

# ANA KARINA MARIANO REYES



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## EDUCATION

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### Instituto Politécnico Nacional (IPN)

2016-2020

*Geophysical Engineering Academic Program*

**Area of Expertise in General Meteorology.** Climatology, warning, prevention, and exploitation of hydrometeorological phenomena in the energy sector.

## ACADEMIC EXPERIENCE

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### Instituto Politécnico Nacional (IPN)

Apr 2021–Feb 2023

*Undergraduate Researcher*

**Research:** “Characteristics of tropical cyclones that have affected the oil-producing area of the southern Gulf of Mexico, 1970-2020.”

Wind speed and height waves were calculated.

- Study of the climatic system of the area.
- Weather reanalysis modeling.
- Big Data Management
- Use of programming languages and GIS software

### Comisión Nacional de Hidrocarburos (CNH)

Jun 2019–Feb 2020

*Internship*

- Management of databases.
- Updating investment and production reports in Spanish and English.
- Management of historical data information.

### IPN - Community Social Service Brigades

Apr 2019

*Paid Brigadist*

**Project:** “Water conduction line.”

Evaluate the climatology of the area and the geology of the site so that decision makers will drill a water well in the Paloma, San Luis Potosi community.

### CONACYT - National Science and Technology Week

Sep 2018-Nov 2018

*Exhibitor*

- Creator of experiments for the National Week of Science and Technology: “Natural catastrophes: Earthquakes and hurricanes.”
- Taught how hurricanes are generated.

## **IPN - Children's and Youth Science and Technology Fair**

2016-2018

### *Exhibitor*

Conducting experiments to explain how tropical cyclones, eruptions, and waves generated by earthquakes form and how they affect our daily lives.

## **COMMUNITY SERVICE**

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### **American Association of Petroleum Geologists**

2019-Actually

#### *Social Media Coordinator*

- Led a team to publish infographics and scientific information.
- Organize courses and professional talks.

### **Youth Association “Pathfinders”**

Jan–Dec 2018

#### *Volunteer Director*

- Organize, through a work team, recreational and volunteer activities for children between 10 and 15 years of age.
- Organization of donations of clothes, food, and money to nursing homes and for people without housing.

### **AAPG Latin America & Caribbean Region - Leadership Summit**

Mar 2022–May  
2023

#### *Local Logistic Volunteer*

Part of the organizing committee for the Leadership Summit 2023 held in Mexico, in which 22 students and young professionals from 14 countries participated.

- Communication skills to close deals.
- Number management to adjust budgets.
- Information Synthesis for intercultural communication in decision making.

## **AWARDS**

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### **AAPG Latin America & Caribbean Region - Leadership Summit**

Apr 2022

#### *Attendee*

Selected to represent Mexico's young professionals in an exclusive annual program for AAPG leaders from Latin America and the Caribbean region.

**Sponsored by** Shell, Chevron, SierraCol Energy, AAGGP, ACGGP, Gillis&Cook, DP World, and MAGA.

## SKILLS

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### LANGUAGES

**SPANISH:** Native speaker      **ENGLISH:** IELTS Certificate B2

### PROGRAMMING LANGUAGES

Fortran, Python, MATLAB, GNU Octave, R

### PROGRAMS AND SOFTWARE

ArcGIS, Excel, WRPLOT

## COURSES

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**“Basic Definitions of Meteorology and Interpretation of Thermo-Diagrams”** Nov 2022

*IPN - OMMAC*

**“Introduction to Mesoscale Modeling”** Nov 2022

*ULE - OMMAC*

**“Algorithms and Data Structure in Python”** Aug 2021

*AAPG IPN Student Chapter*

**“Satellite Image Analysis and Interpretation”** Feb 2021

*EAGE IPN Student Chapter*

**“The Use of Dynamical Meteorology in Wind and Rainfall Forecasting in Mexico”** Feb 2021

*EAGE IPN Student Chapter*

**“Python Focused on Geosciences”** Aug 2020

*AAPG IPN Student Chapter – ScientiaENERGY*

## PRESENTATIONS

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**“Analysis of the Characteristics of Tropical Cyclones that Have Affected the Southeastern Gulf of Mexico as a Contribution to Improving the Cyclone Early Warning System.”** Mar 2022