

## CURRICULUM VITAE ACADÉMICO

Ricardo Crespo, PhD

### ANTECEDENTES PERSONALES

Nacionalidad: Chilena

Edad: 47 años

Dirección: Ricardo Matte Pérez 0207, depto. 44, Providencia, Santiago, Chile.

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### FORMACIÓN ACADÉMICA

2009 PhD en ciencias con especialización en Geo-computación, National University of Ireland, Maynooth, Irlanda. Proyecto de doctorado financiado por la agencia científica estatal Science Foundation Ireland ([www.sfi.ie](http://www.sfi.ie)).

2004 Master en ciencias con especialización en economía agraria. Proyecto de Master financiado por el servicio alemán de intercambio académico DAAD ([www.daad.cl](http://www.daad.cl)).

Título Profesional

1997 Ingeniero Civil Industrial, Universidad de Chile (distinción máxima).

### EXPERIENCIA EN INVESTIGACIÓN

**Profesor Asociado:** Universidad de Santiago, Departamento de Ingeniería Geográfica. Agosto 2016 –

**Profesor Asociado:** Universidad Bernardo O'Higgins, Facultad de Ingeniería y Administración. Marzo 2015 - Julio 2016.

**Postdoc:** Grupo de investigación "*Planning of Landscape and Urban Systems*", Institute for Spatial and Landscape Development, Swiss Federal Institute of Technology Zurich. Julio 2009-Diciembre 2012 ([www.irl.ethz.ch/plus/](http://www.irl.ethz.ch/plus/)).

- Aplicación de técnicas de econometría espacial y de sistemas de información geográfica (SIG) en el estudio del cambio de uso de suelo en Suiza.
- Aplicación de técnicas globales y locales de econometría espacial en la modelación del mercado inmobiliario en Zúrich, Suiza.

**Proyecto doctorado:** National Center for Geocomputation, National University of Ireland, Maynooth. Octubre 2005 – Marzo 2009.

- Estudio y aplicación de técnicas econométricas globales y locales (geographically weighted regression) en el modelamiento del mercado inmobiliario en Londres.
- Estudio y desarrollo de métodos econométricos para datos temporales y de corte transversal.
- Uso de métodos de interpolación geo-estadística en el modelamiento del mercado inmobiliario en Londres.

**Asistente de investigación:** Instituto de Economía Agraria, Universidad de Goettingen, Alemania. Septiembre 2004 - Agosto 2005.

## DOCENCIA

1) Asistente de la cátedra “*Quantitative methods in Landscape and Environmental Planning*”, semestre de otoño 2009, 2010, 2011 y 2012, Swiss Federal Institute of Technology Zurich, perteneciente al programa internacional de magister “*Spatial Development and Infrastructure Systems*” ofrecido por el *Institute for Spatial and Landscape Development*.

2) Profesor de la cátedra: *Introduction to the statistical data analysis software R*, semestre de otoño, años 2011 y 2012

3) Apoyo a alumnos de master y doctorado del *Institute for Spatial and Landscape Development, Swiss Federal Institute of Technology Zurich* en sus modelamientos matemáticos como parte de sus trabajos tesis.

4) Profesor de cátedra de Metodología de la Investigación, Universidad Bernardo O’Higgins, semestres otoño y primavera 2014 y 2015.

5) Profesor de cátedra curso Investigación de Operaciones, Universidad Bernardo O’Higgins, semestre otoño 2016.

## PUBLICACIONES ISI

2015 Fotheringham, S., **Crespo, R**, and Yao, Jing . Exploring, Modelling and Predicting Spatiotemporal Variations in House Prices in London (1980-1998). *The Annals of Regional Science*, 54, 417-436.

2015 Fotheringham, S., **Crespo, R**, and Yao, J. A Spatiotemporal Extension of Geographically Weighted Regression. *Geographical Analysis*, 47 (4), 431-452.

2013 Grêt-Regamey, A., Rabe, S.-E., Crespo, R., Lautenbach, S., Ryffel, A., Schlup, B. On the importance of non-linear relationships between landscape patterns and the sustainable provision of ecosystem services. *Landscape Ecology*, 29, 201-212.

2013 **Crespo, R.**, Grêt-Regamey, A. Local Hedonic House Price Modeling for Urban Planners: Advantages of using local regression techniques, *Environmental and Planning B*,40,664-682.

2011 **Crespo, R.**, Grêt-Regamey, A. Planning from a future vision: inverse modeling in spatial planning, *Applied Geography*, 34, 47-56.

2011 Grêt-Regamey, A., **Crespo, R.** Spatially explicit inverse modeling for urban planning, *Environmental and Planning B*, 38,979-994

2010 Harris, P., Fotheringham, S., **Crespo, R.** and Charlton, M. Geographically weighted regression and kriging: two approaches to spatial interpolation, *Mathematical Geosciences*, 42, 657-680.

### **PAPERS EN PROCEEDINGS**

2016 Crespo, R., Manuschevich, D., Crespo, F., Concha, G., Rajabifard, A. Participatory Planning Process for Controlling Urbanization: an Inverse Model Approach, en los proceedings de la 9th International Conference on Theory and Practice of Electronic Governance. Montevideo, Uruguay.

2012 Grêt-Regamey, A., Crespo, R. Realizing transition pathways to provide required ecosystem services – an inverse approach, in the proceedings of the International Congress on Environmental Modelling and Software (iEMSs).

2008 Demšar, U., Fotheringham, S., Charlton, M and Crespo, R. Combining Geographically Weighted Regression and Geovisual Analytics to investigate temporal variations in house price determinants across London in the period 1980-1998, in the proceedings of the AGILE conference, Girona, Spain.

### **PRESENTACIONES EN CONFERENCIAS**

2011 Presentación de paper en la Regional Geographic Conference, UGI, Santiago, Chile. Título paper: “Inverse Modeling for Sustainable Resource Management - A case study in the Canton Aargau, Switzerland”

2011 Presentación de dos papers en el European Regional Science Association Congress (ERSA), Barcelona, España. Título del paper 1: “Spatial Planning – an Inverse Problem?”, título del paper 2: “Local hedonic house price modeling, advantages of using local regression techniques”.

2011 Presentación de paper en la conferencia internacional *Geocomputation*, University College London, UK. Título del paper: “Spatial Planning – an Inverse Problem?”

2007 Presentación de paper en la conferencia internacional *Geocomputation*, National Center for Geocomputation, Maynooth, Irlanda. Título del paper: “Application of Geographically Weighted Regression to a 20-year set of house price data in London to calibrate local hedonic price models”

2006 Presentación de poster en la GSDI-9 conference, Santiago, Chile. Título del poster “Geographically Weighted Regression and Kriging: A Comparison of Two Approaches of Data Interpolation”

## **PARTICIPACIÓN EN WORKSHOPS AND SIMPOSIOS**

2014 International Symposium on Next Generation of Disaster Management and Public Safety: Delivering a Resilient Future, Centre for Disaster Management and Public Safety, University of Melbourne, Australia

2014 Workshop on Simulating and Visualising Hazard and their Impact by Exercising IDDSS and Evacuation Planners, Centre for Disaster Management and Public Safety, Centre for Disaster Management and Public Safety, University of Melbourne, Australia.

2012 Ecosystem Services for Poverty Alleviation programme: Models to Scenarios Workshop, Charles Darwin House, London, UK.

2006 International Workshop on Spatio-temporal modelling, Pamplona, Spain.

2005 Workshop on Spatial Econometrics, Kiel Institute for World Economics, Kiel, Germany.

## **PASANTÍAS DE INVESTIGACIÓN**

2014 Department of Infrastructure Engineering, University of Melbourne, Australia. Sep 22nd-Oct 9th.

## **INTERESES DE INVESTIGACIÓN Y VÍNCULO CON LA INDUSTRIA**

Econometría espacial, economía regional, cambio de uso de suelo, mercado inmobiliario, Future Smart Cities, Big Data, data analytics, gobierno electrónico.

## **SOFTWARES**

Phyton, R, Matlab, and ArcGIS

## **IDIOMAS**

Español (lengua materna), English (fluido)

## **OTRAS ACTIVIDADES RELEVANTES**

Miembro del Centro de Estadísticas, Universidad de Goettingen, Alemania (<https://www.uni-goettingen.de/en/420023.html>)

Participación como Referee: Journal of Applied Geography, Journal of Environmental and Planning B.

## **REFERENCIAS**

Prof. Stephan von Cramon-Taubadel, Department of Agricultural Economics and Rural Development, University of Goettingen, Germany.

Prof. Walter Zucchini, Institute for Statistics and Econometrics, University of Goettingen, Germany.

Prof. Stewart Fotheringham, GeoDa Center for Geospatial Analysis and Computation, School of Geographical Sciences and Urban Planning, Arizona State University, Tempe, AZ, USA.

Prof. Adrienne Grêt-Regamey, Institute for Spatial Planning, Swiss Federal Institute of Technology Zurich.

Prof. Chris Brunsdon, Director of the National Centre for Geocomputation, National University of Ireland, Maynooth.

Prof. Abbas Rajabifard, Director of the Centre for Spatial Data Infrastructure and Land Administration and the Centre for Disaster Management and Public Safety, University of Melbourne, Australia.

# CURRICULUM VITAE

Ricardo Crespo, PhD in Geocomputation

## Personal Information

Citizenship: Chile

Marital status: Married

Date of birth: January 5th, 1969

Home address: Ricardo Matte Pérez 0207, App. 44, Providencia, Santiago, Chile

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E-mail addresses: [rcrespo@openboxchile.cl](mailto:rcrespo@openboxchile.cl); [rcrespo@gmail.com](mailto:rcrespo@gmail.com); [ricardo.crespo@ubo.cl](mailto:ricardo.crespo@ubo.cl)

## Educational History

2009 PhD in Science with specialization in Geocomputation, National University of Ireland, Maynooth (funded by *Science Foundation Ireland*).

2004 MSc in International Agribusiness, University of Goettingen, Germany (funded by the *German Academic Exchange Service (DAAD)*).

1997 Industrial Engineer, University of Chile, Santiago, Chile (maximum distinction).

## Research and Professional Experience

**Associated Professor:** University of Santiago, Chile. Department of Geography Engineering, Faculty of Engineering. August 2016 -

**Associated Professor:** University Bernardo O'Higgins, Santiago, Chile. Department of Geodesy and Cartography, Faculty of Engineering. March 2014 – July 2016.

**Postdoctoral research:** Planning of Landscape and Urban Systems, Institute for Spatial and Landscape Development, Swiss Federal Institute of Technology Zurich. July 2009-December 2012 (research adviser: Prof. Dr. Adrienne Grêt-Regamey):

- Use of mathematical modelling along with geographical information systems techniques to study the housing market and the land use change in Switzerland.

**Doctoral research:** National Centre for Geocomputation, National University of Ireland, Maynooth. October 2005 – March 2009 (research supervisor: Prof. Dr. Stewart Fotheringham).

- Application of spatial statistics and spatial econometrics to modelling the housing market in London.

**Research assistant** at the Chair of Agricultural Policy (Prof. Dr. Stephan von Cramon-Taubadel), Department of Agricultural Economics, University of Goettingen, Germany. September 2004 - August 2005.

**Research engineer** at the Centre for Cleaner production INTEC, Santiago, Chile. Developing a clean production plan in a pig farm located near Santiago. Project supported by the German Agency of technical cooperation, GTZ. March 2000- March 2002.

**Ernst&Young, SAP/R3 Consultant** for the Chilean Copper Company CODELCO. January 1997-December 1998.

## **Teaching Experience**

**Teaching assistant:** *Quantitative methods in Landscape and Environmental planning*, autumn semester 2009, 2010, 2011, and 2012,

Swiss Federal Institute of Technology Zurich.

**Lecturer:** *Introduction to the data analysis software R*, autumn semester 2011, and 2012, Swiss Federal Institute of Technology Zurich.

**Lecturer:** *Research Methodology*, autumn semester 2014, Geo- Measuring Engineering, University Bernardo O'Higgins.

### **Peer Reviewed Publications**

2015 Fotheringham, S., **Crespo, R.**, and Yao, J. Exploring, Modelling and Predicting Spatiotemporal Variations in House Prices in London (1980-1998). *The Annals of Regional Science*, 54, 417-436.

2015 Fotheringham, S., **Crespo, R.**, and Yao, J. A Spatiotemporal Extension of Geographically Weighted Regression. *Geographical Analysis*, 47 (4), 431-452.

2013 Grêt-Regamey, A., Rabe, S.-E., **Crespo, R.**, Lautenbach, S., Ryffel, A., Schlup, B. On the importance of non-linear relationships between landscape patterns and the sustainable provision of ecosystem services. *Landscape Ecology*, 29, 201-212.

2013 **Crespo, R.**, Grêt-Regamey, A. Local Hedonic House Price Modelling for Urban Planners: Advantages of using local regression techniques, *Environmental and Planning B*, 40, 664-682.

2011 Grêt-Regamey, A., **Crespo, R.** Planning from a future vision: inverse modelling in spatial planning, *Environmental and Planning B*, 34, 47-56.

2011 **Crespo, R.**, Grêt-Regamey, A. Spatially explicit inverse modelling for urban planning, *Applied Geography*, 38, 979-984.

2010 Harris, P., Fotheringham, S., **Crespo, R.** and Charlton, M. Geographically weighted regression and kriging: two approaches to spatial interpolation, *Mathematical Geosciences*, 42, 657-680.



## **Papers in Proceedings**

2016 Crespo, R., Manushevich, D., Crespo, F., Concha, G., Rajabifard, A. Participatory Planning Process for Controlling Urbanization: an Inverse Model Approach, in the proceedings of the 9th International Conference on Theory and Practice of Electronic Governance. Montevideo, Uruguay.

2012 Grêt-Regamey, A., **Crespo, R.** Realizing transition pathways to provide required ecosystem services – an inverse approach, in the proceedings of the International Congress on Environmental Modelling and Software (iEMSs).

2008 Demšar, U., Fotheringham, S., Charlton, M. and **Crespo, R.** Combining Geographically Weighted Regression and Geovisual Analytics to investigate temporal variations in house price determinants across London in the period 1980-1998, in the proceedings of the AGILE conference, Girona, Spain.

## **Conference Presentations**

2011 Paper presentation at the Regional Geographic Conference, UGI, Santiago, Chile. “Inverse Modelling for Sustainable Resource Management - A case study in the Canton Aargau, Switzerland”

2011 Paper presentation at the European Regional Science Association Congress (ERSA), Barcelona, Spain. “Spatial Planning – an Inverse Problem?”

2011 Paper presentation at the European Regional Science Association Congress (ERSA), Barcelona, Spain. “Local hedonic house price modelling, advantages of using local regression techniques”.

2011 Paper presentation at the Geocomputation conference, University College London, UK. “Spatial Planning – an Inverse Problem?”

2007 Paper presentation at the Geocomputation conference, National Center for Geocomputation, Maynooth, Ireland. “Application of Geographically Weighted Regression to a 19-year set of house price data in London to calibrate local hedonic price models”.

2006 Poster presentation at the GSDI-9 conference, Santiago, Chile. “Geographically Weighted Regression and Kriging: A Comparison of Two Approaches of Data Interpolation”.

### **Workshops and Symposium Participations**

2014 International Symposium on Next Generation of Disaster Management and Public Safety: Delivering a Resilient Future, Centre for Disaster Management and Public Safety, University of Melbourne, Australia

2014 Workshop on Simulating and Visualising Hazard and their Impact by Exercising IDDSS and Evacuation Planners, Centre for Disaster Management and Public Safety, Centre for Disaster Management and Public Safety, University of Melbourne, Australia.

2012 Ecosystem Services for Poverty Alleviation programme: Models to Scenarios Workshop, Charles Darwin House, London, UK.

2006 International Workshop on Spatio-temporal modelling, Pamplona, Spain.

2005 Workshop on Spatial Econometrics, Kiel Institute for World Economics, Kiel, Germany.

### **Visiting Scholar**

2014 Department of Infrastructure Engineering, University of Melbourne, Australia. Sep 22nd-Oct 9th.

## **Research Interest**

Econometrics, spatial econometrics, spatial statistics, geostatistics, GIS, Future Smart Cities, land use change models, big data and data analytics.

## **Software expertise**

Phyton, R, Matlab, and ArcGIS

## **Languages**

Spanish (mother tongue), English (fluent), German (intermediate).

## **Other relevant activities**

Member of the centre for statistics, University of Goettingen, Germany (<https://www.uni-goettingen.de/en/420023.html>)

Reviewer: Journal of Applied Geography, Journal of Environmental and Planning B.

## **References**

Prof. Stephan von Cramon-Taubadel, Department of Agricultural Economics and Rural Development, University of Goettingen, Germany.

Prof. Walter Zucchini, Institute for Statistics and Econometrics, University of Goettingen, Germany.

Prof. Stewart Fotheringham, GeoDa Center for Geospatial Analysis and Computation, School of Geographical Sciences and Urban Planning, Arizona State University, Tempe, AZ, USA.

Prof. Adrienne Grêt-Regamey, Institute for Spatial Planning, Swiss Federal Institute of Technology Zurich.

Prof. Chris Brunsdon, Director of the National Centre for Geocomputation, National University of Ireland, Maynooth.

Prof. Abbas Rajabifard, Director of the Centre for Spatial Data Infrastructure and Land Administration and the Centre for Disaster Management and Public Safety, University of Melbourne, Australia.