

## Dabeen Lee

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CONTACT INFORMATION	Discrete Mathematics Group Institute for Basic Science (IBS) 55 Expo-ro, Yuseong-gu, Daejeon 34126, Republic of Korea	Office: B213 (Theory Building) Tel: +82-42-878-9213 dabeenl@ibs.re.kr <a href="https://dimag.ibs.re.kr/home/dabeen/">https://dimag.ibs.re.kr/home/dabeen/</a>
POSITIONS	<b>Institute for Basic Science (IBS)</b> , Daejeon, South Korea <i>Post-doctoral researcher, Discrete Mathematics Group</i>	06/2019 -
	IBM Thomas. J. Watson Research Center, Yorktown, NY, USA <i>Research intern, Mathematical Sciences Department</i>	07/2017 - 09/2017
RESEARCH INTERESTS	Optimization and algorithms: integer programming, combinatorial optimization	
EDUCATION	<b>Carnegie Mellon University</b> , Pittsburgh, PA, USA Ph.D. in Algorithms, Combinatorics and Optimization (ACO), - Advisor: Prof. Gérard P. Cornuéjols	08/2014 - 05/2019
	<b>Pohang University of Science and Technology (POSTECH)</b> , Pohang, South Korea B.S. in Industrial and Management Engineering, University of Waterloo, Waterloo, ON, Canada Undergraduate exchange, Department of Combinatorics and Optimization	03/2010 - 06/2014 09/2012 - 12/2012
	Gyeonggi Science High School, Suwon, South Korea	03/2008 - 02/2010
HONORS AND AWARDS	<ul style="list-style-type: none"><li>• Gerald L. Thompson Doctoral Dissertation Award, awarded by the Tepper School of Business, Carnegie Mellon University, 2019.</li><li>• Henry J. Gailliot Presidential Fellowship, Carnegie Mellon University, 2016-2017.</li><li>• Egon Balas Award, awarded by the Tepper School of Business, Carnegie Mellon University for the best student paper in the area of operations research, 2016.</li><li>• William Larimer Mellon Fellowship, Tepper School of Business, 2014-2018.</li></ul>	
PUBLICATIONS	<ol style="list-style-type: none"><li>1. On the rational polytopes with Chvátal rank 1, with G. Cornuéjols and Y. Li. <i>Mathematical Programming A</i>, to appear.</li><li>2. Identically self-blocking clutters, with A. Abdi and G. Cornuéjols. <i>IPCO 2019, LNCS 11480</i> (2019) 1-12.</li><li>3. On the NP-hardness of deciding emptiness of the split closure of a rational polytope in the 0,1 hypercube. <i>Discrete Optimization 32</i> (2019) 11-18.</li></ol>	

4. Deltas, extended odd holes and their blockers, with A. Abdi.  
*Journal of Combinatorial Theory B* 136 (2019) 193-203.
5. On some polytopes contained in the 0,1 hypercube that have a small Chvátal rank, with G. Cornuéjols.  
*Mathematical Programming* 172 (2018) 467-503.  
Extended abstract appeared in *IPCO 2016*.

SUBMITTED  
PAPERS

1. Generalized Chvátal-Gomory closures for integer programs with bounds on variables, with S. Dash and O. Günlük.
2. Intersecting restrictions in clutters, with A. Abdi and G. Cornuéjols.
3. Resistant sets in the unit hypercube, with A. Abdi and G. Cornuéjols.
4. Cuboids, a class of clutters, with A. Abdi, G. Cornuéjols, and N. Guričanová.

PAPERS  
IN PREPARATION

1. Projective geometries, simplices and clutters, with A. Abdi, G. Cornuéjols, and M. Superdock. *to be submitted*
2. Ideal clutters from cycles of matroids, with A. Abdi. *In progress*
3. The  $\tau = 2$  conjecture and multipartite clutters, with A. Abdi and G. Cornuéjols.
4. Generalized Chvátal-Gomory closures for integer programs by polyhedral relaxations, with S. Dash and O. Günlük. *In progress*

PRESENTATIONS

- *2019 Combinatorics Workshop (Korea)*, Incheon, South Korea, August 2019.
- *IBS/KAIST Joint Discrete Math Seminar*, IBS, Daejeon, South Korea, July 2019.
- *Operations Research Seminar*, IBM Research, Yorktown, NY, June 2019.
- *ISyE Seminar*, KAIST, Daejeon, South Korea, December 2018.
- *9<sup>th</sup> Cargese Workshop on Combinatorial Optimization*, Corsica, France, October 2018.
- *Operations Research Seminar*, IBM Research, Yorktown, NY, July 2018.
- *International Symposium on Mathematical Programming (ISMP)*, Bordeaux, France, July 2018.
- (Poster) *Mixed Integer Programming (MIP) Workshop*, Clemson University, SC, June 2018.
- *INFORMS Optimization Society Conference*, Denver, CO, March 2018.
- *22<sup>nd</sup> Aussois Combinatorial Optimization Workshop*, Aussois, France, January 2018.
- (Poster) *Mixed Integer Programming (MIP) Workshop*, HEC Montréal, QC, Canada, June 2017.
- *Optimization Seminar*, University of Waterloo, Waterloo, ON, Canada, March 2017.
- *21<sup>st</sup> Aussois Combinatorial Optimization Workshop*, Aussois, France, January 2017.

- *INFORMS Annual Meeting*, Nashville, TN, November 2016.
- *Modeling and Optimization: Theory and Applications (MOPTA) conference*, Bethlehem, PA, August 2016.
- 18<sup>th</sup> *Conference on Integer Programming and Combinatorial Optimization (IPCO)*, Liège, Belgium, June 2016.

TEACHING  
EXPERIENCE

Instructor

- Topics in integer programming and combinatorial optimization      Spring 2019  
Tepper School of Business, Carnegie Mellon University

Teaching Assistant

- 45-951 (MBA) - Business networks      Fall 2016, 2017, 2018  
Tepper School of Business, Carnegie Mellon University
- 47-830 (Ph.D.) - Integer programming      Spring 2016, 2017, 2018  
Tepper School of Business, Carnegie Mellon University
- 47-831 (Ph.D.) - Advanced integer programming      Spring 2017  
Tepper School of Business, Carnegie Mellon University
- 47-861 (Ph.D.) - Convex polyhedra      Fall 2018  
Tepper School of Business, Carnegie Mellon University

SERVICE

Member of CMU INFORMS student chapter

- Marketing Director      Spring 2017 - Spring 2018

Reviewer

- Operations research,
- Mathematics of Operations Research,
- Mathematical Programming,
- Mathematical Programming Computation,
- Journal of Combinatorial Theory, Series B.

GRADUATE  
COURSEWORK

Optimization

- linear programming, convex optimization,
- integer programming, advanced integer programming, mixed integer nonlinear programming, convex polyhedra,
- graph theory, networks and matchings, combinatorial optimization, packing and covering.

Combinatorics

- discrete mathematics, probabilistic combinatorics.

Algorithms

- graduate algorithms, advanced algorithms, computational complexity theory,
- randomized algorithms, algorithms and analysis for large-scale cloud computing systems.

REFERENCES

Available upon request