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)

RESEARCH EXPERIENCE

- *Associate Researcher, Universidad Adolfo Ibáñez*   01/2017 to date
- *Postdoctoral Associate, Center for Math Modeling*   01/2017 to 02/2018
  Universidad de Chile
- *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

- J. Barrera, G. Lagos (2018). *"A concentration phenomenon and confidence bounds for network reliability under dependent failures"* (Manuscript).

- 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

- 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*,   Nov 2017
  Centrum Wiskunde & Informatica (CWI), Amsterdam, The Netherlands

- *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 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 "Network Reliability Under Dependent Failures", to take place at Universidad Adolfo Ibáñez, Santiago, Chile, in January 2019.
- Organizer of the *Data Sciences* reading group for the *Industrial Engineering and Operations Research Group* at Universidad Adolfo Ibáñez (2017–2018).
- Reviewer for *Operations Research* journal
- 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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