Guido R. Lagos

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REFERENCES

- Antonius (Ton) Dieker — ton.dieker@ieor.columbia.edu
  Columbia University — http://www.columbia.edu/~ad3217
  Associate Professor, Industrial Engineering and Operations Research Department
- David Goldberg — dag369@cornell.edu
  Cornell University — https://people.orie.cornell.edu/dag369
  Associate Professor, Operations Research and Information Engineering Dept.
- Javiera Barrera — javiera.barrera@uai.cl
  Universidad Adolfo Ibáñez — http://jbarrera.uai.cl
  Assistant Professor, School of Engineering

RESEARCH INTERESTS

∗ Methodology of simulation ∗ Rare-event analysis ∗ Monte Carlo methods
∗ Network reliability ∗ Adaptive multistage stochastic programming
∗ Data Sciences ∗ Optimization Under Uncertainty ∗ Computational probability

EDUCATION

- Georgia Institute of Technology — Atlanta, GA
  Ph.D. in Operations Research — Spring 2017
  School of Industrial & Systems Engineering — 3.91 cumulative GPA
- Universidad de Chile — Santiago, Chile
  M.Sc. in Operations Management — 2011
  Department of Industrial Engineering — GPA 6.5 (1.0-7.0 scale)
  Mathematical Civil Engineer (M.Sc. in Applied Math equivalent) — 2011
  Department of Mathematical Engineering — GPA 7.0 (1.0-7.0 scale)
  B.Sc. in Engineering Sciences, major in Mathematics — 2009
  Department of Mathematical Engineering — GPA 5.5 (1.0-7.0 scale)
- *Primary & Secondary School* — 1991–2003
  British School of Costa Rica, Costa Rica; Colegio Santa Cruz Santiago, Chile.

RESEARCH EXPERIENCE

- *Assistant Researcher, Universidad de Santiago de Chile* — 10/2018 to date
- *Associate Researcher, Universidad Adolfo Ibáñez* — 01/2017 to 02/2018
- *Postdoctoral Associate, Center for Math Modeling Universidad de Chile* — 01/2017 to 02/2018
- *Visiting Student / Research Staff, Columbia University* — 01/2016 to 12/2016
  Data Sciences Institute and Department of Industrial Engineering and Operations Research
- *Graduate Research Assistant, Georgia Tech* — 08/2011 to 12/2016
  Research topics: ∗ Sensitivity analysis of stochastic networks. ∗ Exact simulation methods for rare events of heavy-tailed stochastic processes. ∗ Weak convergence limits of discretized diffusion processes.
  Advisor: Ton Dieker, http://www.columbia.edu/~ad3217.

- *Visiting researcher: University of Pittsburgh* 03-04/2011
  Research topic: Restricted risk measures and robust optimization.
  Host: Juan Pablo Vielma, `http://www.mit.edu/~jvielma`.
- *Research Assistant, Universidad Adolfo Ibáñez* 08/2010 to 08/2011
  Research topic: stochastic optimization of multi-period inventory planning.
  Advisor: Bernardo K. Pagnoncelli, `http://bernardokp.uai.cl`.
- *Graduate Research Assistant, Universidad de Chile* 08/2009 to 08/2011
  Research topic: robust and stochastic planning for large scale open-pit mining problems.
  Advisors: Daniel Espinoza, `http://www.dii.uchile.cl/~daespino`, Eduardo Moreno, `http://emoreno.uai.cl`.

PUBLICATIONS

- G. Lagos, F. Ordóñez, D. Saure (2018). *"On lookahead policies for adaptive multistage optimization: sometimes rolling horizon is enough"* (In preparation).
- T. Homem-de-Melo, G. Lagos, T. Lagos, D. Saure (2019). *"An algorithm for adaptive optimization for the open pit mine scheduling problem"* (In preparation).
- J. Barrera, G. Lagos (2019). *"Limit distributions of the upper order statistics for the conditionally-iid Marshall-Olkin distribution"* (In preparation, see arXiv:1811.06034).
- A.B. Dieker, G. Lagos (2017). *"On the Euler discretization error of Brownian motion about random times"*. Submitted, see arXiv:1708.04356. **1st place of INFORMS Applied Probability Society Student Paper Competition.**
- A.B. Dieker, G. Lagos (2017). *"A Dichotomy for Sampling Barrier-Crossing Events of Random Walks with Regularly Varying Tails"*. In *Journal of Applied Probability* vol. 54, 4, pp. 1213–1232.
- D. Espinoza, G. Lagos, E. Moreno, J.P. Vielma (2015). *"Restricted risk measures and robust optimization"*. In *European Journal of Operations Research*, vol. 241, 3, pp. 771–782.
- D. Espinoza, G. Lagos, E. Moreno, J.P. Vielma (2013). *"Risk averse approaches in open-pit production planning under ore grade uncertainty: a Ultimate Pit study"*. In *Proceedings of APCOM 2013 - Applications of Computers and Operations Research in the Mineral Industry*, pp. 492-501.
- J. Amaya, D. Espinoza, G. Lagos, E. Moreno, J.P. Vielma (2011). *"Robust Planning for an Open-Pit Mining Problem under Ore-Grade Uncertainty"*. In *Proceedings of LAGOS 2011: VI Latin-American Algorithms, Graphs and Optimization Symposium*, *Electronic Notes on Discrete Mathematics*, 37, pp. 15–20.

DISTINCTIONS & GRANTS

- **Grant** *FONDECYT de Postdoctorado 2018*, **with project # 3180767.** Awarded by *CONICYT–Ministerio de Educación del Gobierno de Chile* on June 2018.
- **1st place of INFORMS Applied Probability Society Student Paper Competition, October 2017.** The authors of the three other finalist papers were: Zhengyuan Zhou (Stanford), Andrew Li (MIT), and Thodoris Lykouris and Daniel Freund (Cornell).
- *Algorithms & Randomness Center Student Fellowship*, Georgia Tech, Fall 2014.
- *Kiplinger Fellowship*, Georgia Tech, August 2011 and August 2012.
- *Becas Chile-CONICYT Ph.D. abroad scholarship*, Chile, November 2010.
- *Outstanding Student Award,* School of Engineering Sciences, Universidad de Chile, 2004–2005.

CONFERENCES, WORKSHOPS & SEMINARS

- *"Reliability in Networks" Workshop*, Santiago, Chile — Jan 2019
- *Winter Simulation Conference 2018*, Gothemburg, Sweden — Dec 2018
- *Science Park Informal Probability Meetings*, Centrum Wiskunde & Informatica (CWI), Amsterdam, The Netherlands — Dec 2018
- Depto. de Ingeniería Industrial, Universidad de Santiago, Chile — Nov 2018
- *INFORMS Annual Meeting 2018*, Phoenix, AZ, EEUU — Nov 2018
- Instituto de Ingeniería Matemática y Computacional, Pontificia Universidad Católica de Chile, Chile — Aug 2018
- Facultad de Ingeniería y Ciencias, Universidad Adolfo Ibáñez, Chile — Jul 2018
- Instituto de Sistemas Complejos de Ingeniería, Universidad de Chile — Jul 2018
- Depto. de Matemática, Universidad Técnica Federico Santa María, Valparaíso, Chile — May 2018
- Depto. de Ingeniería Industrial, Universidad de Concepción, Chile — Dec 2017
- *OPTIMA 2017*, Universidad Adolfo Ibáñez, Viña del Mar, Chile — Nov 2017
- *Science Park Informal Probabiilty Meetings*, Centrum Wiskunde & Informatica (CWI), Amsterdam, The Netherlands — Nov 2017
- *INFORMS Annual Meeting 2017*, Houston, TX, USA — Oct 2017
- *INFORMS 19th Applied Probability Society Conference*, Northwestern University, Chicago, IL, USA. — Jul 2017
- School of Engineering, Universidad Adolfo Ibáñez, Chile — Apr 2017
- Center for Mathematical Modeling, Universidad de Chile — Mar 2017
- *INFORMS Annual Meeting 2016*, Nashville, TN, USA — Nov 2016
- *Winter Simulation Conference 2014*, Savannah, GA, USA — Dec 2014
- *INFORMS Annual Meeting 2014*, San Francisco, CA, USA — Nov 2014
- *INFORMS Annual Meeting 2012*, Phoenix, AZ, USA — Oct 2012
- *ICCOPT 2010*, Santiago, Chile — Jul 2010
- *ALIO-INFORMS Meeting 2010*, Buenos Aires, Argentina — Jul 2010
- *Ist Winter School on Discrete Mathematics,* Codegua, Chile — Jul 2010

TEACHING EXPERIENCE

- *Instructor, Universidad de Santiago de Chile*
  Course: *Stochastic Models* (undergraduate; Fall 2019 term).
- *Instructor, Universidad Adolfo Ibáñez*
  Course: *Advanced Simulation* (Spring 2017).
- *Instructor, Georgia Tech*
  Course: *Stochastic Manufacturing & Service Systems* (Spring 2015).
- *Participant of the INSPIRE*^{2} *Workshop at Georgia Tech (Summer 2014)*
  Two-day workshop organized by the *American Society of Engineering Education* (ASEE) jointly with Georgia Tech's *Center for Enhancing of Teaching and Learning* (CETL). Workshop on teaching techniques in STEM disciplines that promote an effective learning environment. Emphasis was put on techniques for active, collaborative and inductive learning.

- *Graduate Teaching Assistant, Georgia Tech*
  Courses: *Engineering Optimization* (Summer 2012), *Probabilistic Models* (Fall 2012) and *Stochastic Manufacturing & Service Systems* (Summer 2014).
- *Undergraduate Teaching Assistant, Universidad de Chile*
  Courses: *Linear Algebra* (2007–2008), *Numerical Calculus* (2006–2007) and *Statistics* (2007–2009).

SERVICE

- Co-chair (with Pierre L'Ecuyer, Université de Montréal) of the session "Networks, Reliability & Extremes" in the *Applied Probability Society* track of the upcoming conference *INFORMS Annual Meeting 2018*, to take place on November 2018 in Phoenix, AZ, USA.
- Co-organizer (with Javiera Barrera, Universidad Adolfo Ibáñez) of the workshop "Reliability in Networks: Simulation, Optimization and Analysis", that took place at Universidad Adolfo Ibáñez, Santiago, Chile, in January 2019.
- Co-organizador (together with Francisco Jara-Moroni) of the Industrial & Systems Engineering Seminar of the Industrial Engineering Department at Universidad de Santiago de Chile; since Nov 2018.
- Organizer of the *Data Sciences* reading group for the *Industrial Engineering and Operations Research Group* at Universidad Adolfo Ibáñez (2017–2018).
- Peer reviewed journal reviewer for: *Operations Research*, *Journal of Applied Probability*, *Stochastic Models*
- Member of the *Institute for Operations Research & Management Sciences* (INFORMS), INFORMS Applied Probability Society, and INFORMS Optimization Society.
- Founder and organizer of the *Student Applied Probability & Simulation (SAPS) Seminar*, School of Industrial & Systems Engineering, Georgia Tech, 05/2014 to 12/2015.

INDUSTRY EXPERIENCE

- *Consulting Engineer,* JRI Ingeniería S.A.; Chile `11/2010 to 12/2010`
  Designed an optimal resource allocation method for wagon service pits. Used data analysis tools and queueing models.
- *Intern, Institute for Cell Dinamycs and Biotechnology, Chile* `Summer 2009`
  Programmed several data clustering techniques for use in functional genomics.
- *Intern, Sistemas Integrales Ltda., Chile* `Summer 2008`
  Programmed a graphical calculation method for error estimation in sampling.
- *Intern, Institute for Mining and Metallurgy (IM2), Chile* `Summer 2007`
  Developed and programmed a model for freezing prediction in mining pipelines.

PROGRAMMING SKILLS

- Julia, JAVA, C (beginner), UNIX Bash shell scripting, PBS scripting for High Performance Computing (HPC) in clusters, Visual Basic.
- *Mathematical software:* Julia, MATLAB, SCILAB, Mathematica, AMPL, OPL.

EXTRA-CURRICULAR ACTIVITIES

- *Bicycling* `since 2007`
  Founder of the institutional student group *Pedalea! Beauchef* at Universidad de Chile. *Pedalea! Beauchef* has more than 200 affiliated students, and since 2008 provides approx. 10 weekly hours of free bike repair services and tutoring.

- *Swimming* `since 2009`
  Participation in the swimming team of the *Faculty of Physical Sciences and Mathematics* of Universidad de Chile, 2009–2011.
- *Bassoon performing* `1999--2002`
  Studies of bassoon performing, harmony and musical theory. Winner of the grant *Fundación de Orquestas Infantiles y Juveniles de Chile* in its 2001 edition.
- *African and afro-latin percussion*, autodidactic hobby. `since 2005`

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