

TAEWOO LEE

Department of Industrial Engineering, University of Houston
E209 Engineering Bldg 2, 4722 Calhoun Rd, Houston, TX 77204-4008
tlee6 [at] UH [dot] edu

EMPLOYMENT

Assistant Professor	2017-
Department of Industrial Engineering, University of Houston	
Postdoctoral Fellow	2015-2016
Department of Computational and Applied Mathematics, Rice University	

EDUCATION

Ph.D., Industrial Engineering	2015
University of Toronto, Toronto, ON, Canada	
Dissertation Title: Generalized inverse optimization and applications to cancer therapy (Advisor: Timothy Chan)	
Master of Engineering, Industrial Engineering	2010
University of Toronto, Toronto, ON, Canada	
Bachelor of Engineering, Industrial Engineering	2008
Korea University, Seoul, South Korea	

RESEARCH

Journal publications (*authors ordered alphabetically)

1. *T. C. Y. Chan, T. Lee, "[Trade-off preservation in inverse multi-objective convex optimization](#)," *European Journal of Operational Research*, 270 (1), 25-39, 2018
2. *K. Ghobadi, T. Lee, H. Mahmoudzadeh, D. Terekhov "[Robust inverse optimization](#)," *Operations Research Letters*, 46 (3), 339-344, 2018 (authors ordered alphabetically)
3. O. Tavaslioglu, T. Lee, S. Valeva, A. J. Schaefer, "[On the structure of the inverse-feasible region of a linear program](#)," *Operations Research Letters*, 46 (1), 147–152, 2018
4. *T. C. Y. Chan, T. Lee, D. Terekhov, "[Inverse Optimization: Closed-form Solutions, Geometry and Goodness of fit](#)," *Management Science*, Available online, 2017
5. J. J. Boutilier, T. Lee, T. Craig, M. B. Sharpe, T. C. Y. Chan, "[Models for predicting objective function weights in prostate cancer IMRT](#)," *Medical Physics*, 42 (4), 1586–1595, 2015
6. *T. C. Y. Chan, T. Craig, T. Lee, M. B. Sharpe, "[Generalized inverse multi-objective optimization with application to cancer therapy](#)," *Operations Research*, 62 (3), 680–695, 2014
 - First prize, 2013 Canadian Operational Research Society (CORS) Paper Competition
 - First prize, 2013 INFORMS Healthcare Applications Society (HAS) Paper Competition

7. T. Lee, M. Hammad, T. C. Y. Chan, T. Craig, M. B. Sharpe, "[Predicting objective function weights from patient anatomy in prostate IMRT treatment planning](#)," *Medical Physics*, 40 (12), 121706, 2013

Conference publications

8. J. J. Boutillier, T. C. Y. Chan, T. Craig, T. Lee, M. B. Sharpe, "A logistic regression model to predict objective function weights in prostate cancer IMRT," *Medical Physics*, 41 (6), 395, 2014
9. T. Lee, M. Hammad, T. C. Y. Chan, T. Craig, M. B. Sharpe, "Predicting objective function weights for IMRT prostate treatment planning using patient anatomy," *Medical Physics*, 40 (6), 356, 2013
10. T. Lee, T. C. Y. Chan, T. Craig, M. B. Sharpe, "Determining critical objectives and importance factors for prostate IMRT treatment planning," *Medical Physics*, 39 (6), 3845, 2012
11. T. C. Y. Chan, T. Lee, T. Craig, M. B. Sharpe, "Determining objective function weights in prostate IMRT using inverse optimization," *Medical Physics*, 38 (6), 3687, 2011

Selected conference presentations (by topics)

Eliciting food preferences from noisy diet history data

- INFORMS Annual Meeting, Phoenix, AZ, November 2018

Generalized inverse optimization with multiple observations

- INFORMS Annual Meeting, Houston, TX, October 2017
- INFORMS Annual Meeting, Nashville, TN, November 2016

Best objective selection in multi-objective optimization

- 4th International Conference on Big Data and Information Analytics, Houston, TX, December 2018
- INFORMS Annual Meeting, Phoenix, AZ, November 2018
- IISE Annual Meeting, Orlando, FL, May 2018
- INFORMS Annual Meeting, Houston, TX, October 2017
- INFORMS Computing Society Conference, Austin, TX, January 2017
- INFORMS Annual Meeting, Nashville, TN, November 2016

Robust inverse optimization

- INFORMS Annual Meeting, Houston, TX, October 2017
- INFORMS Annual Meeting, Nashville, TN, November 2016
- Canadian Operational Research Society (CORS) Annual Conference, Banff, AB, June 2016

Closed form solutions, geometric analysis, and goodness of fit in inverse optimization

- INFORMS Annual Meeting, Philadelphia, PA, November 2015
- 22nd International Symposium on Mathematical Programming (ISMP), Pittsburgh, PA, July 2015
- INFORMS Annual Meeting, Minneapolis, MN, Oct 2013

Preserving trade-off preferences in multi-objective optimization

- INFORMS Annual Meeting, Phoenix, AZ, November 2018
- INFORMS Annual Meeting, Philadelphia, PA, November 2015
- CORS/INFORMS International Conference, Montreal, QC, June 2015
- INFORMS Annual Meeting, San Francisco, CA, Nov 2014
- CORS Annual Meeting, Ottawa, ON, May 2014

Machine learning techniques for predicting objective function weights in prostate cancer

- INFORMS Annual Meeting, San Francisco, CA, Nov 2014
- American Association of Physicists in Medicine (AAPM) 2014, Austin, TX, July 2014
- INFORMS 2013, Minneapolis, MN, Oct 2013

Predicting objective function weights for multi-criteria IMRT planning using patient anatomy

- INFORMS Annual Meeting, Minneapolis, MN, Oct 2013
- AAPM Annual Meeting, Indianapolis, IN, Aug 2013

- INFORMS Healthcare Conference, Chicago, IL, June 2013

Generalized inverse multi-objective optimization

- INFORMS Healthcare Conference, Chicago, IL, June 2013
- CORS Annual Conference, Vancouver, BC, May 2013
- INFORMS Annual Meeting, Phoenix, AZ, Oct 2012
- AAPM Annual Meeting, Charlotte, NC, July 2012
- CORS Annual Conference, Niagara Falls, ON, June 2012
- INFORMS Annual Meeting, Charlotte, NC, Nov 2011
- AAPM Annual Meeting, Vancouver, BC, July 2011
- INFORMS Healthcare Conference, Montreal, QC, June 2011
- INFORMS Annual Meeting, Austin, TX, Nov 2010

Invited talks

University of Waterloo, Department of Management Science, September 2017
 University of Houston, Department of Industrial Engineering, April 2016
 University of Houston, Department of Industrial Engineering, November 2015
 Rice University, Department of Computational and Applied Mathematics, November 2015
 Seoul National University, Department of Industrial Engineering, June 2015
 POSTECH, Department of Industrial and Management Engineering, June 2015
 Purdue University, School of Industrial Engineering, April 2015
 University of Illinois Urbana-Champaign, ISE, February 2015
 KAIST, Department of Industrial and Systems Engineering, December 2014

AWARDS AND HONORS

INFORMS New Faculty Colloquium	2017
IISE New Faculty Colloquium	2017
INFORMS Doctoral Colloquium	2014
First prize at the Canadian Operational Research Society (CORS) Paper Competition	2013
First prize at the INFORMS Healthcare Applications Society (HAS) Paper Competition	2013
The Queen Elizabeth II Graduate Scholarships in Science and Technology	2013
Natural Sciences and Engineering Research Council of Canada (NSERC) CREATE	2010-2013
Ontario Graduate Scholarship (OGS)	2012
MITACS Accelerate	2012
The Queen Elizabeth II Graduate Scholarships in Science and Technology	2011
Barbara and Frank Milligan Fellowship	2010

TEACHING

INDE3333: Engineering Economy	Spring 2017 (Evaluation 4.72/5.00; N=24)
	Spring 2018 (Evaluation 4.60/5.00; N=53)
INDE3382: Stochastic Models	Fall 2017 (Evaluation 4.80/5.00; N=26)

SERVICE

Referee

Management Science
 Operations Research
 Production and Operations Management
 European Journal of Operational Research
 IISE Transactions
 Computers & Industrial Engineering
 Annals of Operations Research
 Optimization Letters

Optimization and Engineering
Physics in Medicine and Biology
Medical Physics

Cluster/Session chair

Data-driven modeling in healthcare, INFORMS 2018, Phoenix, AZ
Data-driven decision making in healthcare, INFORMS 2017, Houston, TX
Healthcare logistics with uncertainty, 21st IFORS, Quebec City, QC
Inverse optimization, 21st IFORS, Quebec City, QC
Optimization in radiation therapy, INFORMS Computing Society 2017, Austin, TX
Inverse optimization: Theory, INFORMS 2016, Nashville, TN
Inverse optimization: Applications, INFORMS 2016, Nashville, TN
Optimization methods for cancer therapy, INFORMS International 2015, Montreal, QC
Optimization methods for radiation therapy, INFORMS International 2015, Montreal, QC
Inverse optimization in healthcare, INFORMS 2014, San Francisco, CA
Optimization in radiation therapy treatment planning, CORS 2014, Ottawa, ON
Optimization in radiation therapy treatment planning, INFORMS 2013, Minneapolis, MN

Last updated: November 2018