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Bibliographical Information

Complete Name	Daniel Gonzalez Espinoza
Date of Birth	September 7, 1976
City of Birth	Santiago, Chile
Country of Citizenship	Chile

Education

- PH.D. March, 2006.
School of Industrial and Systems Engineering
Georgia Institute of Technology. Atlanta, GA. USA.
- MATHEMATICAL ENGINEERING TITLE 8/17/01
Department of Mathematical Engineering.
Universidad de Chile. Santiago, Chile.
- LICENSE IN ENGINEERING SCIENCES, MAJOR MATHEMATICS 06/13/00
Department of Mathematical Engineering.
Universidad de Chile. Santiago, Chile.
- HIGH SCHOOL 1990-1993.
Instituto Nacional, Santiago, Chile.

Experience

- March 2006 - Present, Universidad de Chile, Assistant professor.
- 2001-2005, Georgia Institute of Technology, Research assistant under Prof. George Nemhauser and Martin Savelsbergh.
- 2004-2006, Georgia Institute of Technology, Research assistant under Prof. William Cook.

Teaching

- Optimization under uncertainty and risk (2010).
- Optimization (2007-2011).
- Models and Algorithms for Optimization (2007-2011).
- Logistics and Production (2006-2010).
- Operations and Engineering (2006-2008).

Areas of Interest

- Integer Programming.
- Algorithms and Complexity.
- Combinatorial Optimization.
- Stochastic Optimization.

- Logistics.

Publications

“*A new algorithm for the open-pit mine scheduling problem*” Renaud Chicoisne, Daniel Espinoza, Marcos Goycoolea, Eduardo Moreno and Enrique Rubio. *Operations Research* (to appear).

“*Lifting, tilting and fractional programming revisited*” Daniel Espinoza, Ricardo Fukasawa and Marcos Goycoolea. *Operations Research Letters*, Vol 38 (2010), pp. 559-563.

“*Computing with multi-row Gomory Cuts*” Daniel Espinoza. *Operations Research Letters*, Vol. 38 (2010), pp. 115-120.

“*Certification of an optimal TSP tour through 85,900 cities*” David L. Applegate, Robert E. Bixby, Vasek Chvatal, William Cook, Daniel G. Espinoza, Marcos Goycoolea, Keld Helsgaun. *Operations Research Letters*, Vol. 37 (2009), No 1, pp. 11-15.

“*Per-Seat, On-Demand Air Transportation Part I: Problem Description and an Integer Multi-Commodity Flow Model*” Daniel Espinoza, Renan Garcia, Marcos Goycoolea, George Nemhauser, Martin Savelsbergh. *Transportation Science*, Vol. 42 (2008), pp. 263-278.

“*Per-Seat, On-Demand Air Transportation Part II: Parallel Local Search*” Daniel Espinoza, Renan Garcia, Marcos Goycoolea, George Nemhauser, Martin Savelsbergh. *Transportation Science*, Vol. 42 (2008), pp. 279-291.

“*Exact solutions to linear programming problems.*” David L. Applegate, William Cook, Sanjeeb Dash, Daniel G. Espinoza, *Operations Research Letters*, Vol. 35 (2007) pp. 693-699

“*Computing with Domino-Parity Inequalities for the TSP.*” William Cook, Daniel Espinoza, Marcos Goycoolea. *INFORMS Journal on Computing*, Vol. 19, No. 3, Summer 2007, pp. 356-365

“*A Study of the Domino Parity and k-Parity Constraints for the TSP.*” William Cook, Daniel Espinoza, Marcos Goycoolea. *Springer Lectures Notes in Computer Science. Proceedings from IPCO 2005.*

Extended Abstract and Technical notes

“*Large-scale multi-period precedence constrained knapsack problems: A mining application*” Eduardo Moreno, Daniel Espinoza, and Marcos Goycoolea. *Electronic Notes in Discrete Mathematics. Volume 36, 2010. p407-414. Proceedings of ISCO. March, 2010. Tunisia.*

“*A scalable approach to optimal block sequencing*” Jorge Amaya, Daniel Espinoza, Marcos Goycoolea, Eduardo Moreno, Thomas Prevost and Enrique Rubio. *Proceedings of APCOM. October, 2009. Vancouver.*

“*Computing with multi-row Gomory Cuts*” Daniel Espinoza. *Springer Lecture Notes in Computer Science. Proceedings from IPCO 2008.*

“*A Study of Domino-Parity and k-Parity Constraints for the TSP.*” William Cook, Daniel Espinoza, Marcos Goycoolea. *IPCO (Integer Programming and Combinatorial Optimization). Berlin. June, 2005.*

Research Grants:

“*Tecnología avanzada para ciudades del futuro*”, 2011-2014. Associated researcher, FONDEF D10I1002.

“*Núcleo Milenio Información y Coordinación en Redes*”, 2011-2014. Young researcher, ICM/FIC P10-

024-F.

“Algorithmic and computational aspects of mixed integer programming”, 2011-2014. Principal researcher, FONDECYT 1110024.

“Instituto Milenio Sistemas Complejos de Ingenieria”, 2008-2013. Young researcher. FBO-16.

“Cuts which do not conform to the template paradigm for General Mixed Integer Problems”, 2007-2010, Principal researcher, FONDECYT 1070749.

“Sistemas Complejos, computación evolutiva y aplicaciones a la planificación minera.”, 2007 - 2010. One of four principal researchers. FONDEF D06I1031.

“Instituto Milenio Sistemas Complejos de Ingenieria”, 2007 - 2012. Young researcher. ICM P05-004F.

Industry Projects:

- Cuerpo de Bomberos de Santiago (Fire Fighter department of Santiago) (co-PI), June 2010 - June 2011: Effective response system for emergencies.
- Lafarge Chile (co-PI), Dec 2008 - Jul 2009: Vehicle routing for dispatching dry products.
- Quintec (PI), July 2007 - July 2008: Evaluation and improvements to On-site services.
- Viña San Pedro, Apr 2007 - Jun 2008: Production scheduling.