for a total of 100 contestants and 20 teaching assistants

   Co-authored a federal grant application (NSERC PromoScience)

Event Coordinator, University of Toronto Operations Research Group, 2012 – 2013

Co-organizing biweekly academic events, mainly research talks given by professors and graduate students from UofT MIE, Rotman, and other universities

Director of Research, SocialSpark, 2012

Developed curriculum in the sustainable energy and healthcare areas for students from UofT, Western, and Ryerson University

Co-founder, Nspire Innovation Network, 2008 – 2010

Seminar and conference delivery and promotion, hosting more than 600 students and young professionals from six different universities and colleges in Ontario

President, Engineering Chinese Club, University of Toronto, 2008 – 2009

Delivered 6 events, such as internship workshop, graduate school application seminar, for over 100 UofT students

Fundraised over $10,000 for disaster relief in Asia