

EDUARDO ELIHU MUNGUÍA GONZÁLEZ

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EDUCATION

Universidad de Colima
Bachelor of Science in Physics

2015-2019

RESEARCH EXPERIENCE

University of California, Santa Cruz
Postbaccalaureate researcher

2021-Present
Santa Cruz, CA, USA

- Studying the formation of radio-quiet neutron star - light black hole binary systems by conducting 3D SPH simulations of supernova explosions of massive helium stars using the GADGET-2 code.
Work done under the supervision of [Prof. Enrico Ramirez-Ruiz](#) and [Dr. Alejandro Vigna-Gómez](#).

Georgetown University
Postbaccalaureate researcher

2020

- Studied squeezed-coherent states and developed three new methods to derive their wavefunction.
Work done under the supervision of [Prof. James K. Freericks](#).

Instituto de Astronomía - Universidad Nacional Autónoma de México
Undergraduate researcher

2017-2018
Ensenada, Mexico

- Studied the encounter between the star Gliese 710 and our Sun and simulated this event in order to determine the effect on the population of comets in the Oort cloud.
Work done under the supervision of [Prof. Luis Aguilar Chiu](#).

PUBLICATIONS

1. A. Vigna-Gómez, **E. Munguía-González**, E. Ramirez-Ruiz, and D. R. Aguilera-Dena, “*Fallback supernovae of stripped stars with neutron star companions*”, currently in preparation with plans for submission to ApJ.
2. **E. Munguía-González**, S. Rego, and J. K. Freericks, “*Making squeezed-coherent states concrete by determining their wavefunction*”, Am. J. Phys., **89**, 885 (2021). [\[Publisher\]](#)

SELECTED CONFERENCES AND PRESENTATIONS

2021 SACNAS NDiSTEM Digital Conference
Poster presenter

October 2021

- Presented my research work on neutron star - black hole binary systems.

Lamat Research Symposium
Oral presenter

August 2021

- Presented my research work at UC Santa Cruz to an audience of senior astronomers and students.

69th Lindau Nobel Laureate Meeting
Young Scientist

June 2019
Lindau, Germany

- Conference where around 40 Nobel Laureates in physics convene at Lindau for one week to meet the next generation of leading scientists: 500-600 qualified undergraduate students, PhD candidates and postdoctoral fellows from 89 countries.

22nd National Conference on Scientific Research

Oral presenter

September 2017

Nayarit, Mexico

- Conference organized by *Consejo Nacional de Ciencia y Tecnología* and *Programa Delfin* where I presented my research work developed throughout my internship at the Instituto de Astronomía.

FELLOWSHIPS AND AWARDS

Lamat Fellowship

2021

Lamat is an NSF-REU program designed to introduce students to astrophysical research methods and tools through original projects in computational astrophysics. Key components include science workshops, counseling and mentoring, and social justice discussions.

Online Sciathon 2020 (Lindau Nobel Laureate Meetings)

2020

- Hackathon-style online competition where Lindau alumni and young scientists from 87 countries worked on an interdisciplinary project during 48 hours. My team (Group Elmiger) created a webinar platform to make research seminars more accessible to people around the world. [We won 3rd prize.](#)

Peña Colorada Prize

2019

- Prize awarded by the Government of Colima and the University of Colima to the undergraduate student with the highest GPA of their graduating class and for their accomplishments throughout their undergraduate education.

Fundacion Telmex-Telcel Scholarship

2015–2019

- Scholarship awarded to Mexican undergraduate and graduate students with academic excellence and distinguished extracurricular activities.

Programa Delfin Fellowship

2017

- Fellowship awarded to Latin American undergraduate students to develop research projects at research-based institutions.

COMMUNITY SERVICE EXPERIENCE

researchseminars.org

2020

Contributor

Since July 2020, [Group Elmiger](#) has partnered with [researchseminars.org](#) to expand the reach of this initiative by including more scientific disciplines and by promoting their platform among a wider diversity of scientists.

CEDART “Juan Rulfo” High School

2018

Instructor

- Taught a geometry course at an arts-focused high school in Colima where I guided ~ 10 students through sample geometry problems and encouraged them to discuss their results among themselves.

National Military Service - Mexico

2016

Citizen Soldier

- Attended the 20th Military Zone on Saturdays during the 2016 year to receive basic military training.