

Ricardo Hurtubia González

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EDUCATION

- 2012 **PhD (Mathematics)** – École Polytechnique Fédérale de Lausanne.
Under the supervision of Prof. Michel Bierlaire.
- 2006 **Master of Science in Transport Engineering** – Universidad de Chile.
Thesis supervised by Prof. Francisco Martinez.
- 2006 **Industrial Engineer** – Universidad de Chile.
Thesis supervised by Prof. Francisco Martinez.
- 2002 **Bachelor of Sciences in Engineering** – Universidad de Chile
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ACADEMIC ACTIVITIES

- 2015 – Assistant professor, Facultad de Arquitectura, Diseño y Estudios Urbanos and Departamento de Ingeniería de Transporte y Logística, Universidad Católica de Chile
- 2015 – Associate Researcher, **Centro de Desarrollo Urbano Sustentable** (www.cedeus.cl)
- 2013 – Invited researcher, **Complex Engineering Systems Institute** (www.isci.cl)
- 2013 – 2014 Assistant professor, Department of Urbanism, **Universidad de Chile**
- 2008 – 2012 Research and Teaching Assistant. Transport and Mobility Laboratory, **École Polytechnique Fédérale de Lausanne**
- 2002 – 2004 Teaching assistant, Transport Systems Division, Civil Engineering Department, **Universidad de Chile**
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PROFESSIONAL AND CONSULTING EXPERIENCE

- Jan. 2013 – Dec. 2013 **Consultor para MINVU.** Desarrollo de una metodología para evaluar potenciales localizaciones de vivienda social considerando aspectos como la accesibilidad y elementos de movilidad.
- Ene. 2007 – May. 2008 **CIS Consultores.** Ingeniero de proyectos. Desarrollo de diversos proyectos de consultoría en ingeniería de transporte, entre otros la calibración de una nueva versión del Modelo de Uso de Suelo de Santiago (MUSSA II).
- Nov. 2004 – Dic. 2006 **Laboratorio de Modelación del Transporte y el Uso del Suelo (LABTUS), Universidad de Chile.** Ingeniero de proyectos. Desarrollo de diversos proyectos de consultoría en ingeniería de transporte, entre otros la implementación y calibración del Modelo de Uso de Suelo de Santiago (MUSSA). Modelación para evaluación del impacto de la implementación de Transantiago en el sistema de uso de suelo como parte del proyecto "Análisis, desarrollo y evaluación de proyectos urbanos, III Etapa" (SECTRA, Gobierno de Chile).
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RESEARCH PROJECTS

- April 2014 – **Changing Mobility Patterns in Cutting Edge Cities.** Responsible for the Santiago case study. Sponsor: Deutsches Zentrum für Luft- und Raumfahrt (German Aerospace Center)
- Nov. 2013 – **Understanding perception of qualitative attributes in urban space and its effects on user behavior: a mathematical modeling framework.** Principal Investigator. Sponsor: CONICYT (FONDECYT de iniciación 11130637).

- Nov. 2011 – Dec 2014 **Agent-based transport and land use microsimulation for Singapore (Simmobility)**. Invited researcher. Sponsor: *Singapore-MIT Alliance for Research and Technology*. Development of an agent –based microsimulator for the real estate market and implementation for the City-estate of Singapore.
- Mar 2014 – Dec 2014 **Modelo de localización de oferta habitacional en el espacio periurbano de Santiago**. Principal Investigator. Sponsor: FAU - Uchile (Proyecto #1201 2001 9102 016)
- Jan. 2010 – Apr 2013 **Micro-simulation for the prospective of sustainable cities in Europe (SustainCity)**. Project manager. Sponsor: *European Commission*. Development of a modeling platform for three European cities (Brussels, Paris and Zurich). Development of a tool for urban scale policy-evaluation, with a focus on environmental, social and economic sustainability.
- Aug. 2010 – Nov 2012 **Sustainable Urban Patterns (SUPat)**. Project manager. Sponsor: *Swiss National Science Foundation*. Development of new techniques for the evaluation of urban projects. combining expert's knowledge (architects and urban planners) with quantitative land use and transport microsimulation models such as UrbanSim and MATSim.
- Jan. 2007 – May. 2008 **Modelo integrado de uso de suelo y transporte: Formulación y desarrollo**. Research assistant. *Fondecyt regular – 2006 – 1060788*. Development of a new version of the Santiago Land Use Model (MUSSA II)
- Jul. 2002 – Oct. 2004 **Mejoramiento de modelación de ciudades y extensión a ciudades de diversas características**. Student (Master Thesis). *Fondecyt regular – 2001 – 1010422*. Master thesis under the supervision of Prof. Francisco Martínez.

PUBLICATIONS – ISI JOURNALS

- Hurtubia, R., Nguyen, M., Glerum, A., and Bierlaire, M. (2014). Integrating psychometric indicators in latent class choice models, *Transportation Research Part A: Policy and Practice*, 64, 135-146
- Hurtubia, R., and Bierlaire, M. (2014). Estimation of bid functions for location choice and price modeling with a latent variable approach, *Networks and Spatial Economics*, 14, 47-65
- Farooq, B., Bierlaire, M., Hurtubia, R., and Flötteröd, G. (2013). Simulation based Synthesis of Population, *Transportation Research Part B: Methodological*, 58:243–263
- Bierlaire, M., Hurtubia, R., and Flötteröd, G. (2010) An analysis of the implicit choice set generation using the Constrained Multinomial Logit model, *Transportation Research Record*, 2175:92-97.
- Martínez F., Aguila F. and Hurtubia R. (2009) The Constrained Multinomial Logit Model: A Semi-Compensatory Choice Model. *Transportation Research Part B: Methodological*, 43(3):365-377.
- Martínez, F. and Hurtubia, R. (2006) Dynamic model for the simulation of equilibrium states in the land use market. *Networks and Spatial Economics*, 6, pp. 55-73.

PUBLICATIONS – BOOKS

- Bierlaire, M., de Palma, A., Hurtubia, R. and Waddell, P. (Eds.) (2015). *Integrated Transport and Land Use Modeling for Sustainable Cities*. EPFL Press / Routledge. ISBN: 978-0415729109

PUBLICATIONS – BOOK CHAPTERS

- Waddell, P., de Palma, A., Bierlaire, M. and Hurtubia, R. (2015) SustainCity: Overview and introduction, in M. Bierlaire, A. de Palma, R. Hurtubia and P. Waddell (Eds.), *Integrated Transport and Land Use Modeling for Sustainable Cities*, EPFL Press / Routledge.
- Hurtubia, R. and Bierlaire, M. (2015) Microsimulation for land use modeling: implementation challenges, in M. Bierlaire, A. de Palma, R. Hurtubia and P. Waddell (Eds.), *Integrated Transport and Land Use Modeling for Sustainable Cities*, EPFL Press / Routledge.

Farooq, B., Hurtubia, R. and Bierlaire, M. (2015). Simulation based generation of a synthetic population for Brussels, in M. Bierlaire, A. de Palma, R. Hurtubia and P. Waddell (Eds.), *Integrated Transport and Land Use Modeling for Sustainable Cities*, EPFL Press / Routledge.

Cabrita, I., Gayda, S., Hurtubia, R., Efthymiou, D., Thomas, I., Peeters, D., Jones, J., Cotteels, C., Nagel, K., Nicolai, T. and Röder D. (2015). Integrated land use and transport microsimulation for Brussels, in M. Bierlaire, A. de Palma, R. Hurtubia and P. Waddell (Eds.), *Integrated Transport and Land Use Modeling for Sustainable Cities*, EPFL Press / Routledge.

de Palma, A., Bierlaire, M., Hurtubia, R. and Waddell, P. (2015) Future challenges in transport and land use modeling, in M. Bierlaire, A. de Palma, R. Hurtubia and P. Waddell (Eds.), *Integrated Transport and Land Use Modeling for Sustainable Cities*, EPFL Press / Routledge.

PUBLICATIONS – PEER-REVIEWED CONFERENCE PROCEEDINGS

Hurtubia, R y Donoso, P. (2014). Using images to measure qualitative attributes of public spaces through SP surveys. 10th International Conference on Transport Survey Methods, Leura, Australia November 24 -28

Hurtubia, R. (2014). Un indicador de accesibilidad para evaluar la localización de proyectos de vivienda social. *Uneven Mobilities / Movilidades desiguales*, Santiago de Chile, October 12 -17

Hurtubia, R., Nguyen, M., Glerum, A. and Bierlaire, M. (2013). Estimation of mode choice models with latent classes and psychometric indicators. *Proceedings of the XVI Congreso Chileno de Ingeniería de Transporte*, October 21-25, 2013

Efthymiou, D., Hurtubia, R., Bierlaire, M. and Antoniou C. (2013). The Integrated Land-Use and Transport Model of Brussels. *Proceedings of the 13th Swiss Transport Research Conference (STRC)*, April 24-26, 2013.

Hurtubia, R., Bierlaire, M., and Martinez, F. (2012). Dynamic microsimulation of location choices with a quasi-equilibrium auction approach. *Proceedings of the 12th Swiss Transport Research Conference (STRC)* May 2-4, 2012.

Hurtubia, R., Martinez, F., and Bierlaire, M. (2011). Bid auction model for simultaneous determination of location and rent in land use microsimulation models. *Proceedings of the XV Congreso Chileno de Ingeniería de Transporte*. October 3 - 6, 2011.

Hurtubia, R., and Bierlaire, M. (2011). Bid rent model for simultaneous determination of location and rent in land use microsimulations. *Proceedings of the Swiss Transport Research Conference*. May 11-13, 2011.

Hurtubia, R., Flötteröd, G., and Bierlaire, M. (2010). Estimation techniques for MEV models with sampling of alternatives. *Proceedings of the European Transport Conference*. October 11 - 13, 2010.

Atasoy, B., Glerum, A., Hurtubia, R., and Bierlaire, M. (2010). Demand for public transport services: Integrating qualitative and quantitative methods. *Proceedings of the 10th Swiss Transport Research Conference* September 1 - 3, 2010.

Hurtubia, R., Martinez, F., Flötteröd, G., and Bierlaire, M. (2010). Comparative analysis of hedonic rents and maximum bids in a land-use simulation context. *Proceedings of the 10th Swiss Transport Research Conference* September 1 - 3, 2010.

Hurtubia, R., Atasoy, B., Glerum, A., Curchod, A., and Bierlaire, M. (2010). Considering latent attitudes in mode choice: The case of Switzerland. *Proceedings of the World Conference on Transport Research* July 11-15, 2010.

Bierlaire, M., Hurtubia, R., and Flötteröd, G. (2010). An analysis of the implicit choice set generation using the Constrained Multinomial Logit model. *Proceedings of the Transportation Research Board 2010 Annual Meeting* January 10-14, 2010.

Hurtubia, R., Flötteröd, G., and Bierlaire, M. (2009). Inferring the activities of smartphone users from context measurements using Bayesian inference and random utility models. *Proceedings of the European Transport Conference* October 5 - 7, 2009.

Bierlaire, M., Hurtubia, R., and Flötteröd, G. (2009). A comparative analysis of implicit and explicit methods to model choice set generation. *Proceedings of the 9th Swiss Transport Research Conference (STRC)* September 9 - 11, 2009.

Bierlaire, M., Hurtubia, R., and Flötteröd, G. (2009). An experimental analysis of the implicit choice set generation using the Constrained Multinomial Logit Model. *Proceedings of the 4th Kuhmo-Nectar Conference* July 2 - 3, 2009.

SPEAKER IN SEMINARS AND CONFERENCES

- 2015
 - II Conferencia Internacional CEDEUS, Concepción, Chile
- 2014
 - Uneven Mobilities / Movilidades desiguales, Santiago, Chile.
 - 10th International Conference on Transport Survey Methods, Leura, Australia
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- 2013
 - XVI Congreso Chileno de Ingeniería de Transporte
 - Seminarios de Investigación en Urbanismo, Universidad de Chile
 - Invited speaker, División de Ingeniería de Transporte, Dpt de Ing Civil, Universidad de Concepción
 - Invited speaker (Internal seminar), TRANSP-OR, EPFL, Lausanne, Switzerland
- 2012
 - 2nd Workshop on Urban Dynamics - URBANICS II. Termas de Chillán, Chile
 - 12th Swiss Transport Research Conference, Ascona, Switzerland.
 - 1st European Symposium on Quantitative Methods in Transportation Systems, Lausanne, Switzerland
- 2011
 - XV Congreso Chileno de Ingeniería de Transporte, Santiago, Chile.
 - 51st European Congress of the Regional Science Association International, Barcelona, Spain.
 - Seventh Workshop on Discrete Choice Models, EPFL, Lausanne, Switzerland.
 - 11th Swiss Transport Research Conference, Ascona, Switzerland.
- 2010
 - Seminario especial del curso Modelos Avanzados de Demanda, Universidad de Chile.
 - European Transport Conference 2010, Glasgow, Scotland.
 - 10th Swiss Transport Research Conference, Ascona, Switzerland.
 - Sixth Workshop on Discrete Choice Models, EPFL, Lausanne, Switzerland.
 - Integrated Modeling and Simulation Workshop (MIT Portugal), Lisbon, Portugal
 - World Conference on Transport Research, Lisbon, Portugal
 - First Workshop on Urban Dynamics (URBANICS), Marbella, Chile.
- 2009
 - European Transport Conference 2009, Leeuwenhorst, The Netherlands.
 - 9th Swiss Transport Research Conference, Ascona, Switzerland.
 - Fifth Workshop on discrete choice models. EPFL, Lausanne, Switzerland.
 - Fourth Kuhmo-Nectar Conference on Transport and Urban Economics, Copenhagen, Denmark.
- 2008
 - 8th Swiss Transport Research Conference, October 2008, Monte Verità, Ascona, Switzerland.
 - European Transport Conference 2008, Leeuwenhorst, The Netherlands.
 - Fourth workshop on discrete choice models, EPFL, Lausanne, Switzerland.
- 2004
 - XIII Panamerican Conference of Traffic and Transportation Engineering, Albany, NY, USA.

THESIS SUPERVISION:

PhD

- 2014 - "*Microsimulación de transacciones en el Mercado inmobiliario*". Victor Rocco. Doctorado en Sistemas de Ingeniería, Universidad de Chile (co-supervision with Francisco Martínez)

Master

- 2014 - "*Estudio de implementación de un sistema de bicicletas públicas desde la perspectiva de los usuarios*". Verónica Saud. Magister de Urbanismo, Universidad de Chile (co-supervision with Pedro Donoso)
- 2012 - "*Mode choice models for the city of Nice using psychometric indicators and latent variables*". My Hang Nguyen, Master in Civil Engineering, École Polytechnique Fédérale de Lausanne, Switzerland. (co-supervision with Michel Bialaire)
- 2011 - "*Urban development effects of the construction of a metro line*". Aurelién Odobert, Master in Civil Engineering, École Polytechnique Fédérale de Lausanne, Switzerland and Concordia University, Montreal, Canada. (co-supervision with Michel Bialaire)
- 2010 - "*Analyse des relations entre la forme urbaine, l'accessibilité aux transports en commun et la mobilité quotidienne des habitants de la ville de Québec, Canada*". Laetitia Bettex, Master in Civil Engineering, École

Polytechnique Fédérale de Lausanne and McGill University, Montréal, Canada. (co-supervision with Michel Bialire)

- 2009 - “Combining heterogeneous sensor information for the activity tracking of smart phone users”. Willem Himpe, Master in Civil Engineering, Katholieke Universiteit Leuven and École Polytechnique Fédérale de Lausanne. (co-supervision with Michel Bialire)

TEACHING:

2015	Economía y Modelos de Localización Urbana, Escuela de Ingeniería, Pontificia Universidad Católica de Chile
2014	Modelos de Localización Urbana (CI5307), Facultad de Ciencias Físicas y Matemáticas, Universidad de Chile.
2014	Economía de Localización Urbana (CI5306), Facultad de Ciencias Físicas y Matemáticas, Universidad de Chile.
2013 – 2014	Ciudad y Transporte (AE605, pregrado). Facultad de Arquitectura y Urbanismo, Universidad de Chile
2013 – 2014	Modelación y simulación para la planificación y el diseño urbano (AE805, pregrado), Facultad de Arquitectura y Urbanismo, Universidad de Chile
2013 – 2014	Desarrollo territorial y transporte (MUA204, Magíster de Urbanismo), Facultad de Arquitectura y Urbanismo, Universidad de Chile
Sep. 2010 – Jan. 2011	Teaching assistant of Optimization (Introduction à l'optimisation différentiable). École Polytechnique Fédérale de Lausanne.
Feb. 2010, 2011	Teaching assistant of Discrete Choice analysis: Predicting Demand and Market Shares (http://transp-or.epfl.ch/dca). École Polytechnique Fédérale de Lausanne.
Sep. 2008 - Dec. 2009	Teaching assistant of Modeling of Transport and Energy Systems. École Polytechnique Fédérale de Lausanne.
Jul. 2002 – Dec. 2004	Teaching assistant of Transport Systems Analysis. Universidad de Chile, Facultad de Ciencias Físicas y Matemáticas.
Mar. 1999 – Jun. 1999	Teaching assistant of Introduction to Industrial Engineering.

OTHER ACTIVITIES

- Executive Secretary of the Program Committee of the **XVII Congreso Chileno de Ingeniería de Transporte**. October 12-16, 2015, Concepción, Chile
 - Member of the Organizing Committee of the **XVI Congreso Chileno de Ingeniería de Transporte**. October 21-26, 2013, Santiago, Chile
 - Member of the Organizing Committee of the **1st Workshop de Proyección y Modelamiento territorial: de lo cualitativo a lo cuantitativo**. August 19-20, Santiago Chile
-