

# CAROLINA ARROYO HERNÁNDEZ

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## EDUCATION

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### **Bachelor degree in Political Science, December 2012**

Mexico Autonomous Institute of Technology (Instituto Tecnológico Autónomo de México - ITAM), Mexico City

*Courses taken include:*

Public Policy	Microeconomics (I, II, III)
Advanced Research Methods	Macroeconomics (I, II)
Statistics (I, II and III)	Advanced Political Methods

## EXPERIENCE

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### **Junior Researcher, August 2015-present**

#### **Interdisciplinary Program on Education Policy and Practice (PIPE) at the Center for Research and Teaching in Economics (CIDE), Mexico City**

- Conducted research on school effectiveness and education production functions in Mexico applying econometric techniques such as OLS and multilevel logistic regression modelling for the study “Effective Schools for Low-Income and High-Achieving Students in Mexico” for PhD Vazquez Cuevas’ dissertation (Columbia University).
- Participated in the “Consultation Forum of the Educational Model and the Curricular Proposal 2016” organized by the Mexican Department of Education (SEP). My responsibilities included: collecting and systematizing public, private and civil society agents’ observations and recommendations regarding the New Educational Model proposed by SEP.
- Conducted international and national evaluation of the academic performance of students with high achievement and low socioeconomic background and low achievement and high socioeconomic status, using PISA and ENLACE national tests’ databases. This study was sent to the international journal on education “Pensamiento Educativo” (PUC, Chile).
- Participated in the design of an evaluation instrument used to evaluate twelve federal educational programs of the Mexican Department of Education (SEP) along with the National Council of Social Development Policy (CONEVAL), responsible for the assessment of social policies and poverty in Mexico.
- Contributed as Researcher in the evaluation of more than 20 educational programs implemented by the Mexican Department of Education in the state of Puebla, Mexico.
- Participated in the design of a national scholarship program for outstanding upper-middle public schools’ students called “Academic Excellence Scholarship” (Beca de Excelencia, in Spanish) which was then implemented by the Mexican Department of Education (SEP) in 2015.
- Instructed school principals and teachers of the upper-middle public education system on the implementation of the “Academic Excellence Scholarship” (Beca de Excelencia in Spanish) through the provision of workshops.

### **Logistics Coordinator, January 2016-present**

#### **Talentum-Universidad program of the Interdisciplinary Program on Education Policy and Practice (PIPE) at the Center for Research and Teaching in Economics (CIDE), Mexico City**

- Contributed as the logistic coordinator of the program “Talentum-Universidad” aimed at identifying students with academic talent and outstanding leadership skills among Mexican university students. Main activities involved organizing and coordinating large-scale events, consolidating partnerships between the program and private, public, and civil society agents, mediating and guiding the program’s mentoring component, and coaching participants in their activities.

### **Research assistant, August 2014-February 2016**

Research assistant to the research project “*Factores condicionantes del rendimiento académico en el Heroico Colegio Militar y las políticas públicas para su fortalecimiento*” of the PhD candidate Colonel Marco Antonio Domínguez Sánchez (private secretary of the Chief of the Presidential Guard)

- Conducted research on the determinants of academic achievement of students of the Heroic Military College.
- Provided policy recommendations to improve the Military Education System based on the outcomes of the study.
- Designed and administered background surveys to 400 military students; creating, processing and analyzing the subsequent database using descriptive statistics and logistical regression analysis.

### **Head of department of Economic Valuation, July 2013-August 2014**

### **Statistical, Econometric and Modelling Analysis Division at the National Institute of Ecology and Climate Change (INECC), Mexico City**

- Conducted cost-benefit analysis and applied economic valuation techniques to assess different climate change adaptation policies in the state of Tabasco funded by the World Bank.
- Developed an annual methodology for the identification and quantification of green jobs in Mexico, which was incorporated to the National System of Environmental Indicators to measure the impact of environmental policies on the Mexican economy.
- Participated as an advisor in the discussion involving the modification of the national forest standard NMX-AA-143, which is aimed at certifying sustainable management of plantations and forests, along with national and international entities such as the National Forestry Commission and the Forest Stewardship Council.
- Participated along with the Environmental Defense Fund in the reviewing of a socioeconomic characterization questionnaire which was applied to artisan shark fishermen in the state of Veracruz with the purpose of estimating the opportunity cost of the implementation of sustainable fisheries policies.
- Diagnosed the state of the art of fisheries in Mexico, summarizing the existing environmental policies and extending recommendations aimed to a more sustainable management of fisheries. The study is meant to appear as part of the Green Economy Study for Mexico published by UNEP.

### **Consultant Economist, March 2013-July 2013**

#### **Economic Research Division at the Mario Molina Center for Strategic Studies on Energy and the Environment, Mexico City**

- Conducted research on subsidies and taxes on fossil fuels, which included the forecasting of the total revenues derived from the price increase and the decrease in CO<sub>2</sub> emissions.
- Designed a manual of evaluation of externalities, environmental goods and services.
- Participated in the evaluation of the Hoy No Circula program, designed to control the circulation of vehicles to reduce pollution in Mexico City.

### **Research Assistant, August 2011- November 2012**

#### **Center for Economic Research (CIE) at Mexico Autonomous Institute of Technology (ITAM), Mexico City**

- Research assistant to PhD. Laura Juárez González (University of Texas at Austin/Central Bank of Mexico) in the project “The Effects of the Expansion of Rural Health Services in Mexico on the Health of the Elderly Today” which aim was to estimate the effect of the expansion of the program “IMSS Coplamar” in 1979 on the elderly population in 2006. IMSS is the Mexican Social Security Institute.
- Collected data from the Mexican Social Security Institute physical records of the number of rural clinics built from 1979 and 2006 in each of the municipalities of Mexico states and constructed a database based on those records.

### **COURSES**

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- Stata Advanced Course, CONEVAL, 2013
- ArcGIS workshop, Mario Molina Center for Strategic Studies on Energy and the Environment, 2013
- Latin America Regional Workshop on Economic Valuation, GIZ and Federal Ministry for the Environment, Nature conservation and Nuclear Safety of Germany, 2013
- Beginners and Advanced acting class, Casa del Teatro A.C, 2015

### **STUDENT ASSOCIATIONS**

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- Founder of “BicITAM”, 2011. The objective of the association is to encourage bicycle use as an efficient and sustainable means of transport in Mexico City by designing safe routes to and from the university for the students.

### **LANGUAGES & SKILLS**

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Spanish (native), fully proficient in English (TOEFL:108); French (Basic).  
Software: Microsoft Office, MacOS, Stata, ArcGIS.