

# GABRIEL TREVIÑO VERÁSTEGUI

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St Louis, MO 63108

## PROFILE

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I am a curious, hardworking, and self-motivated young professional eager to develop a career in medicine integrating both clinical research and patient care.

## EDUCATION

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- MD (Expected) Washington University School of Medicine, St Louis, MO** 2021-2025  
Distinguished Student Scholar (2021-2025)
- PhD University of California, Santa Barbara, Santa Barbara, CA** 2021  
Physics, Advanced to PhD Candidacy 2/23/18  
Committee: Gary Horowitz (Chair), Xi Dong, David Stuart  
Dissertation: Quantum Aspects of Spacetime Geometry  
Graduate Division Dissertation Fellowship (Summer 2021)  
Doctoral Fellowship UC MEXUS-CONACYT (2015-2020)  
*This graduate fellowship award is based on merit and includes a cost-of-education allotment and a personal-support stipend.*
- MA University of California, Santa Barbara, Santa Barbara, CA** 2018  
Physics, Cumulative GPA 3.9  
Advisor: Gary Horowitz
- BS Universidad Nacional Autónoma de México, México City** 2015  
Physics, Cumulative GPA 4.0  
Academic Recognition for Excellence UNAM  
*Awarded annually to the student with the highest academic performance in their graduating year.*
- EMT Mexican Red Cross, ENTUM, México City** 2013  
Associate degree
- University of California, Santa Barbara, Santa Barbara, CA** 2017-2021  
21 courses in the Premedical Program.

## RESEARCH EXPERIENCE

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- Graduate Research Assistant**  
University of California, Santa Barbara, Santa Barbara, CA 2016-2021  
PI: Prof. Gary Horowitz. Physics Department. The Gravity Theory Group.
- Research Programmer**  
Institute for Applied Mathematics and Systems (IIMAS) UNAM, México City 2014  
PI: Dr. Pablo Barberis. Developing of OpenKet, an open source library that lets you perform operations in quantum computation and quantum optics using Dirac's notation.  
[<https://code.google.com/archive/p/openket/>]
- Undergraduate Research Assistant**  
Center for Nanoscience and Nanotechnology (CNyN) UNAM, Ensenada, B.C. 2013

PI: Dr. Ernesto Cota. Modeling and analysis of conductivity in quasiperiodic nanocrystals using both analytical and numerical methods.

Institute of Nuclear Science (ICN), UNAM, México City

Summer 2011

PI: Dr. Dario Nuñez. Developing of visualization methods for numerical models of dark matter.

## JOURNAL PUBLICATIONS

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(Note: Authorship in High Energy Theory is alphabetical)

3. “Boundary Causality Violating Metrics in Holography”  
S. Hernandez-Cuenca, G. T. Horowitz, G. Trevino, and D. Wang  
[Phys. Rev. Lett. 127, 081603 \(2021\)](#) [arXiv:2103.05014]
2. “Exploring strong-field deviations from general relativity via gravitational waves”  
S. B. Giddings, S. Koren, and G. Trevino  
[Phys. Rev. D 100, 044005 \(2019\)](#) [arXiv:1904.04258]
1. “Reconstruction of an AdS Radiation/Boson Star Bulk Geometry Using Light-Cone Cuts”  
G. Trevino  
[JHEP, 1711, \(2017\) 111](#) [arXiv:1708.03331]

## TEACHING EXPERIENCE

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**University of California, Santa Barbara, Santa Barbara, CA**

- **Instructor of Record** Electrodynamics (Fall 2020, Summer 2020, Winter 2019). *Responsibilities included preparing and presenting lectures, designing and proctoring of exams, holding office hours, grading and preparing solutions to homework, managing teaching assistants and graders for the class, and the overall organization and execution of the course.*
- **Teaching Assistant Graduate Courses** Electromagnetism (Spring 2019), General Relativity (Winter 2018). *Responsibilities included occasional lecturing, holding office hours, grading and preparing solutions to homework.*
- **Teaching Assistant** General Relativity (Spring 2021, Spring 2020, Spring 2016), Electromagnetism (Winter 2021), Quantum Mechanics (Spring 2019), Advanced Classical Mechanics (Winter 2017, Winter 2016), Classical Mechanics (Fall 2016, Fall 2015), Stellar Structure and Evolution (Fall 2015). *Responsibilities included leading discussion sections, holding office hours, grading and preparing solutions to homework.*
- **Substitute Lecturer** Grad. General Relativity (Fall 2019), General Physics (Spring 2019).

**Universidad Nacional Autónoma de México, México City**

- **Teaching Assistant** *Responsibilities included occasional lecturing, leading discussion sections, grading and preparing solutions to homework.*  
Physics Department Introduction to Quantum Physics (Winter and Spring 2015).  
Mathematics Department Advanced Algebra (Winter and Spring 2015), Differential and Integral Calculus (Summer and Fall 2014).  
Philosophy Department Foundations of Quantum Mechanics (Summer and Fall 2014).

**Mexican Red Cross, ENTUM, México City**

- **EMT Associate Instructor** Academy for Emergency Medical Technicians (2013-2014). *Responsibilities included serving as an onboard instructor for ambulance training for EMTs, giving lectures, leading discussion sections, and grading homework and exams.*

## LEADERSHIP EXPERIENCE

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**Neurosurgery Interest Group at WashU**, Copresident 2022-

**Latino Medical Student Association at WashU**, Copresident 2022-

**American Sign Language Club at UCSB**, Founder and President 2018-2020

I created this club to foster a community that celebrates Deaf culture and stimulates the use of ASL on campus. In this position I've worked hard to welcome and connect more students while increasing the club recognition throughout the campus.

**Homeless Youth Assistance Program "Grupo Sonrisas,"** Program Manager 2008-2010

I was in charge of organizing fund-raising events, contacting and securing sponsorships, and working together with volunteers to bring donations as well as fun and educational activities to children experiencing homelessness.

## CONFERENCES AND WORKSHOPS

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- Geometry from the Quantum, KITP, UCSB, Conference, January 2020.
- 22<sup>nd</sup> International Conference on General Relativity and Gravitation & 13<sup>th</sup> Edoardo Amaldi Conference on Gravitational Waves, Valencia, Spain, July 2019, **Oral presentation.**
- It from Qubit school/workshop, YITP, Kyoto, Japan, June 2019, **Poster presentation.**
- 35<sup>th</sup> Pacific Coast Gravity Meeting, Utah State University, March 2019, **Oral presentation.**
- Prospects in Theoretical Physics, IAS, Summer program, July 2018.
- 34<sup>th</sup> Pacific Coast Gravity Meeting, Caltech, March 2018, **Oral presentation.**
- Order from Chaos, KITP, UCSB, Conference, December 2018.
- GW170817: The First Double Neutron Star Merger, KITP, UCSB, Conference, December 2017.
- Frontiers of Quantum Information Physics, KITP, UCSB, Conference, October 2017.
- 33<sup>rd</sup> Pacific Coast Gravity Meeting, UCSB, March 2017, **Oral presentation.**

## INTERNAL SEMINARS

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*Conformal symmetry in the NHEK geometry and EHT* 04/2019

*Foundations of Quantum Mechanics* 04/2018

*Geometric Quantization* 03/2018

*Locality from the Spectrum* 11/2017

*The Myers Effect* 06/2017

*Causal Set Theory* 02/2017

## COMMUNITY SERVICE

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**Goleta Valley Cottage Hospital, Goleta, CA** Fall 2018

Emergency Department Volunteer, (75 hours)

**Mexican Red Cross – Emergency Medical Services, México City** 2011-2015

EMT Volunteer, (2500+ hours)

**Mexican Red Cross – Humanitarian Aid, México City** 2010-2015

Disaster Relief Volunteer (80 hours)

**VIS Foundation Mexico, México City** Summer 2013

Social Programs Assistant Manager/Volunteer

**Mexican Red Cross – Youth Program, Tuxtla Gutiérrez, México** 2010-2011

Volunteer and Activist (120 hours)

**Grupo Sonrisas, Tuxtla Gutiérrez, México**

2008-2011

Homeless Children Assistance Program Manager/Volunteer (300 hours)

## LANGUAGES

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**Spanish:** Native Language

**English:** Advanced Speaker, Reading and Writing

**Italian:** Intermediate Speaker, Advanced Reading and Writing

**American Sign Language:** Intermediate Signing

**Russian:** Beginner Speaker, Reading and Writing

## TECHNICAL SKILLS

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**Programming Languages:** Python, C, Matlab

Proficient in Mathematica and LaTeX. Certified in use of Microsoft Office.

## HONORS AND ACCOMPLISHMENTS

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- Academic Excellence Scholarship – **Carlos Slim Foundation** [\$4000 US] 2012-2015
- Highest GPA in my graduating class at UNAM 2015
- Educational Excellence Scholarship – **Secretariat of Public Education (SEP)** 2013
- Educational Excellence Scholarship – **Mexican Academy of Sciences (AMC)** 2013
- Educational Excellence Scholarship – **State Government of Tamaulipas** 2011
- Gold Medal at the **National Chemistry Olympiad, México** 2011  
*I was also selected as a substitute for the Mexican team in the 43rd International Chemistry Olympiad.*
- “Lince de Oro,” **Universidad del Valle de México (UVM)** 2010  
*Highest distinction that a member of the UVM community can receive: students, teachers, and citizens who have done good to society.*
- CICESE-UNAM Science Workshop, Ensenada B.C., México 2010

## HOBBIES AND INTERESTS

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Former Member of the UNAM Magicians and Illusionists Association.

I play soccer regularly. I’ve served as an intramural team captain in two different seasons.

I enjoy traveling. I’ve visited 22 countries and counting.