

ADRIANA MARÍA BERNAL ESCOBAR

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Universidad de los Andes, Bogotá-Colombia

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EDUCATION

MSc. Environmental Engineering

2011 – 2013

Universidad de los Andes

Bogotá-Colombia

Thesis: "Population dynamics analysis as a framework for jaguar conservation and management: sex dependent spatially explicit stochastic dispersal modeling for the study of jaguar population dynamics in South America."

B.S. Biology

2003 – 2011

Universidad de los Andes

Bogotá-Colombia

Thesis: "Implementation of a combined least-cost model and a spatially explicit dispersal model for the conservation of jaguars in Colombia"

B.S. Economics

2003 – 2009

Universidad de los Andes

Bogotá-Colombia

Thesis: "Impact evaluation of the program Florverde® on groundwater management by flower farmers in the Savanna of Bogota"

PROFESSIONAL AND ACADEMIC EXPERIENCE

Research Assistant – Juan Camilo Cárdenas Ph.D

February 2013 – At present

Department of Economics, Universidad de los Andes, Bogotá-Colombia

Working in the development of next projects:

- *Studying civilian agency and conflict in Colombia*, funded by IDRC.
- *Reducing the risk of water pollution in vulnerable coastal communities of Cartagena, Colombia: Responding to climate change*, funded by IDRC.
- *Field experiments as social development platforms: Learning from experiments in irrigation communities*, funded by IFPRI.
- *When Strengths Can Become Weaknesses: Emerging Vulnerabilities in Coupled Natural Human Systems under Globalization and Climate Change*, funded by Arizona State University.

Responsibilities:

- Design, prepare, coordinate and execute field experiments with rural communities (farmers, fishermen, cattle ranchers) from several regions of Colombia.
- Design, prepare, coordinate and execute laboratory experiments with students.
- Survey design and implementation.
- Data entry and analysis.

Research Assistant – Jorge Higinio Maldonado Ph.D

June 2012 – December 2012

Department of Economics, Universidad de los Andes, Bogotá-Colombia.

Working in the development of the project “Glacier Melting and Retreat: Understanding the Perception of Agricultural Households That Face the Challenges of Climate Change” funded by IDRC.

Responsibilities:

- Design, prepare, coordinate and execute field experiments with farmers from several irrigation districts in the Department of Boyacá.
- Survey design and implementation.
- Data entry and analysis.

Research Assistance – Juan Manuel Cordovez Ph.D

August 2010 – December 2012

Universidad de los Andes, Bogotá-Colombia

Member of mathematical and computational biology research group (BIOMAC).

Responsibilities:

- Programming mathematical models in Matlab.
- Coordinate weekly seminars to discuss topics in mathematical and computational biology.
- Design and maintain group website.

Thesis co-direction

August 2012 – December 2012

Department of Ecology and Territory, Pontificia Universidad Javeriana, Bogotá, Colombia.

Development, supervision and co-direction of Bachelor thesis “Deforestation effects on jaguar population dynamics of *Panthera onca* in the north of Colombia for the period 2010 – 2030”, defended by Álvaro Cubillos Buitrago to obtain B.S. in Ecology.

Thesis co-direction

August 2011 – December 2011

Department of Environmental Engineering, Universidad de los Andes, Bogotá, Colombia

Development, supervision and co-direction of Bachelor thesis “Construction of a permeability matrix for the study of jaguar population dynamics in the north of Southamerica”, defended by Luis Fernando Riaño to obtain B.S. in Environmental engineering.

Teaching Assistant – Juan Manuel Cordovez Ph.D

August 2010 – December 2011

Department of Environmental Engineering, Universidad de los Andes, Bogotá, Colombia

Undergraduate course in environmental engineering (*Environmental modeling*).

Responsibilities:

- Design workshops and evaluations.
- Prepare complimentary classes to introduce Matlab® in environmental modeling.

SCHOLARSHIPS

Scholarship for graduate studies for outstanding results in admission test EXADEP. Sponsor: Department of Environmental Engineering, Universidad de los Andes, Bogotá-Colombia. 2011 – 2012.

PUBLICATIONS

Adriana Bernal-Escobar, Esteban Payán and Juan Cordovez. *Sex dependent spatially explicit stochastic dispersal modeling as a framework for the study of jaguar conservation and management in South America*. Submitted to journal Ecological Modeling in April 2014.

Adriana Bernal-Escobar, Rafael Cuervo, Jorge H. Maldonado y Gonzalo Pinzón-Trujillo. 2013. *Derretimiento y Retroceso Glaciar: Entendiendo la Percepción de los Hogares Agrícolas que se Enfrentan a los Desafíos del Cambio Climático*. Documento CEDE No. 16. Universidad de los Andes, Facultad de Economía, CEDE. Bogotá, Colombia.

A.M. Bernal, E. Payán and J. Cordovez. 2012. *Spatially explicit dispersal modeling for the conservation of jaguars in Colombia*. En Ruben P Mondaini (Ed.), BIOMAT 2011. World Scientific Co. Pte. Ltd.

ACADEMIC CONFERENCES

International Symposium on Mathematical and Computational Biology, 2011
Santiago de Chile, Chile

Speaker: *Spatially explicit dispersal modeling for the conservation of jaguars in Colombia*

European Conference on Mathematical and Theoretical Biology – Annual Meeting of the Society for Mathematical Biology, 2011

Krakow, Poland

Speaker: *Spatially explicit dispersal modeling for the conservation of Jaguars in Colombia*

Annual Meeting of the Society for Mathematical Biology, 2010

Río de Janeiro, Brasil

Poster presentation: *Implementation of a combined least-cost model and a spatially explicit dispersal model for the conservation of jaguars in Colombia*

COMPUTER SKILLS

- *Microsoft*: Excel, Word and Power Point
- *Statistical packages*: Stata, Statistix, SPSS and R
- *Programming*: C++ and Matlab®
- *Text editors*: LaTeX
- *Content management systems*: Wordpress

LANGUAGE PROFICIENCY

English:
TOEFL 101/120
May 2009

Speaking: Advanced
Listening: Advanced
Writing: Advanced

French:
DELF B1 76/100
November 2008

Speaking: Intermediate Low
Listening: Intermediate Low
Writing: Intermediate Low

REFERENCES

Juan Camilo Cárdenas
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Department of Economics
Universidad de los Andes
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Juan Manuel Cordovez
Professor (Profesor Asistente)
Department of Biomedical Engineering
Universidad de los Andes
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Jorge Higinio Maldonado
Professor (Profesor Asociado)
Department of Economics
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