

# Cindy Giselle Azuero Pedraza

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Webpage: <https://sites.google.com/view/cindy-giselle-azuero-pedraza>

E-mail: [cpedraza3@gatech.edu](mailto:cpedraza3@gatech.edu), [cindy.azuero@cmcc.it](mailto:cindy.azuero@cmcc.it)

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## RESEARCH INTERESTS

Applications: Sustainable development, biodiversity conservation, climate change, natural resource management, land use change. Methods: Optimization and simulation models, Game Theory, Integrated Assessment Models, Life Cycle Assessment (LCA), GIS, Input-Output models, environmental economics, and partial/general equilibrium models. Interdisciplinary research.

## EDUCATION

*Ph.D. Industrial Engineering* Aug 2023  
[Georgia Institute of Technology](#), Atlanta, United States

- Advisor: **Dr. Valerie Thomas**.
- Dissertation title: Including biodiversity conservation in Climate Change decision making.

*M.Sc. Industrial Engineering* Dec 2013  
[Universidad de los Andes](#), Bogotá, Colombia

- Focus areas: Operations research and statistics.

*B.S. Industrial Engineering* Jul 2012  
[Universidad de los Andes](#), Bogotá, Colombia

- Focus areas: Operations research and statistics.

## JOURNAL ARTICLES

See also [my ORCID](#) page.

*Published papers*

1. **Azuero-Pedraza, Cindy G.**, Valerie M. Thomas, and Wesley W. Ingwersen. 2022. "Incorporating New Technologies in EEIO Models" *Applied Sciences* 12, no. 14: 7016. <https://www.mdpi.com/2076-3417/12/14/7016>

*Working papers*

3. **Azuero-Pedraza, Cindy G.**, Pekka Lauri, Andrey Lessa, Valerie M. Thomas. 2023, Managing forests for biodiversity conservation and climate change mitigation. Submitted to *Environmental Science & Technology*
2. **Azuero-Pedraza, Cindy G.**, Valerie M. Thomas. Including biodiversity in optimization models. 2023.
1. **Azuero-Pedraza, Cindy G.**, Valerie M. Thomas. Biodiversity and climate change impacts of large-scale Bioenergy with Carbon Capture and Storage (BECCS). 2023.

## RESEARCH EXPERIENCE

*Graduate Research Assistant* May 2019- 2023  
[Georgia Institute of Technology](#), Atlanta, United States

- Collaborated with Life Cycle Assessment (LCA) studies on biofuels, biochemicals and food waste.

*Intern* May 2020- Aug 2020  
[U.S. Environmental Protection Agency \(EPA\)](#)

- Proposed and implemented a methodology to integrate new technologies, in the context of Bioeconomy, to the United States Input-Output model (USEEIO). Resulted in peer reviewed publication.

*Research Assistant* Aug 2014- Oct 2014  
 Fundación Logyca

- Literature review in urban logistics and sustainable logistics in Latin America and the state-of-art in developed countries.
- Prepared book chapter for CAF (Development Bank of Latin America) project.

**SCHOLARSHIPS AND AWARDS** *Young Scientist Summer Program (YSSP)* Summer 2022  
 International Institute for Applied Systems Analysis (IIASA),  
 Laxenburg, Austria

*Wally George Fellowship* Aug 2018- Jul 2020  
 Georgia Institute of Technology, Atlanta, United States

*Colciencias-Fulbright Scholarship* Aug 2018-Jul 2022  
 Fulbright Commission Colombia

**TEACHING EXPERIENCE** Completed the [Tech to Teaching program](#) at Georgia Institute of Technology.  
*Graduate Student Instructor* Jan 2022 - May 2022  
 Georgia Institute of Technology, Atlanta, United States

- ISyE 3025- Engineering Economy. 2 sections (70 and 50 students).

*Graduate Teaching Assistant* Aug 2018 - Dec 2021  
 Georgia Institute of Technology, Atlanta, United States

- For the courses “ISyE 4501- Energy, Efficiency and Sustainability (40 students)”, “ISyE 2028- Basic Statistical Methods (39 students)” and “ISyE 6414- Regression Analysis (74 students)”.

*Graduate Teaching Assistant* Aug 2012 - Dec 2013  
 Universidad de los Andes, Bogotá, Colombia

- Instructor of small sessions for “IIND 3113-Discrete-events simulation” for 2 sections of 30 students, 3 hours per week. Grade management; Design of class content; exams and exercises.

**PRESENTATIONS** *Talks*

- Azuero-Pedraza, Cindy.G., Lauri, Pekka, Lessa-Derci-Augustynczyk, Andrey, Thomas, Valerie M. Integrating biodiversity into forest management decisions. ISSST 2023, June 2023.
- Azuero-Pedraza, Cindy.G., Thomas, Valerie M. Optimal land supply for BECCS considering biodiversity conservation. IISE Annual Conference & Expo. May 2023.
- Azuero-Pedraza, Cindy G., Thomas, Valerie M., Ingwersen, Wesley. Incorporating new technologies in EEIO models. INFORMS Annual Meeting 2022, October 2022.
- Azuero-Pedraza, Cindy G. Optimal Land Supply for BECCS Considering Biodiversity Conservation. INFORMS Annual Meeting 2021, Oct 2021.
- Azuero-Pedraza, Cindy G., Thomas, Valerie M. Biodiversity and Climate Change Impacts of Biopower with Carbon Capture and Storage (CCS). ISSST 2021,

June 2021.

- Azuero-Pedraza, Cindy G., Thomas, Valerie M., Ingwersen, Wesley. Incorporating new technologies in EEIO models- Advanced biofuels sector. Industrial Ecology Day, June 2021.

*Poster presentations*

- Georgia Institute of Technology- Career, Research, and Innovation Development Conference (CRIDC). Title: Incorporating new technologies in EEIO models. (Winner- Poster Competition). January 2022.
- Georgia Institute of Technology -Poster sustainability showcase. Title: Wood pellet demand in Southeastern US: Biodiversity Risks and Policy challenges. October 2019.

**PROFESSIONAL EXPERIENCE**     *Consultant*     Mar 2015 - Jun 2018  
*SDI Systems*, Bogotá, Colombia

- Development of simulation models.
- Data analysis for distribution center design projects.
- Instructor of trainings for FlexSim Simulation Software.

*Processes Analyst*     Nov 2014- Jan 2015  
*El Kiosco Golosinas*, Bogotá, Colombia

- Developed process mapping of kitchen's processes for the design of improvement policies.

*Eco-engineering projects coordinator*     Oct 2014- Jan 2015  
*Kastoro Ecoingeniería Lógica*, Bogotá, Colombia

- Developed socio-ecological models using system dynamics.
- Literature review, data analysis.

**PROFESSIONAL ORGANIZATIONS**     INFORMS, International Society for Industrial Ecology (ISIE)

**LANGUAGES**     Spanish (Native), English (Fluent)

**COMPUTER SKILLS**     Coding in R, Python, Visual Basic and Java.  
Experience with Github and Jupyter notebooks.  
Experience with GAMS, Gurobi, CPLEX and Xpress MP.  
Experience with ArcGIS.