

# HECTOR M. NUÑEZ

Email: [hector.nunez@cide.edu](mailto:hector.nunez@cide.edu)  
ORCID ID: 0000-0002-6668-2409

---

## EDUCATION

- PhD. in Agricultural & Applied Economics, University of Illinois at Urbana-Champaign. Urbana, IL. (2012)
- M.Sc. in Economics. Universidad Nacional de Colombia. Bogotá, Colombia. (2004)
- B.Sc. in Economics. Universidad Nacional de Colombia. Bogotá, Colombia. (2002)

---

## RESEARCH INTERESTS

- Energy, Environmental, Regional, & Agricultural Economics

---

## EXPERIENCE

- Associate Professor. Department of Economics. Centro de Investigación y Docencia Económicas (Center for Research & Teaching in Economics, CIDE). Aguascalientes, México (2018-present)
- Research Economist. Economic Research Department. Central Bank of Mexico (Banxico). Mérida, México (2022-2024)
- Editor. Latin American Economic Review (2018-2021)
- Visiting Scholar. Fulbright Garcia-Robles. Department of Agricultural and Resource Economics. University of California, Davis. Davis, CA (2019/2020)
- Assistant Professor. Department of Economics. Centro de Investigación y Docencia Económicas (Center for Research & Teaching in Economics, CIDE). Aguascalientes, México (2012-2018)
- Director Graduate Program. M.Sc. in Environmental Economics. Department of Economics. CIDE. Aguascalientes, México (2016-2019)
- Visiting Scholar. Department of Economics. Universidad del Rosario. Bogotá, Colombia (04/2015)
- Research Assistant. Energy Bioscience Institute. University of Illinois at Urbana-Champaign, Urbana, IL (2010-2012)
- Research Assistant. Department of Agricultural & Consumer Economics. University of Illinois at Urbana-Champaign, Urbana, IL (2008-2009)
- Instructor. Department of Economics. Universidad del Rosario. Bogotá, Colombia (2003-2007)
- Instructor. Department of Business. Universidad de los Andes. Bogotá, Colombia (2007)
- Instructor. Department of Economics. Escuela Colombiana de Ingeniería. Bogotá, Colombia (2003)
- Economist. Treasury Department. Central Bank of Colombia. Bogotá, Colombia (2004-2007)
- Research Assistant. Research Department. Central Bank of Colombia. Bogotá, Colombia (2003)
- Research Assistant. Department of Economics. Universidad Nacional de Colombia. Bogotá, Colombia (2000-2002)

---

## PUBLICATIONS IN REFEREED JOURNALS

- Nuñez, H., J. Otero & A. Trujillo-Barrera (2023). Wholesale price rigidities and exchange rate pass-through Evidence from daily data of agricultural products. *International Economics*. 176: 100454
- Robles, J. & H. Nuñez (2023). Impacts of hydro-meteorological phenomena and disaster policies on the Mexican agricultural sector. *World Development Perspectives*. 31:100521
- Hancevic, P., H. Nuñez & J. Rosellón (2022). Mexico's energy prospects: gains from renewable sources over a fossil fuel-dominated environment. *Economics of Energy & Environmental Policy*. 11(2)
- Nuñez, H., A. Trujillo-Barrera & X. Etienne (2022). Declining Integration in the US Natural Gas Market. *Resources Policy*. 78:102872
- Nuñez, H. (2022). Building a Bioethanol Market in Mexico. *EconoQuantum*. 19(2): 21-56
- Hancevic, P., H. Nuñez & J. Rosellón (2022). Electricity tariff rebalancing in emerging countries: The efficiency-equity tradeoff and its impact on photovoltaic distributed generation. *The Energy Journal*. 43(4): 43-68

- Nuñez, H. & J. Otero (2021). A one covariate at a time, multiple testing approach to variable selection in high-dimensional linear regression models: A replication in a narrow sense. *Journal of Applied Econometrics*. 36: 833-841
- Iregui, A.M., H. Nuñez, & J. Otero (2021). Testing the efficiency of inflation and exchange rate forecast revisions in a changing economic environment. *Journal of Economic Behavior and Organization*. 187: 290-314
- Nuñez, H. (2021). Biomethane for electricity in Mexico: A prospective economic analysis. *Economics of Energy & Environmental Policy*. 10(2): 197-213
- Martínez, A. & H. Nuñez (2021). Tension in Mexico's energy transition: Are urban residential consumers in Aguascalientes willing to pay for renewable energy and green jobs? *Energy Policy*. 150: 112145
- Becerra, A & H. Nuñez (2019). The Technical Efficiency of Local Economies in Mexico: A Failure of Decentralized Public Spending. *The Annals of Regional Science*. 62(2): 247-264
- Anaya, A., H. Nuñez & A. Ponce (2018). Setting the agenda: Social influence in the effects of the Human Rights Committee in Latin America and Central and Eastern Europe. *The Journal of Human Rights*. 17(2): 229-244
- Hancevic, P., H. Nuñez & J. Rosellón (2017). Distributed photovoltaic power generation: possibilities, benefits, and challenges for a widespread application in the Mexican residential sector. *Energy Policy*. 110: 478-489
- Álvarez, A., R. Garduño & H. Nuñez (2017). Mexico's North-South Divide. The Regional Distribution of State Inefficiency, 1988-2008. *Papers in Regional Science*. 96 (4): 843-858
- Nuñez, H., D. Paredes & R. Garduño (2017). Is crime in Mexico a disamenity? Evidence from a hedonic valuation approach. *The Annals of Regional Science*. 59 (1): 171-187
- Nuñez, H. & J. Otero (2017). Integration in Gasoline and Ethanol Markets in Brazil over Time and Space under the Flex-fuel Technology. *The Energy Journal*. 38 (2): 1-26
- Nuñez, H. & H. Önal (2016). An Economic Analysis of Transportation Fuel Policies in Brazil: Fuel Choice, Land Use, and Environmental Impacts. *Energy Economics*. 55: 319-331
- Khanna, M., H. Nuñez & D. Zilberman, (2016). Who Pays and Who Gains from Fuel Policies in Brazil? *Energy Economics*. 54: 133-143
- Watkins Jr., D., M.G.A. de Moraes, H. Asbjornsen, A. Mayer, J. Licata, J. Lopez, T. Pypker, V. Molina, G. Marqués, A. Carneiro, H. Nuñez, H. Önal & B. da Nobrega Germano (2015). Bioenergy Development Policy and Practice Must Recognize Potential Hydrologic Impacts: Lessons from the Americas. *Environmental Management*. 56 (6): 1295-1314
- Chen, X., H. Nuñez, & B. Xu (2015). Explaining the Reductions in Brazilian Sugarcane Ethanol Production Costs: Importance of Technological Change. *GCB Bioenergy*. 7(3): 468-478
- Nuñez, H & A. Trujillo-Barrera (2014). Impact of U.S. Biofuel Policy in the Presence of Uncertain Climate Conditions. *Biofuels*. 5(5): 517-532
- Nuñez, H., H. Önal, & M. Khanna (2013). Land Use and Economic Effects of Alternative Biofuel Policies in Brazil and the U.S. Agricultural Economics. *Agricultural Economics*. 44(4-5): 487-499
- Nuñez, H., L. Rodríguez, & M. Khanna (2011). Agave for tequila and biofuels: an economic assessment and potential opportunities. *GCB Bioenergy*. 3(1): 43-57

---

## OTHER PUBLICATIONS & ACTIVITIES

- Núñez, H. (2022). Mexico's energy prospects: gains from renewable sources. IAEE Webinars [https://www.iaee.org/en/webinars/webinar\\_nunez.aspx](https://www.iaee.org/en/webinars/webinar_nunez.aspx)
- Hancevic, P., H. Nuñez & J. Rosellón, (2018). The Impacts of Massive Adoption of Distributed Photovoltaic Systems in Mexican Households: A Simulation Approach. *Energy Forum*. Special Issue IAEE International Conference: 33-34 <https://www.iaee.org/en/publications/fullnewsletter.aspx?id=95>

---

## WORKING PAPERS

- Gutiérrez, R., H. Núñez & J. Rosellón (2024). The Economic Effects of an Accelerated Electrification and Decarbonization Process in Latin America. Working Paper 02. CAF Banco de Desarrollo de América Latina

- Carneiro, Ana C.G., H. Nuñez, M.M.G.A. Moraes & H. Önal (2014). A Prospective Economic Analysis of Land Use Changes and Biofuel Feedstock Production in Brazil: The Role of Irrigation Water. World Congress of Environmental and Resource Economists (WCERE)
- Nuñez, H., M. Gómez & H. Önal (2009). Economic Impacts of Soybean Rust on the U.S. Soybean Sector. WP 2009-17, Department of Applied Economics & Management, Cornell University
- Nuñez, H., & L.F. Melo, (2004). Inflation Forecast Combination under Structural Changes. (In Spanish). Working Paper 286. Central Bank of Colombia

## **PUBLICATIONS IN SPANISH**

---

- Gutiérrez, R., H. Nuñez & J. Rosellón. Entendiendo el rol de la infraestructura de transmisión eléctrica para la transición energética: modelos, principales desafíos y caso . En D. Enríquez (Ed.), *Energía 2050, Volumen II*. University of Houston & ITAM.
- Gutiérrez, R., P. Hancevic, H. Nuñez & J. Rosellón (2024). Los efectos económicos de un proceso acelerado de electrificación y descarbonización en México. En *La economía mexicana. Un balance desde la academia* <https://doi.org/10.60730/68vp-5j66>. CIDE
- Hancevic, P., H. Nuñez & J. Rosellón (2023). El sector energético en América Latina y el Caribe: oportunidades y desafíos del cambio climático. Policy Paper 18. CAF Banco de Desarrollo de América Latina
- Nuñez, H. (2022). Valoración de la violencia en México usando precios hedónicos. In A.F. Ponce (Ed.), *Huellas de la guerra. Los costos sociales de la violencia criminal en México*. (pp 79-102). CIDE
- Iregui A., C. Anzola, L. Ballén, V. Bejarano, E. González, A. Grajales, A. Guarín, M. Hernández, R. Hernández, J. Julio, L. Melo, J. Muñoz, H. Nuñez, J. Otero, J. Pérez, A. Rincón, J. Romero, A. Sánchez & P. Torres (2021). ¿Qué nos dicen las encuestas sobre la formación de expectativas de inflación? *Ensayos sobre Política Económica*. 100
- Bejarano, H., P. Hancevic & H. Nuñez (2021). Impacto económico del COVID-19 en negocios pequeños y medianos bajo restricciones voluntarias e impuestas. *EconoQuantum*. 18(2): 23-56
- Nuñez, H & R. Garduño (2014). An Economic Analysis of Illegal Drug Supply and the An Economic Analysis of the Supply of Illicit Drugs and Policies against Drug Trafficking in Mexico 2004-2009 (In Spanish). Working Paper Monitor del Programa de Políticas de Drogas 2. CIDE
- Nuñez, H. (2005). Una evaluación de los pronósticos de inflación en Colombia bajo el esquema de inflación objetivo. (A Colombian Inflation Forecast Evaluation under Inflation Targeting Regime). *Revista de Economía del Rosario*. 8(2): 151-185

## **MAIN COURSES TAUGHT**

---

- PhD level: Econometrics 1 (U. de los Andes)
- Master level: Natural Resource Economics (CIDE), Mathematical Programming (CIDE), Pre-math course (U. of Illinois), Econometrics 1 & 2 (U. del Rosario), Research Seminar (CIDE), Thesis Seminar (CIDE)
- Undergraduate level: Microeconomics (CIDE), Econometrics 1 (CIDE & U. del Rosario), Econometrics 2 (CIDE), Database Management (CIDE), Introductory Statistics (CIDE), Introductory Economics (Escuela Colombiana de Ingeniería and CIDE).

## **SELECTED CONFERENCE PRESENTATIONS**

---

- Market spatial integration using the markets in the Mexican Consumer Price Index. North American Meetings of the North American Regional Science Council (NARSC), San Diego, CA. (Nov 2023)
- Effect of GHG emissions on the regional technical efficiency of the manufacturing sector in Mexico. North American Meetings of the North American Regional Science Council (NARSC), Montreal, Canada. (Nov 2022)
- An alternative for variable selection in high-dimensional linear regression models. 2021 Mexican Stata Conference. (Oct 2021)
- Impacts of Weather Shocks on Crop Yields in Mexico. 31<sup>st</sup> International Association of Agricultural Economists, ICAE Triennial Conference. (Aug 2021)
- Bioenergy Prospects in Mexico: Biorefineries at the West Region. IV Agave International Symposium. Oaxaca, México. (Mar 2019)

- Building a Bioethanol Market in Mexico. 30<sup>th</sup> International Association of Agricultural Economists, ICAE Triennial Conference, Vancouver, Canada. (Jul 2018)
- Bioenergy Prospects in Mexico: Biorefineries at the West Region. 6<sup>th</sup> World Congress of Environmental and Resource Economists (WCERE), Gothenburg, Sweden. (Jun 2018)
- Bioenergy Prospects in Mexico. 35<sup>th</sup> USAEE/IAEE North American Conference, Houston, TX. (Nov 2017)
- Biofuel potential in Mexico: Land Use, Economic and Environmental Effects. 39<sup>th</sup> IAEE International Conference, Bergen, Norway / 28<sup>th</sup> European Conference on Operational Research Poznan, Poland / Agricultural & Applied Economics Association, AAEA Annual Meeting, Boston, MA. (Jun-Jul 2016)
- Integration in Gasoline and Ethanol Markets in Brazil over Time and Space under the Flex-fuel Technology. Agricultural & Applied Economics Association, AAEA Annual Meeting, San Francisco, CA. (Jul 2015)
- Technical efficiency in Mexico during the last twenty years: a stochastic frontier approach. North American Meetings of the North American Regional Science Council (NARSC), Washington, DC. (Nov 2014)
- Land use changes and biofuel feedstock production in Brazil: The role of irrigation water. World Congress of Environmental and Resource Economists (WCERE), Istanbul, Turkey. (Jun 2014)
- The political-economy of biofuel and cheap oil policies in Brazil. Berkeley Bioeconomy Conference, Berkeley, CA. (Mar 2014)
- Hedonic valuation using multilevel analysis: Air quality and violence in Mexico. North American Meetings of the North American Regional Science Council (NARSC), Atlanta, GA. (Nov 2013)
- An economic analysis of transportation fuel policies in Brazil. Agricultural & Applied Economics Association, AAEA Annual Meeting, Washington, DC. (Aug 2013)
- A prospective analysis of Brazilian biofuel economy. International Association of Agricultural Economists, ICAE Triennial Conference, Foz do Iguaçu, Brazil. (Aug 2012)
- Land use changes and greenhouse gas emissions mitigation: An alternative analysis of Brazil and U.S. biofuel policies using a spatial multi-market equilibrium model. Association of Environmental and Resource Economists, AERE Summer Conference, Seattle, WA. (Jun 2011)
- Optimal Allocation of Land for Conservation: A General Equilibrium Analysis. Agricultural & Applied Economics Association, AAEA Annual Meeting, Denver, CO. (Jul 2010)
- Economic Impacts of Soybean Rust on the U.S. Soybean Sector. Agricultural & Applied Economics Association, AAEA Annual Meeting. Milwaukee, WI. (Jul 2009)

## THESIS SUPERVISION

---

- Astrid Ovando (M.Sc. in Environmental Economics, CIDE); "Proposal for a dynamic production system for the circular economy of solid waste in Mexico". (2023)
- Emmanuel Herrera (B.Sc. in Public Policy, CIDE) "Mexican groundwater management: regulated and closed areas". Honors Thesis (2022)
- Omar Jasso (M.Sc. in Environmental Economics, CIDE); "Analysis of public policies for the development of the electric car market in Mexico". (2021)
- Jesús E. Robles (B.Sc. in Public Policy, CIDE) "Disaster policies and Mexican agricultural productivity". Honors Thesis (2019)
- Joel Vazquez (M.Sc. in Environmental Economics, CIDE) "Willingness to pay for renewable energy by the residential sector in Aguascalientes". Honors Thesis (2019)
- Abelardo Muñoz (B.Sc. in Public Policy, CIDE) "The effects of the Subsidy Program for Innovation (PEI) on Enterprises' Competitiveness in the Mexican States of Aguascalientes, Jalisco, Guanajuato y Queretaro" (2017)
- Oscar Gracia (M.Sc. in Environmental Economics, CIDE) "Economic Analysis of Biogas Recovery for Power Generation" (2017)
- Claudio Cruz (M.Sc. in Environmental Economics, CIDE) "Green Areas Valuation in Mexico City" (2016)
- Rodrigo Cordova (B.Sc. in Public Policy, CIDE) "Causes of Informality: An empirical approach to the structuralist theory through the flea markets of Central-Western Mexico" (2016)
- Alejandro Becerra (B.Sc. in Public Policy, CIDE) "Economic Efficiency and Decentralization in Mexico". Honors Thesis (2015)

- Jonathan Jaime (B.Sc. in Economics, Universidad de Guanajuato) "Spatial Labor Sorting in Mexico" (2014)
- Diana Mesa & Karim Parra (B.Sc. in Economics, Universidad del Rosario) "Volatility and Dynamic of Oil Price: An application of Mean Reversion with Jumps Models" (2006)

## THESIS COMMITTEES

---

- Ana Morales (M.Sc. in Sustainability, UNAM) "Sustainability Assessment of *Agave tequilana* Weber (var. azul) Residual Biomass for 2G Bioethanol Production" (2024)
- César Ruiz (PhD. in Environmental Sciences and Sustainability, Universidad Jorge Tadeo Lozano) "The ecological and economic value of the Colombian Remaining Natural Capital, a first approximation" (2023)
- Judith Maldonado (PhD. in Regional Economics, Universidad Autónoma de Coahuila) "Estimation and analysis of CO<sub>2</sub>e emissions from Mexican households" (2022)
- Germán Rivera (B.Sc. in Economics, CIDE) "Investment decisions in the energy sector: An application of real options analysis and the E-GARCH model" (2022)
- Luis Armenta (B.Sc. in Economics, CIDE) "Green merit in Mexico: An empirical analysis of the relationship between renewable energy and the price of electricity" (2022)
- Francisco Álvarez (M.Sc. in Environmental Economics, CIDE); "Value of trees in CDMX: a hedonic pricing model" (2021)
- Melina Mendoza (B.Sc. in Economics, CIDE) "Is it possible that crime and corruption bring us closer to productive efficiency?" (2021)
- Monserrat Carrasco (B.Sc. in Public Policy, CIDE) "The 'war on drug trafficking': the impact of violence on housing prices in Mexico City (2007-2011)" (2021)
- Brian I. Jaimes (M.Sc. in Economics, CIDE) "Scheme of subsidies for electric, collective and personal transport" (2020)
- Carlos I. Torres (M.Sc. in Economics, CIDE) "Hybrid model of energy systems for evaluating the use of renewable energy" (2020)
- Antonio Herrera (B.Sc. in Public Policy, CIDE) "Exploring the practices that shape the municipal transparency policy in Mexico" (2019)
- Lorena A. Mendoza (M.Sc. in Economics, CIDE) "Estimation of the demand for rice in Mexico: censored variable approach" (2018)
- Rut Atayde (B.Sc. in Public Policy, CIDE) "The effect of the incentives to technological development in the manufacturing industry in the Mexican states" (2018)
- Hugo Salas (B.Sc. in Public Policy, CIDE) "The unexpected effects of the schedule change policy: traffic accidents in Mexico" (2018)
- Luis Acevedo (B.Sc. in Public Policy, CIDE) "Local government and management deficits: public participation in the production of public services" (2017)
- Héctor De Lira (B.Sc. in Public Policy, CIDE) "Political competition in state legislatures as a determinant of state public spending in Mexico" (2017)
- Jassel Córdova (B.Sc. in Public Policy, CIDE) "Dissatisfaction and inefficiency, indirect costs of large and small corruption in the provision of urban public services" (2017)
- María Fernanda Navarro (B.Sc. in Public Policy, CIDE) "The impact of clusters on municipal economic growth: The case of Mexico" (2017)
- Abraham Núñez (B.Sc. in Public Policy, CIDE) "Urban expansion and housing quality: basic housing conditions on the outskirts of the metropolitan areas of Mexico during 2005 and 2010" (2017)
- Fabiola Mondragón (B.Sc. in Public Policy, CIDE) "Gender Anomie Theory: An Approach to the Development of Public Policies for Crime Prevention in Mexico" (2016)
- Adán Morales (B.Sc. in Economics, CIDE) "Environmental dependence and poverty dynamics in rural communities in Mexico" (2014)
- Gustavo Salazar (M.Sc. in Economics, CIDE) "Impact on the value of real estate and sociodemographic recomposition to improvements in the public transportation system of Mexico City. Has the phenomenon of gentrification occurred in the colonies surrounding Metrobus?" (2014)

- Iván Jamett (M.Sc. in Regional Science, Department of Economics, Universidad Católica del Norte, Chile); “Long Distance Commuting in Chile: Estimation of distance-wage elasticity”. (2012)

## **AWARDS AND GRANTS**

---

- Nuñez, H. Member of National Research System (SNI-Level II), Mexico’s Consejo Nacional de Ciencia y Tecnología (CONACYT), 2014- to date.
- Hancevic, P., H. Bejarano, H. Nuñez, D. Rapson, & J. Rosellón. “Analysis of improvements in energy efficiency and energy conservation in the non-residential electricity sector” (Role CoPI). Sectorial Fund “CONACYT-SENER- Energy Sustainability”, MXN 5’000,000. (2018-2022)
- Nuñez, H. “Mexican Center for Innovation in Bioenergy – Biogas Cluster” (Role PI). Sectorial Fund “CONACYT-SENER- Energy Sustainability”, MXN 1’752,200. (2016-2021)
- Nuñez, H. “Comprehensive use of agave-tequila chain by-products based on a concept of sustainable energy: Bio-refinery West Region” (Role PI). Sectorial Fund “CONACYT-SENER- Energy Sustainability”, MXN 1’119,267. (2016-2020)
- Nuñez, H. Fulbright-García Robles Visiting Scholar scholarship, UC Davis. (2019-2020)
- Nuñez, H. Outstanding Faculty Award, CIDE. (2018)
- Nuñez, H. “Economic, Environmental and Land Use Model for Mexico” (Role PI). CONACYT- Scientific development projects addressing national problems, MXN 750,000. (2015-2016)

## **OTHER INFORMATION**

---

- Languages: Spanish (Native), English (Excellent/Working knowledge), Portuguese (Intermediate)
- Affiliations: Agricultural & Applied Economic Association (AAEA), International Association of Agricultural Economists (IAAE), International Association for Energy Economics (IAEE), and Association of Environmental & Resource Economists (AERE)
- Referee Services: The Energy Journal, Energy Economics, Resource & Energy Economics, Economic Modeling, Applied Economics Letters, Energy Sources, Part B: Economics, Planning, & Policy, Journal of Environmental Management, Applied Economic Perspectives & Policy, Agricultural & Resource Economics Review, BioEnergy Research, Biofuels, Global Change Biology Bioenergy, Environmental Modeling & Assessment, Land Use Policy, Resource Policy, Environment & Development Economics, Economic Modelling, Utilities Policy, Australian Journal of Agricultural and Resource Economics, Latin American Economic Review, EconoQuantum, The Anáhuac Journal, Estudios Económicos, Desarrollo y Sociedad, Gestión y Política Pública, El Trimestre Económico, and Revista Colombiana de Estadística