

RODRIGO MUÑOZ SÁNCHEZ

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ACADEMIC TRAINING

PhD: ATMOSPHERIC SCIENCE

National Autonomous University of Mexico, Institute of Atmospheric Science and Climate Change (ICAYCC-UNAM)

Mexico City, Mexico
January 2024 - Present

- Dissertation topic: Impacts of climate change on energy and infrastructure systems.

MASTER'S: ATMOSPHERIC SCIENCE

National Autonomous University of Mexico, Institute of Atmospheric Science and Climate Change (ICAYCC-UNAM)

Mexico City, Mexico
August 2021 - Present

- Graduated with honors, dissertation: An Objective Index for Rainy Season Onset and Withdrawal Dates Over the Mexico Valley Basin.

BACHELOR'S: CIVIL ENGINEERING

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

Mexico City, Mexico
August 2013 - Sep 2018

- Graduated with honors, dissertation: Distributed Infrastructure for the Development of Urban Resilience in Mexico City.

EXPERIENCE AS CONSULTANT

• CAPACITY BUILDING FOR SCIENCE-BASED CLIMATE POLICIES AND UPDATING MEXICO'S NDC

Mexico City, Mexico

CONAHCYT, UNAM, Senior programmer

December 2025 – Present

• UNESCO CLIMATE TRANSITIONS REPORT

UNESCO, Senior statistician and policy evaluation

International, Online
June 2024 – February 2025

• BRICS YOUTH ENERGY AGENCY ENERGY OUTLOOK 2024

BRICS YEG, Senior expert, business energy and climate change

International, Online
June 2024 – October 2024

• CLIMATE RISKS EVALUATION MODEL

Banxico, AFD, CEPAL, UNAM, Senior programmer, policy evaluator and administrator
January 2024 – Present

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

- Procurement and administration of funds totaling \$ 1,500,000 USD, from the Soros Foundation and SEMARNAT.

• SOLAR GEOENGINEERING RISKS EVALUATION

Degrees Initiative, UNAM, Senior Policy and risk evaluator

Mexico City, Mexico
March 2024 – Present

- Procurement and administration of funds totaling \$ 100,000 USD, from the Degrees Initiative.

• ENVIRONMENTAL POLICY TECHNICAL CONSULTANT

Senate, Mexico, Senior technical consultant

Mexico City, Mexico
October 2023 – December 2023

- Consulting focused on the formulation of federal law proposals.

• SCIENTIFIC TOOLS FOR CLIMATE CHANGE DECISION MAKING IN MEXICO CITY

Mexico

Mexico City,

CONAHCYT, UNAM, Senior programmer

August 2023 – Present

PROFESSIONAL EXPERIENCE

REDUCE SOLUCIONES (renewable energy company)

Mexico City, Mexico

Founding Member, CEO, COO

July 2016 – Present

- Recognized as a Superbrand in 2018 by the Mexican Council of Brands.
- I have been the main project engineer, within which I have carried out:
 - More than 400 photovoltaic projects (up to 499 kW).
 - Installations of more than 70 rainwater harvesting, solar thermal, photovoltaic, and solar pool heating projects.
 - Carbon footprint reduction and circular economy strategies for companies
- Procuring of financing for solar energy 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)

Adjunct Professor

*Mexico City, Mexico
February 2021 – Present*

- I conduct research on bioconstruction, bioclimatic design, climate change impacts and mitigation, trenchless technologies, green infrastructure, and water resilience.
- 2023-2025 Environmental Engineering representative to the School of Engineering College of Professors.
- Academic relations representative for NASTT Mexico
- Faculty Advisor of NASTT UNAM
 - Student Chapter of the North American Trenchless Technologies Association, formed in November 2022.
 - Funds acquired: \$ 20,000 USD, sponsorship by Fyfe (company located in Texas, USA): \$ 1,250 USD.
 - A collaboration agreement is in process for professional internships at Staheli Trenchless (WA, USA).
- Inda Jani project advisor professor for the ASCE Innovation Contest 2023, finalist team
- Academic advisor for the NDC update courses "Climate voices" by the student chapter SOEMA.

TEACHING EXPERIENCE – Faculty of Engineering, UNAM

Faculty of Engineering, UNAM – Environmental Engineering

Graduate-level

- **Photovoltaic projects.** Graduate-level course for the specialization in environmental engineering. Faculty of Engineering. UNAM. August 2024 – present.
- **Green Infrastructure.** Graduate-level course for the specialization in environmental engineering. Faculty of Engineering. UNAM. August 2024 – present.

Undergraduate-level

- **Noise Pollution and Control.** January 2023 – July 2024; course taught for 3 semesters.
- **Surface Hydrology.** February 2021 – July 2024, course taught for 1 semester.
- **Mass and Energy Transport.** August 2023 – present; course taught for 4 semesters.
- **Sustainable Buildings and Certifications.** February 2021 – July 2024; course taught for 7 semesters.
- **Climate Change.** January 2024 – present, course taught for 2 semesters.

Other

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

RESEARCH

Research Articles

- **Muñoz-Sanchez, 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>. Presented in 2023 at the 103rd AMS annual Congress.

Congress articles

- **Economic evaluation of carbon sequestration of mangroves in Cozumel.** Coauthors: Montserrat Calderón Mota. 3^o Congress for Environmental Pollution.
- **Noise maps as a policy tool for airport noise evaluation.** Coauthors: Fernanda Rivas Martínez. 1^o Latin American Forum for Sustainable Infrastructure.

Submitted articles

- **Estimating Urban Heat Island Effect: Balancing Proximity and Comparability Through Altitude-Adjusted Temperature Analysis.** Coauthor. Coauthors: Miguel Altamirano del Carmen, Francisco Estrada, Bernardo Bastián Olvera, Oscar Bustamante, Miguel Altamirano del Carmen. Research Article currently in review in Urban Climate.
- **GeoMIP-Pattern – a pattern scaling dataset for efficient generation of custom geoengineering scenarios.** Main Author. Coauthors: Francisco Estrada, Bernardo Bastián Olvera, Oscar Bustamante, Miguel Altamirano del Carmen. Research Article currently in review in Scientific Data.

- **Impacts of climate change on electrical subsidies' public policies: the case of Mexico.** Main Author. Coauthors: Francisco Estrada, Bernardo Bastián Olvera, Oscar Bustamante, Miguel Altamirano del Carmen. Research Article currently in review in Mitigation and Adaptation Strategies for Climate Change.
- **Reports**
 - **Who Bears the Costs? Addressing Inequities in the Climate Transition.** UNESCO Report. In press.
- **Books**
 - **2024 BRICS Youth Energy Outlook.** Participation in 2 chapters: Business & energy and Climate Change.
 - **Renewable Energy in Buildings.** Coauthors: Luis Antonio García Villanueva, Griselda Berenice Cruz Hernández. In Press
 - **GIS and Territorial Management Part I: Theory.** Coauthors: Alba Beatriz Vázquez González, Enrique César Valdez. In Press
 - **GIS and Territorial Management Part II: Applications.** Coauthors: Alba Beatriz Vázquez González, Enrique César Valdez. In Press

CONFERENCE SPEAKER

- **Modelling the impacts of geoengineering in the Global South.** Institute of Atmospheric Sciences and Climate Change, National Autonomous University of Mexico, Mexico City, February 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, December 2023.
- **Ecological Homes with Solar Energy.** World Sustainability Day, Sanofi Aventis, State of Mexico. June 2019.
- **Distributed Solar Energy for the Sustainable Future in Mexico.** EnVerdeSer Expo, Mexico City. November 2018.
- **Save the Planet with your Eco-House.** 1°: EnVerdeSer Expo, Mexico City, Mexico. November 2016. 2°: La Herradura Rotary Club, Huixquilucan, Mexico. October 2018.
- **Green Infrastructure.** 1° Climate Forum, Metepec, Mexico. June 2018
- **The Climate Crisis and its Solutions.** Reforma Rotaract Club, Mexico City, Mexico. June 2018
- **The importance of location in solar energy projects.** EnVerdeSer Expo, Mexico City, Mexico. November 2016.

CONTINUING EDUCATION

- **CERTIFICATION COURSE: HUMAN RIGHTS, CLIMATE CHANGE, AND PROTECTION OF NATURE**
CDMX, Mexico
Mexico's Supreme Court *February 2025 - Current*
- **CERTIFICATION COURSE: HUMAN RIGHTS, CLIMATE CHANGE, AND PROTECTION OF NATURE**
CDMX, Mexico
Mexico's Supreme Court *February 2025 - Current*
- **CERTIFICATION COURSE: GREENHOUSE GAS MITIGATION ACTIONS**
National Institute of Ecology and Climate Change (INECC) *Mexico City, Mexico
April 2022 – June 2022*
- **CERTIFICATION COURSE: BUILDING WITH ENERGY EFFICIENCY AND ADAPTIVE COMFORT**
CDMX, Mexico
National Autonomous University Of Mexico, COSUDE, EBP Schweiz Ag *February 2022 - June 2022*
- **CERTIFICATION COURSE: SPECIALIST IN RENEWABLE ENERGY CO-BENEFITS** Mexico City, Mexico
International Climate Initiative (IKI), Federal German Ministry for the Environment *April 2021 - February 2022*

LANGUAGES

- **Spanish** (Native speaker)
- **English:** equivalent to TOEFL: 667, IELTS 7.5.
- **French:** DALF C1
- **Mandarin:** equivalent to HSK 3 (B1).