

Maria Fernanda **Torres Cabrera**

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Summary

Ph.D. Physics Candidate at University of Houston.

Work Experience

Constitutional Service

Colima, Mexico

ASSISTANCE FOR SOLVING PROBLEMS AND QUESTIONS ABOUT PHYSICS AND MATHEMATICS TO HIGH SCHOOL STUDENTS

Apr. 2021 - Jul. 2021

- During this service, interested students requested consultancies for several topics in physics and mathematics. I gave physics and mathematics sessions for high school and undergraduate through a platform, during which conceptual doubts were resolved, reviewed exercises, and topics proposed by the attendees.

Social Service

Colima, Mexico

GRADING ASSIGNMENTS FROM COLLEGE STUDENTS

Aug. 2019 - Jul. 2021

- Volunteer for grading homework from Introduction to Physics, Thermodynamics, and Mathematical Methods.

Teaching Assistant

Houston, Texas

TEACHING ASSISTANT AT UNIVERSITY OF HOUSTON

Aug. 2022 - Jul. 2023

- Teaching Assistant for College Students at the University of Houston, where the course was focused on Classical Mechanics.
- Teaching Assistant at the Online Dual Program with University of Houston and Dalian Maritime University International Institute (UH-DMU).

Education

University of Colima

Colima, Mexico

LICENTIATE DEGREE IN PHYSICS

Aug. 2018 - June. 2022

- GPA: 9.2/10
- Graduated on June 2022

Research Interest

Nuclear Physics

Particle Physics

Statistical Physics

Skills

Computer Language Python, HTML, C++

Software and Tools Mathematica, \LaTeX , Ubuntu and ROOT

Languages English (Level: B2), Spanish (native)

Certifications

2021 **Test of English as a Foreign Language (TOEFL)**, Score: 83. Educational Testing Service TOEFL iBT®

Colima, Mexico

2022 **Duolingo English Test**, Total Score: 130

Colima, Mexico

Relevant Courses

Undergraduate Physics Courses

Colima, Mexico

Aug. 2018 - Jun. 2021

- Classical Mechanics
- Thermodynamics
- Electricity and Magnetism
- Modern Physics
- Analytical Mechanics
- Electrodynamics
- Quantum Mechanics I
- Quantum Mechanics II
- Statistical Mechanics
- Particle Physics
- Introduction to Solid State

Undergraduate Math Courses

Colima, Mexico

Aug. 2018 - Jan. 2020

- Linear Algebra
- Differential Equations
- Differential, Integral and Vector Calculus
- Complex Analysis
- Mathematical Methods

Books Used

Physics Books

Colima, Mexico

Aug. 2018 - Jun. 2021

- Fundamentals of Physics, Halliday and Resnick
- Introduction to Modern Physics, McGevey J.
- Classical Dynamics of Particles and Systems, Marion and Thornton
- Introduction to Electrodynamics, Griffiths D.
- Introduction to Quantum Mechanics, Griffiths D.
- A Modern Course in Statistical Physics, Reichl L.
- Introduction to Solid State, Kittel C.

Math Books

Colima, Mexico

Aug. 2018 - Jan. 2020

- Calculus: One and Several Variables Vol I and II, Salas, Hille and Etgen
- Linear Algebra Done Right, Axler S.
- Differential Equations, Zill and Cullen
- Complex Analysis, Gamelin T.
- Mathematical Methods for Physicists, Arfken, Weber, and Harris

Honors & Awards

INTERNATIONAL

2020 **Bronze Medal**, University Physics Competition

Online

LOCAL

2021 **Excellence Grant**, Semester Enrollment Excellence Scholarship

Online

2021-2022 **Undergraduate Research Scholarship**, Thesis Project

Colima, Mexico

2022 **Excellence Grant**, Semester Enrollment Excellence Scholarship

Online

Projects & Publications

Projects

Colima, Mexico

AUTHOR OF: "WAVE PACKETS DYNAMICS IN COLLAPSE MODEL INTERPRETATION OF QUANTUM MECHANICS"

2022

- Licentiate degree in Physics.

Publications

Colima, Mexico

FIRST AUTHOR OF A LETTER

2022

Torres, F. Modak S. K., & Aranda, A. (2023). New insights on the quantum-classical division in light of Collapse Models. Foundations of Physics, 53(73), 1-11.

Extracurricular Activity

DUAL CP Institute of High Energy Physics

VOLUNTEER

Colima, Mexico

Jan. 2020

Physics and Mathematics Week Workshop

VOLUNTEER

Colima, Mexico

Feb. 2020

Heisenberg Institute

VOLUNTEER

Colima, Mexico

Feb. 2020

4th Science Workshop for Women

VOLUNTEER

Colima, Mexico

Mar. 2020

Fermilab Course by Jonathan Paley

PARTICIPANT

Online

Mar. 2020

Conferences and Colloquiums at University of Colima

ATTENDED

Colima, Mexico

2018-2020

5th Science Workshop for Women

VOLUNTEER

Online

Mar. 2021

CUWiP, Conferences for Undergraduate Women in Physics

PARTICIPANT

Online

Apr. 2021

Summer School in Astrophysics by IRyA, UNAM

PARTICIPANT

Online

Jul. - Aug. 2021

6th Science Workshop for Women

VOLUNTEER

Colima, Mexico

Mar. 2022

DUAL CP Institute of High Energy Physics

VOLUNTEER

Colima, Mexico

June 2022

Webmaster for WiPS at University of Houston

WEBMASTER

Houston, Texas

Present

7th Science Workshop for Women

GUEST

Online

Feb. 2023

Research Day at University of Houston

PARTICIPANT FROM WIPS ORGANIZATION

Houston, Texas

Feb. 2023

TcSUH/teach Houston workshop for summer camps.

VOLUNTEER

Houston, Texas

Jul. 2023

Additional Information

Travelling Passport, U.S. Visa and Driver's license