

RODRIGO MUÑOZ SÁNCHEZ

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Github: <https://github.com/rodrigoms95>

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ResearchGate: <https://www.researchgate.net/profile/Rodrigo-Munoz-Sanchez>

Google Scholar: https://scholar.google.com/citations?view_op=list_works&hl=es&hl=es&user=an4HZIsAAAAJ

ACADEMIC BACKGROUND

PhD: ATMOSPHERIC SCIENCE

**National Autonomous University of Mexico,
Institute of Atmospheric Sciences
and Climate Change (ICAyCC-UNAM)**

*Mexico City, Mexico
Jan 2024 – Present*

- PhD candidate
- Dissertation topic: Impacts of climate change on energy and infrastructure systems.
- Scholarships: SECIHTI (Ministry for Science and Research) Graduate Studies Scholarship

MASTER'S: ATMOSPHERIC SCIENCE

**National Autonomous University of Mexico,
Institute of Atmospheric Sciences
and Climate Change (ICAyCC-UNAM)**

*Mexico City, Mexico
Aug 2021 – Oct 2023*

- Final Average: 9.77/10. Graduated with honors and candidate to the Alfonso Caso Medal for best student.
- Dissertation topic: An Objective Index for Rainy Season Onset and Withdrawal Dates Over the Mexico Valley Basin.
- Scholarships: CONACYHT (Ministry for Science and Research) Graduate Studies Scholarship, PAEP-UNAM Scholarship for interantional research stays, PEGO-UNAM Scholarship for timely graduation.

BACHELOR'S: CIVIL ENGINEERING

**National Autonomous University of Mexico,
Faculty of Engineering (FI-UNAM)**

*Mexico City, Mexico
Aug 2013 – Sep 2018*

- Final Average: 9.28/10. Graduated with honors.
- Dissertation topic: Distributed Infrastructure for the Development of Urban Resilience in Mexico City.
- Scholarships: Telmex-Carlos Slim Foundation Scholarship for Academic Excellence, PARA-FI UNAM Program for High Academic Performance, DGECI-UNAM Scholarship for international exchange, UNAM Scholarship for graduation.

STAYS ABROAD

- **Pablo De Olavide University:** Seville, Spain. Aug 2022 – Nov 2022. Research stay.

- **National Taiwan Normal University, Mandarin Training Center:** Taipei, Taiwan. Nov 2019 – Feb 2020. Intensive mandarin course.
- **Université Lyon 1, Claude Bernard:** Lyon, France. Jan 2017 – May 2017. Academic exchange.
- **Cégep Garneau:** Québec, Canada. Aug 2012 – Dec 2012. Academic exchange.

PARTICIPATION IN PROJECTS

Climate Change Research Program, UNAM *Mexico City*

Participante – Climate change impact models *Dic 2024 – Mar 2026*

- World Bank, Climate Change & Development Report
 - Climate impact channels quantification

Participant – Integrated assessment models *Dec 2024 – Present*

- AFD, OSF, SEMARNAT, INECC Project: Strengthening capacities for decision-making on climate change and updating Mexico's Nationally Determined Contributions

- Policy and costs evaluation for the 2025 NDC update process and the 2026 NAP.

Participant – Climate change impact models *Aug 2024 – Present*

- The Degrees Initiative Project: Modelling the impact of heatwaves on urban centers in Mexico

Participant – Development of the CLIMRISK Model *Aug 2024 – Present*

- Banxico, CEPAL, AFD Project: Pilot climate scenarios for the Mexican financial sector 2024-2025

Participant – Climate change impact models *Aug 2023 – Dec 2024*

- PRONAI CONAHCYT Project: Tools and Strategies for Decision-Making on Climate Change, Air Quality, and Sustainable Development in the Mexico City Megalopolis.

Faculty of Engineering, UNAM *Mexico City*

Co-author – Writing of application chapters *Aug 2023 – Feb 2025*

- PAPIME-UNAM PE105624 Project: Digital Books and Online Course for the Territorial Knowledge Course

Participant – Strategic planning *Aug 2023 – Dec 2025*

- Fi-UNAM Project 4.B. Multidisciplinary groups of Strategic Axis 4. Promotion and encouragement of research and innovation in the 2023-2027 Development Plan of the Faculty of Engineering.

BRICS Youth Energy Agency *Mexico City*

Young Expert – Chapter co-author *Mar 2024 – Sep 2024*

- BRICS Youth Energy Agency Energy Outlook 2024 Report.

UNESCO Climate Transitions Report *Paris, France*

Co-author – Data Analyst and Policy Evaluator *Jun 2024 – Jun 2025*

RESEARCH

Articles in peer-reviewed journals

- Muñoz Sánchez, R., Velasco, J. A., Estrada Porrúa, F., & Calderón Bustamante, O. (2026). *Impacts of climate change on electrical subsidies' public policies: The case of Mexico*. *Mitigation and Adaptation Strategies for Global Change*, 31(3), 20.
<https://doi.org/10.1007/s11027-025-10282-1>
- Estrada, F., Bastien-Olvera, B. A., Calderon-Bustamante, O., Altamirano, M. A., Muñoz-Sánchez, R., Moreno-Cruz, J., & Botzen, W. (2026). *Economic assessment of SRM under socio-political and geophysical tipping dynamics*. *Environmental Research: Climate*, 5(1), 015015.
<https://doi.org/10.1088/2752-5295/ae33df>
- Muñoz-Sánchez, R., Bastien-Olvera, B. A., Calderón, O., Estrada Porrúa, F., & Altamirano, M. (2025). *GeoMIP-Pattern – a pattern scaling dataset for efficient generation of custom geoengineering scenarios*. *Scientific Data*, 12(1), 1343.
<https://doi.org/10.1038/s41597-025-05496-6>
- Muñoz-Sánchez, R., Ordoñez, P., Gallego, D., & Ochoa-Moya, C. A. (2023). *An objective procedure for rainy season onset and withdrawal dates over the Mexico Valley Basin*. *Theoretical and Applied Climatology*.
<https://doi.org/10.1007/s00704-023-04714-8>.

Published reports

- UNESCO. (2025). *Who bears the costs? Addressing inequalities from climate change and climate action*. UNESCO. <https://doi.org/10.54678/GIXE7906>

Published chapters

- *BRICS Youth Energy Outlook 2024*. Chapter: Climate Change.
<https://yeabrics.org/wp-content/uploads/2025/02/BRICSYEO2024.pdf>
- *BRICS Youth Energy Outlook 2024*. Chapter: Energy in Business Sector.
<https://yeabrics.org/wp-content/uploads/2025/02/BRICSYEO2024.pdf>

Published Books

- *Renewable Energy – A Textbook*. Coauthor. Coauthors: Luis Antonio García Villanueva (FI, UNAM), Griselda Berenice Cruz Hernández (FI, UNAM), Manuel Salvador Tovar Carmona (FI, UNAM), et al.
<http://www.ptolomeo.unam.mx:8080/xmlui/bitstream/handle/RepoFi/20241/Energias-renovables%282025%29.pdf>

Submitted Articles

- *Evaluating the spatial distribution of changes in extreme rainfall due to global and local climate change*. Artículo de investigación. Autor principal y de correspondencia. Coautores: Artículo de investigación. Autor principal y de correspondencia. Coautores: Francisco Estrada (ICAYCC, UNAM), Miguel Altamirano (PINCC, UNAM), Bernardo Bastien (ICAYCC, UNAM), Óscar Bustamante (ICAYCC, UNAM). Preprint en SSRN.
<http://dx.doi.org/10.2139/ssrn.6215095>

- **Structural changes and implications of climate and drought responses to geo-engineering intervention in the climate system.** Coauthor. Coauthors: Franciso Estrada (ICAyCC, UNAM), Bernardo Bastien (ICAyCC, UNAM), Miguel Altamirano (PINCC, UNAM), Óscar Bustamante (ICAyCC, UNAM).
- **Assessing the chronic physical risks of climate change for the financial sector: a case study from Mexico's Central Bank.** Coauthor. Coauthors: Francisco Estrada (ICAyCC, UNAM), Miguel Altamirano (PINCC, UNAM), Óscar Calderón (ICAyCC, UNAM), Alejandra Salazar (UZH, Suiza), Luis Escobar (Banorte), Wouter Botzen (Vrije Universitat Amsterdam, Países Bajos), Serafín Martínez (Banco Mundial), Stefano Battiston (UZH, Suiza). Under review at Ecological Economics, peer-reviewed journal with a JCR impact factor of 6.3.
- **Estimating the Urban Heat Island Effect: Balancing Proximity and Comparability Through Altitude-Adjusted Temperature Analysis.** Research paper. Coauthor. Co-authors: Franciso Estrada (ICAyCC, UNAM), Bernardo Bastien (ICAyCC, UNAM), Miguel Altamirano (ICAyCC, UNAM), Oscar Bustamante (ICAyCC, UNAM). Preprint at SSRN. <https://dx.doi.org/10.2139/ssrn.5182890>

Papers in completion

- **Cost and uncertainty feasibility analysis for Mexico's net zero pathways.** Main and corresponding author. Coauthors: Franciso Estrada (ICAyCC, UNAM), Miguel Altamirano (PINCC, UNAM), Bernardo Bastien (ICAyCC, UNAM), Óscar Bustamante (ICAyCC, UNAM), Amparo Martínez (ICAyCC, UNAM), Montserrat Calderón (ICAyCC, UNAM), Alejandra Salazar (UZH, Suiza), Luis Escobar (PINCC, UNAM), Serafín Martínez (Banco Mundial).
- **Projected impacts of climate change and urban expansion on photovoltaic generation potential and diurnal profiles in tropical megacities.** Main and corresponding author. Coauthors Franciso Estrada (ICAyCC, UNAM), Miguel Altamirano (PINCC, UNAM), Bernardo Bastien (ICAyCC, UNAM), Óscar Bustamante (ICAyCC, UNAM), Carlos Gay (ICAyCC, UNAM), David Morillón (II, UNAM).
- **Regional variability in optimal solar panel orientation based on capacity, energy generation, and net load ramping for duck curve mitigation.** Main and corresponding author. Coauthors: Franciso Estrada (ICAyCC, UNAM), Carlos Gay (ICAyCC, UNAM), David Morillón (II, UNAM).

Bachelor's dissertations supervised

- Anaya Ballina, Santiago Armando. Evaluation of FIFA's "World Cup Sustainability Framework" and its carbon footprint. 2024-2025. Bachelor's Degree in Environmental Engineering – Faculty of Engineering, UNAM.

Dissertations writer

Bachelor's

- Muñoz Sánchez, R. (2019). **Distributed infrastructure for urban resilience in Mexico City.** Supervisor: M.I. Rodrigo Sepúlveda. Civil Engineering, FI-UNAM. <http://132.248.9.195/ptd2019/enero/0784900/index.html>

Master's

- Muñoz Sánchez, R. (2023). **Definition of an objective index for calculating the beginning and ending of the rainy season in the Mexico Valley Basin**. Supervisor: Paulina Ordóñez. Earth Sciences Graduate Program, ICAYCC-UNAM. <https://tesiunamdocumentos.dgb.unam.mx/ptd2023/septiembre/0846996/Indexed.html>

Conference participation

- **Modelling solar radiation modification in process-based integrated assessment models**. 3-8 may 2026. Conference. European Geophysical Union Annual Meeting 2026. Main author. Coauthors: Óscar Calderón (ICAYCC, UNAM), Francisco Estrada (ICAYCC, UNAM), Miguel Altamirano (PINCC, UNAM), Bernardo Bastien (ICAYCC, UNAM). <https://doi.org/10.5194/egusphere-egu26-15451>
- **Economic value of carbon sequestration in mangroves in the Arrecifes de Cozumel National Park**. Nov 7 2024. Conference. 3rd International Conference on Environmental Pollution Management. Co-author: Montserrat Calderón Mota.
- **Noise maps as tools for assessing socio-environmental impacts in communities surrounding airports**. Oct 19 2023. Conference. 1st Latin American Forum on Infrastructure, Well-being, and Sustainability. Corresponding author. Co-authors: María Fernanda Rivas, Cristian Ramírez, Noely Villaseñor, Daira Aguirre.
- **An Objective Index for Monsoon Onset and Withdrawal Dates Over the Mexico Valley Basin**. Jan 6 2023. Conference. American Meteorological Society's 36th Conference on Climate Variability and Change, 103rd AMS Annual Meeting. Main and corresponding author. Co-authors: Paulina Ordóñez (ICAYCC), Carlos Ochoa (ICAYCC), David Gallego (Pablo de Olavide University, Spain).

Books under review

- **Territorial Knowledge Volume I: Concepts**. Book. Under review by the UNAM Faculty of Engineering publishing house. Co-authors: Alba Beatriz Vázquez González, Enrique César Valdez, Cristian Emmanuel González Reyes, Enrique Contreras Lira, Marco Antonio Luque García.
- **Territorial Knowledge Volume II: Applications**. Book. Under review by the UNAM Faculty of Engineering publishing house. Co-authors: Alba Beatriz Vázquez González, Enrique César Valdez, Cristian Emmanuel González Reyes, Enrique Contreras Lira, Marco Antonio Luque García.

TEACHING

Faculty of Engineering, UNAM

Feb 2021 – Present

Graduate-level – Environmental Engineering

- **Photovoltaic projects**. Aug 2024 – Dec 2024; taught for 2 semesters.
- **Green Infrastructure**. Jan 2025 – Jul 2025; taught for 2 semesters.

Undergraduate-level – Environmental Engineering, Civil Engineering

- **Mass and Energy Transport**. Aug 2023 – Jul 2025; taught for 4 semesters.
- **Climate Change**. Jan 2024 – Dec 2024, taught for 2 semesters.
- **Noise Pollution and Control**. Jan 2023 – Jul 2024; taught for 3 semesters.

- **Surface Hydrology.** Jan 2024 – Jul 2024, taught for 1 semester.
- **Sustainable Buildings and Certifications.** Jan 2021 – Jul 2024; taught for 7 semesters.

Participation in single sessions for short courses and diploma courses

- **Metropolitan Governance, 4. Municipal change and climate resilience.** PU-GOB-UNAM, Mar 2026.
- **Territorial knowledge for planning and management.** DGAPA-UNAM, Ene 2026.
- **Climate Change: Reflections and Approaches for action, 8. ¿What are we doing?** PINCC-UNAM, Dec 2026.

Other

Ene 2018 – Oct 2019

- **Photovoltaic Systems Design and Installation.** 16-hour course imparted at REDUCE Soluciones' Office Building, Mexico City; 5 courses taught since 2018.

Participation as examination board member for bachelor's degree exams

- Anaya Ballina, Santiago Armando. Evaluation of FIFA's "World Cup Sustainability Framework" and its carbon footprint. Oct 2025. Bachelor's Degree in Environmental Engineering – Faculty of Engineering, UNAM.
- Tejeda Aguilar, Gerardo Arhat. "Climate change projections for Mexico in the 21st century: CMIP6 results". Aug 2025. Bachelor's Degree in Environmental Sciences – ENES Morelia, UNAM.
- Villa Segura, Luis Alberto. General concepts of biofuels for vehicular use. Nov 2024. Bachelor's Degree in Civil Engineering – Faculty of Engineering, UNAM.
- Gutiérrez Páez, Isis. Influence of solar magnetic inversions on photovoltaic panels. June 2022. Bachelor's Degree in Civil Engineering – Faculty of Engineering, UNAM.

Participation as examination board member for graduate specialization degree exams

- Ortega González, Antonio Emiliano. Trofic state estimation of the Plutarco Elías Calles reservoir in Aguascalientes, México, using remote sensing techniques. Mar 2026. Specialization in Sanitary Engineering, Water Quality field of specialization – Faculty of Engineering, UNAM.
- Aguilar Cruz, Karen Yadira. Sanitary and environmental evaluation of the main drinking water supply reservoirs in Mexico. Mar 2026. Specialization in Sanitary Engineering, Water Quality field of specialization – Faculty of Engineering, UNAM.
- Santiago Silva, Alejandro. Preliminary identification of the sick building syndrome at the computer room of the M building of the Faculty of Engineering, Facultad de Ingeniería, UNAM. Dic 2025. Specialization in Sanitary Engineering, Building Installations field of specialization – Faculty of Engineering, UNAM.
- Ramírez Nava, José Antonio. Planning and design of an emergency system for biomass preservation in the CBR bioreactor of the WWTP in Building R of the Faculty of Engineering. Sep 2025. Specialization in Sanitary Engineering, Water Quality field of specialization – Faculty of Engineering, UNAM.

- Rodríguez Acosta, Juan Pablo. Proposal for intervention to improve the efficiency of organic matter removal at the wastewater treatment plant in the village of Consuelo de Chillanquer. Aug 2025. Specialization in Sanitary Engineering, Water Quality field of specialization – Faculty of Engineering, UNAM.

Participation as examination board member for master's degree exams

- Manrique Hernández, Diana Paola. Contribution to the proposal for a final disposal plan for spent nuclear fuel in Mexico. Feb 2025. Master's Degree in Energy, Energy Systems – Faculty of Engineering, UNAM.

Social Service Students

SIASS-UNAM Programs "ASSISTANCE IN TEACHING, RESEARCH, AND COMMUNITY SERVICE IN THE DEPARTMENT OF SANITARY AND ENVIRONMENTAL ENGINEERING" with code 2024-12/81-6082

- Alfredo Roldán Sánchez, Bachelor's Degree in Environmental Engineering. Aug 2024 – Feb 2025
- Ángel Yael Martínez González. Bachelor's Degree in Environmental Engineering. Sep 2023 – Mar 2024.
- Verónica Garces Carbajal. Bachelor's Degree in Environmental Engineering. Sep 2023 – Mar 2024.
- Montserrat Calderón Mota. Bachelor's Degree in Environmental Engineering. Sep 2023 – Mar 2024.
- Kimberly Janine Ríos Morales. Bachelor's Degree in Environmental Engineering. Sep 2023 – Mar 2024.
- Diego Gómez Santiago. Bachelor's Degree in Environmental Engineering. Sep 2023 – Mar 2024.
- Ariadna Porras Cervantes. Bachelor's Degree in Environmental Engineering. Sep 2023 – Mar 2024
- María Fernanda Torres Martínez. Bachelor's Degree in Civil Engineering. Jun 2023 – Dec 2023.
- Maxime Sakbe Ruiz Tamayo. Bachelor's Degree in Environmental Engineering. May 2023 – Nov 2023.
- Gustavo Romero Romero. Bachelor's Degree in Environmental Engineering. May 2023 – Nov 2023.
- Esther Elena Pérez Contreras. Bachelor's Degree in Environmental Engineering. May 2023 – Nov 2024.
- María Fernanda Rivas Martínez. Bachelor's Degree in Environmental Engineering. Mar 2023 – Sep 2023.
- Ernesto Maldonado Maldonado. Bachelor's Degree in Civil Engineering. Feb 2023 – Aug 2024.

PROFESSIONAL EXPERIENCE

National Autonomous University Of Mexico (UNAM)

Mexico City, Mexico

Adjunct Professor

February 2021 – Present

- I teach courses for undergraduate and graduate students in civil engineering and environmental engineering.

- I conduct research on the development of computer models for climate change impacts and mitigation, green infrastructure, and water resilience in bioconstruction and bioclimatic design.
- I tutor and advise students and student groups.
- I have been responsible for more than 10 social service students who carry out research projects using Python programming.
- 2023-2025 Environmental Engineering representative to the School of Engineering College of Professors.
- Academic relations representative for NASTT Mexico (North American Society for Trenchless Technology).
- Faculty Advisor of NASTT UNAM
 - Student Chapter of the North American Society for Trenchless Technologies, formed in November 2022.
 - Funds acquired: \$ 20,000 USD, sponsorship by Fyfe (company located in Texas, USA): \$ 1,250 USD.
 - Three students have won the Argent Memorial Scholarship of \$5,000 USD.
- Inda Jani project advisor professor for the ASCE Innovation Contest 2023, finalist team in Chicago.
- Academic advisor for the NDC update courses “Voices for Climate”, climate courses for young people organized by the student chapter SOEMA, Nov 2025 – Aug 2025.

REDUCE Soluciones (*renewable energy company*)
Founding Member, CEO, COO

Mexico City, Mexico
Jul 2016 – Jul 2021

- Recognized as a Superbrand in 2018 by the Mexican Council of Brands.
- Company participating in the 2015 Proempleo business incubator.
- In charge of more than 11 people.
- I have been the main project engineer, in which capacity I have carried out:
 - More than 400 photovoltaic projects (up to 499 kW).
 - Installations of more than 80 rainwater harvesting, solar thermal, photovoltaic, and solar pool heating projects.
- Participation in exhibitions and coordination of sales team: ExpoEnVerdeSer (2016, 2017, 2018); Expo Sustentabilidad Owens Corning (2016); Expo Ambiental Tepetzotlán (2017); Feria del Hogar at Fraccionamiento Villas del Campo, Toluca (2018); Expo Día de la Tierra, Sanofi Aventis (2019).

National Autonomous University Of Mexico (UNAM)
Assistant to Dr. Alejandra Castro, Social Service

CDMX
Nov 2015 – Feb 2017

- I provided support by conducting basic literature reviews for various projects, such as the design of Grease traps.
- I helped organize technical visits for students to the UNAM Compost Plant.
- I collaborated in the design of the first biofuel laboratory in the Faculty of Engineering, including a laboratory proposal.
- I participated in a project involving recycled concrete paving stones for low-income areas in the Tlalpan municipality.

SCIENCE OUTREACH

Columnist for El Universal Newspaper

Mexico City

Contributor to the Celsius columns

Aug 2025 – Present

- The mirage of artificially cooling the Earth. Aug 2025. <https://www.eluniversal.com.mx/opinion/comunidad-1-5/el-espejismo-de-enfriar-artificialmente-la-tierra/>

Columnist for the Izcalli Times Newspaper

Mexico City

Contributing to the Science and Technology column

Apr 2025 – Present

- To lose our home: youths facing climate anxiety. Jan 2026 <https://periodicodeizcalli.com/2026/01/06/perder-nuestra-casa-las-juventudes-frente-a-la-ansiedad-climatica/>
- Mexico's climate ambition at COP30. Nov 2025. <https://periodicodeizcalli.com/2025/11/13/la-ambicion-climatica-de-mexico-ante-la-cop30/>
- In memory of Jane Goodall, a beacon of hope facing the climate crisis. Oct 2025.
- <https://periodicodeizcalli.com/2025/10/06/en-homenaje-a-jane-goodall-un-faro-de-esperanza-ante-la-crisis-planetaria/>
- From the wading pool to the diving pit: Deep Ecology. Aug 2025. <https://periodicodeizcalli.com/2025/08/21/columna-pasar-del-chapoteadero-a-la-fosa-de-clavados-la-ecologia-profunda>
- Untangling the wicked knots of climate change. Jul 2025. <https://www.facebook.com/share/p/1CY7trxkCk/>
- The duck curve: the challenge of solar energy. Jul 2025. <https://periodicodeizcalli.com/2025/07/01/la-curva-de-pato-el-reto-de-la-energia-solar>
- Your electricity bill will go up because of climate change. Jun 2025. <https://periodicodeizcalli.com/2025/06/03/columna-tu-recibo-de-luz-subira-por-el-cambio-climatico/>
- Can geoengineering solve climate change? May 2025. <https://periodicodeizcalli.com/2025/05/07/columna-la-geoingenieria-puede-resolver-el-cambio-climatico/>
- Extreme rainfall, infrastructure, and climate change. Apr 2025. <https://periodicodeizcalli.com/2025/04/08/columna-lluvias-extremas-y-cambio-climatico-en-cuautitlan-izcalli/>

Public outreach by UNAM's Climate and Society Research Group

Mexico City

Dissemination of research results

Aug 2025 – Present

- UNAM researchers develop tool to study the local impacts of geoengineering. Aug 2025. <https://climaysociedad.atmosfera.unam.mx/investigadores-de-la-unam-de-sarrollan-herramienta-para-estudiar-los-impactos-locales-de-la-geoingenieria/>

Advisor at UNAM Climatón 2025

Mexico City

Specialist advisor on climate change

Aug 2025

EXPERIENCE AS A CONSULTANT

Consultant on environmental policies and green infrastructure

Mexico City

PROFESSIONAL ASSOCIATION

NASTT Mexico – Member of the Board of Directors 2023-2024. Responsible for liaising with student chapters of the Mexico chapter of the North American Society for Trenchless Technology.

AWARDS AND DISTINCTIONS

Huixquilucan Municipal Youth Award 2023. Category: Scientific and Technological Contribution and Research.

CONFERENCE SPEAKER, SCIENCE OUTREACH

- **Who bears the costs of climate change?** Together with Rodolfo Lacy and Mildred Castro. XLII IPN International Book Fair. Mexico City, Jul 2025.
- **Modelling the impacts of geoengineering in the Global South.** Institute of Atmospheric Sciences and Climate Change, National Autonomous University of Mexico, Mexico City, Feb 2025
- **Hydrological resilience and green infrastructure, a new approach from public policy.** Green Infrastructure Potential Forum, challenges for sustainable water management, Mexico's Senate, Mexico City, Dec 2023.
- **Ecological Homes with Solar Energy.** World Sustainability Day, Sanofi Aventis, State of Mexico. Jun 2019.
- **Distributed Solar Energy for the Sustainable Future in Mexico.** EnVerdeSer Expo, Mexico City. Nov 2018.
- **Eco-technologies, a sustainable future at your fingertips.** La Herradura Rotary Club, Huixquilucan, Mexico. Oct 2018.
- **Green Infrastructure.** 1° Climate Forum, Metepec, Mexico. Jun 2018
- **The Climate Crisis and its Solutions,** Mexico Experience 2017 Day of the Dead Edition. Reforma Rotaract Club, Mexico City, Mexico. Jun 2018
- **The importance of location in solar energy projects.** EnVerdeSer Expo, Mexico City, Mexico. Nov 2016.
- **Save the Planet with your Eco-House.** EnVerdeSer Expo, Mexico City, Mexico. Nov 2016.

DIPLOMA PROGRAMS

- **Nature Protection, Climate Change, and Human Rights** *Mexico City, Mexico*
Mexico's Supreme Court of Justice *Feb-Jul 2025*
 - 80-hour diploma course.
 - 7 modules: Introduction to scientific knowledge and the legal system for environmental protection and sustainable development; Human rights, the environment, and climate change; climate agenda – legal system for climate change mitigation and adaptation to its effects; gray agenda – legal system for pollution prevention and control; green agenda – legal system for the conservation and sustainable use of biological diversity; blue agenda – legal system

for the conservation and sustainable use of water and human resources; Procedural aspects of environmental law.

- **Greenhouse Gas Mitigation Actions**

National Institute for Federalism
and Municipal Development (INAFED)

*Mexico City, Mexico
Apr – Jun 2022*

National Institute of Ecology and Climate Change (INECC)

- 240-hour diploma course.
- 12 modules: photovoltaic systems; rapid transit bus systems; energy efficiency for water pumping systems; urban solid waste recycling; efficient public lighting systems; transport fleet replacement; non-motorized transport; methane recovery and utilization in wastewater treatment plants; biodigesters for animal production systems; switching for fossil fuels to biomass for thermal applications in the industrial sector; energy efficiency in buildings and industrial facilities; biogas from landfills.

- **Energy-efficient Building and Adaptive Comfort**

National Autonomous University of Mexico,
Faculty of Architecture, COSUDE, EBP Schweiz Ag

*Mexico City, Mexico
Feb – Jun 2022*

- 120-hour diploma course.
- 5 modules: basic concepts; integrated design and planning; architecture and construction; technology; operation, maintenance, and monitoring.

- **Specialist in Co-benefits of Renewable Energies**

Renewables Academy; International Climate Initiative (IKI),
Federal German Ministry for the Environment (BMUV)

*Mexico City, Mexico
Apr 2021 – Feb 2022*

- 4 modules: Basic Principles, Policies, Energy Methodology and Planning, Sustainable Economies.

CONTINUING EDUCATION

- **Specialized Course on Climate Justice and Human Rights.** Mexico, Apr – Jun 2025. Course offered by Mexico's Supreme Court of Justice.
- **Climate reality training.** Mexico City, Mexico. Apr 5 2025. Training with Al Gore, Andrés Flores, José Luis Samaniego, Anaid Velasco, Ezio Costa, and other leaders in climate activism.
- **Greenhouse Gases and Molecules Emissions Inventories, Module 1: General Orientation and Generation of IPCC Guidelines Reports.** Mexico City, Mexico. May – Aug 2024. Course by INECC and INAFED.
- **Livestock and Agriculture Categories of the AFOLU Sector for the Preparation of GHG Inventories.** Mexico City, Mexico. Nov – Dec 2023. Course offered by INECC and INAFED.
- **Induction Course for tutors.** Mexico City, Mexico. Jun 2023. Course taught by UNAM, Open University and Distance Education Coordination.
- **Climate Finance.** Mexico City, Mexico, Jul – Aug 2023. Course taught by SEMARNAT.

- **Trenchless Technologies for Teachers.** Bogota, Colombia. Ene – Jun 2023. Course offered by LAMSTT (Latin American Society for Trenchless Technology).
- **Preparation of Inventories of Greenhouse Gases and Molecules Emissions from the Waste Sector.** Mexico City, Mexico. May – Jun 2023. Course offered by INECC and INAFED.
- **Greenhouse Gas Emissions Mitigation Actions, Basic Course.** Mexico City. Feb – Apr 2023. Course taught by INECC and INAFED.
- **EC0586 Certification; Installation of Photovoltaic Systems in Homes, Businesses, and Industry.** Mexico City, Mexico. Ene 21-25 2019. Training provided by FIDE
- **Climate reality training.** Mexico City, Mexico. Mar 21-23 2018. Training with Al Gore, Mario Molina, Cecilia Conde, and other leaders in climate activism.
- **Energy Efficiency in the German Industry.** Berlin, Germany, Apr 2017. Mexican committee invited by the German Embassy in Mexico.
- **Interconnected photovoltaic systems in accordance with NOM-001.** Mexico City, Mexico. Mar 2016. Course taught by the AMERIC Association.
- **Proempleo Foundation: Entrepreneurship Workshop.** Mexico City, Mexico. Mar 2016. Entrepreneurship course.

TECHNICAL SKILLS

- **Programming languages:** Python (advanced), libraries: numpy, pandas, scipy, statsmodels, sklearn, xgboost, xarray, geopandas, holoviews, geoviews, cartopy, shapely, rasterio, rioarray, multiprocessing, xesfm, dask. Bash (advanced), C (intermediate), Fortran (intermediate), PHP (intermediate), Javascript (intermediate), HTML (intermediate), CSS (intermediate), C++ (intermediate), Java (intermediate).
- **General Software:** Word, Excel, Powerpoint, MS Project, Adobe Illustrator (intermediate), Photoshop (intermediate), Panoply, CDO.

ACTIVISM

- **REACCIONA A.C. – Climate Action Network.** NDC Program: A youth perspective. Participation in the organization of the 2025 State of Mexico Youth Climate Summit, LCOY Mexico 2025, organization of participatory dialogues with young people to update NDC 3.0. Nov 2024 – Present.
- **Climate Reality Corps.** Climate activism association founded by Al Gore. mar 2018 – present.
- **Emergency structural integrity inspection brigades after the 2017 earthquake in Mexico City** Participation in brigades organized by the Mexican College of Civil Engineers and led by researchers from UNAM's Institute of Engineering, Mexico City, Mexico. Sep 2017 – Oct 2017.

LANGUAGES

- **Spanish:** Native speaker
- **English:** TOEFL: 667, IELTS 7.5, C1
- **French:** DALF C1

- **Mandarin:** equivalent to HSK 3 (B1).
- **German:** basic (A2).