

## People

People	Academic Programs	Admissions	Research	Seminars	Labs	Student Organizations	Resources
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People

Faculty

Staff  
Admission Questions  
Students



[Alper Atamturk](#)

Professor

Ph.D. Georgia Institute of Technology  
Campaign | [College of Engineering](#) | [UC Berkeley](#)

Industrial and Systems Engineering

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423 Sutardja Dai Hall

E-mail: [atamturk@berkeley.edu](mailto:atamturk@berkeley.edu)

Personal Webpage:

<http://www.ieor.berkeley.edu/~atam>

"We are in an exciting era where a series of mathematical discoveries and algorithmic innovations, coupled with the advances in computer technology, make it possible to solve large-scale practical optimization problems in a variety of areas, ranging from fleet logistics to electronic financial/commodity exchanges, from telecommunications network design to genetics."

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Alper Atamturk is a Professor of Industrial Engineering and Operations Research at the University of California, Berkeley. He received his Ph.D. from the Georgia Institute of Technology in 1998. His current research interests are in integer programming (conic, mixed, combinatorial), computational optimization, optimization under uncertainty, logistics of production, distribution, transportation, telecommunication systems. He serves on the editorial boards of Operations Research, Discrete Optimization, and Networks; and has

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in the past served on the editorial board of *Management Science*.

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## Research

- Computational Optimization
  - Integer Programming
  - Optimization under Uncertainty
  - Logistics of Production, Distribution, Transportation, Telecommunication Systems
  - Network Design
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## Selected Publications

- "Match-Up Scheduling with Manufacturing Cost Considerations" (with M. S. Akturk and S. Gurel), forthcoming in *Journal of Scheduling*.
- "The Submodular Knapsack Polytope" (with V. Narayanan), forthcoming in *Discrete Optimization*.
- "Lifting for Conic Mixed-Integer Programming" (with V. Narayanan), forthcoming in *Mathematical Programming*.
- "Mingling: Mixed-Integer Rounding with Bounds" (with O. Gunluk), forthcoming in *Mathematical Programming*.
- "Conic Mixed-Integer Rounding Cuts" (with V. Narayanan), forthcoming in *Mathematical Programming*.
- "The Flow Set with Partial Order" (with M. Zhang), *Mathematics of Operations Research* 33, 630-746, 2008.
- "Polymatroids and Mean-Risk Minimization in Discrete Optimization" *Operations Research Letters* 36, 618-622, 2008.
- "Two-Stage Robust Network Flow and Design Under Demand Uncertainty" (with M. Zhang), *Operations Research* 55, 662-673, 2007.
- "Strong Formulations of Robust Mixed 0-1 Programming" *Mathematical Programming* 108, 235-250, 2006.
- "Lot Sizing with Inventory Bounds and Fixed Charges" (with S. Kucukyavuz), *Operations*

*Research* 53, 711-730, 2005.

- "Cover and Pack Inequalities for (Mixed) Integer Programming" *Annals of Operations Research* 139, 21-38, 2005.
- "Integer Programming Software Systems" (with M.W.P. Savelsbergh), *Annals of Operations Research* 140, 67-124, 2005.
- "A Study of the Lot-Sizing Polytope" (with J.C. Munoz), *Mathematical Programming* 99, 443-465, 2004.
- "A Directed Cycle based Column-and-Cut Generation Method for Capacitated Survivable Network Design" (with D.Rajan), *Networks* 43, 201-211, 2004.
- "Sequence Independent Lifting for Mixed-Integer Programming" *Operations Research* 52, 487-490, 2004.
- "On the Facets of the Mixed-Integer Knapsack Polyhedron" *Mathematical Programming* 98, 145-175, 2003.
- "Deferred Item and Vehicle Routing within Integrated Networks" (with K.R. Smilowitz and C.F. Daganzo), *Transportation Research: Logistics and Transportation* 39, 305-323, 2003.
- "On Capacitated Network Design Cut-Set Polyhedra" *Mathematical Programming* 92, 425-437, 2002.
- "On Splittable and Unsplittable Capacitated Network Design Arc-Set Polyhedra" (with D. Rajan), *Mathematical Programming* 92, 315-333, 2002.
- "Flow Pack Facets of the Single Node Fixed-Charge Flow Polytope" *Operations Research Letters* 29, 107-114, 2001.
- "Capacity Acquisition, Subcontracting, and Lot Sizing" (with D.S. Hochbaum), *Management Science* 47, 1081-1100, 2001.
- "Valid Inequalities for Problems with Additive Variable Upper Bounds" (with G.L. Nemhauser and M.W.P. Savelsbergh), *Mathematical Programming* 91, 145-162, 2001.
- "The Mixed Vertex Packing Problem" (with G.L. Nemhauser and M.W.P. Savelsbergh), *Mathematical Programming* 89, 35-53, 2000.
- "A Relational Modeling System for Linear and

Integer Programming" (with E.L. Johnson, J.T. Linderoth and M.W.P. Savelsbergh), *Operations*