

CRISTINA C. TORRES CABÁN

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EDUCATION

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

Cambridge, MA
2017 – present

DOCTOR OF PHILOSOPHY CANDIDATE

Earn PhD degree in the Department of Biological Engineering
Earn Certificate in Medical Sciences in the Harvard/MIT Health Sciences & Technology Department
PhD Advisor: Prof. Ed S. Boyden
GPA: 4.99/5.00

UNIVERSITY OF PUERTO RICO, AGUADILLA

Aguadilla, PR
2013 – 2017

BACHELOR OF SCIENCE

Earned degree in Biology, emphasis on Biomedical Sciences
Graduated Summa Cum Laude, GPA: 3.97/4.00

RESEARCH

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

Cambridge, MA
2018 – present

GRADUATE RESEARCHER, SYNTHETIC NEUROBIOLOGY GROUP

Research Advisor: Prof. Ed Boyden
Develop novel genetically engineered sensors for visualizing neural dynamics

UNIVERSITY OF PUERTO RICO, AGUADILLA

Aguadilla, PR
2016

UNDERGRADUATE RESEARCHER, VIDA MARINA

Research Advisor: Prof. Robert Mayer
Conducted removal of invasive plant species and restored wetland area using *S. monosperma* and *P. officinalis*
Utilized DJI Phantom 4 Drone and SamplePoint to retrieve and analyze data

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

Cambridge, MA
2016

UNDERGRADUATE RESEARCHER, HORVITZ LAB

Research Advisor: Prof. H. Robert Horvitz
MIT Summer Research Program in Biology & Neuroscience Alumna
Successfully designed and generated transgenic *C. elegans* worms that integrated the CRISPR/Cas9 tool under a tissue-specific promoter
Confirmed the presence of three desired mutations in the tissue of interest
Assisted in fluorescent and confocal imaging of transgenic *C. elegans* worms

RUTGERS UNIVERSITY

New Brunswick, NJ
2015

UNDERGRADUATE RESEARCHER, DRISCOLL LAB

Research Advisor: Prof. Monica Driscoll
Research in Science and Engineering (RiSE) Alumna
Outcrossed and screened for *C. elegans* deletion mutations in the microRNA *mir-34* gene to study muscle degeneration in aging worms

UNIVERSITY OF MINNESOTA, TWIN CITIES

Minneapolis, MN
2014

UNDERGRADUATE RESEARCHER, KOEPP LAB

Research Advisor: Prof. Deanna Koepf
Life Sciences Summer Undergraduate Research Program (LSSURP) Alumna
Designed and generated a degron strain for *Saccharomyces cerevisiae* to study the Dia2 protein's effect on cell cycle checkpoint

PRESENTATIONS

Torres Cabán, C. C., Piatkevich, K., Boyden, E. S. Development of genetically encoded potassium sensors for visualizing neuron activity. Poster presentation at the *MIT Dept of Biological Engineering Retreat* (2019). Boston, MA.

Valdés, P. A. Zhao, Y., **Torres, C. C.** Costa, E. Shah, K., E. A. Chiocca, E.A., Boyden, E.S. Multiplexed Expansion Microscopy in Clinical Specimens of Normal Brains and Gliomas. Poster Presentation at the *Society for Neuroscience Meeting* (2018). San Diego, CA.

Torres Cabán, C. C., Doi, A., and Horvitz, R.H. Tissue-specific CRISPR/Cas9 Mutants: A Tool to Study Epigenetics in Stem Cells. Oral presentation at the *253rd American Chemical Society National Meeting* (2017). San Francisco, CA.

Torres Cabán, C. C., Doi, A., and Horvitz, R.H. Tissue-specific CRISPR/Cas9 Mutants: A Tool to Study Epigenetics in Stem Cells. Poster presentation at the *MIT Summer Research Programs Poster Session* (2016). Cambridge, MA.

Torres Cabán, C. C., Ibáñez-Ventoso, C., and Driscoll, M. Understanding Aging Biology: The Role of *mir-34* in Sarcopenia. Oral presentation at the *251st American Chemical Society National Meeting* (2016). San Diego, CA.

Torres Cabán, C. C., Ibáñez-Ventoso, C., and Driscoll, M. Understanding Aging Biology: The Role of *mir-34* in Sarcopenia. Poster presentation at the *39th American Chemical Society Senior Technical Meeting* (2015). Ponce, PR.

Torres Cabán, C. C., Ibáñez-Ventoso, C., and Driscoll, M. Understanding Aging Biology: The Role of *mir-34* in Sarcopenia. Poster presentation at the *RiSE and REU Rutgers Summer Research Symposium* (2015). New Brunswick, NJ.

Torres Cabán, C. C., Ibáñez-Ventoso, C., and Driscoll, M. Understanding Aging Biology: The Role of *mir-34* in Sarcopenia. Oral presentation at the *RiSE at Rutgers Summer Program Mini Symposium* (2015). New Brunswick, NJ.

Torres Cabán, C. C. and Koepp, D. Effects of Dia2 Degradation on Checkpoint Recovery in *Saccharomyces cerevisiae*. Poster presentation at the *249th American Chemical Society National Meeting* (2015). Denver, CO.

Torres Cabán, C. C. and Koepp, D. Effects of Dia2 Degradation on Checkpoint Recovery in *Saccharomyces cerevisiae*. Poster presentation at the *Emerging Researchers National Conference in STEM* (2015). Washington, D.C.

Torres Cabán, C. C. and Koepp, D. Effects of Dia2 Degradation on Checkpoint Recovery in *Saccharomyces cerevisiae*. Poster presentation at the *Annual Biomedical Research Conference for Minority Students* (2014). San Antonio, TX.

Torres Cabán, C. C. and Koepp, D. Effects of Dia2 Degradation on Checkpoint Recovery in *Saccharomyces cerevisiae*. Poster presentation at the *UMN Summer Undergraduate Research Symposium* (2014). Minneapolis, MN.

LEADERSHIP

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

Cambridge, MA

2019 – present

CO-FOUNDER AND CO-PRESIDENT, MIT LATINX GRADUATE STUDENT ASSOCIATION

Work with an executive board to establish and formalize MIT's first association of Latinx graduate students

Recruit 100+ Latinx-identifying students to association

Have written and received grants of \$5,000+ for funding association costs

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

Cambridge, MA

2018 – present

COMMUNICATION FELLOW, BIOLOGICAL ENGINEERING COMMUNICATION LAB

Received 18 hours of training on communication best practices

Coach members of the Biological Engineering community on their written and oral scientific communication skills

Contribute articles to the Communication Kit and offer scientific writing workshops

**MASSACHUSETTS
INSTITUTE OF
TECHNOLOGY**

Cambridge, MA
2018

**MIT SUMMER RESEARCH PROGRAM POD LEADER, OFFICE
OF GRADUATE EDUCATION**

Actively mentored 10 undergraduate research interns
Facilitated weekly meetings to develop a sense of community between interns
Helped facilitate summer program events
Provided feedback on graduate application materials such as personal statements and resués

**UNIVERSITY OF
PUERTO RICO,
AGUADILLA**

Aguadilla, PR
2015 – 2016

PROJECT COORDINATOR, #PRETTYINCREDIBLE

In charge of coordinating weekly visits to elementary schools to teach a group of young girls about science, technology, engineering, and mathematics (STEM)
Reached the project's goal: 100% of mentored girls stated they wish to pursue STEM fields in the future
In charge of recruiting volunteers for team, leading the team, and distributing work
Designed classes and projects assigned to participants

**UNIVERSITY OF
PUERTO RICO,
AGUADILLA**

Aguadilla, PR
2015 – 2016

**PUBLIC RELATIONS OFFICER, AMERICAN CHEMICAL
SOCIETY CHAPTER**

Became the first woman to represent the UPR Aguadilla chapter at the 251st National Meeting with an oral presentation
Earned the Green Chemistry Student Chapter Award for the 2015 – 2016 academic year
Managed, edited, and published Green Chemistry newsletter
Organized the annual Green Chemistry and Environmental Chemistry Symposium at UPR Aguadilla
Designed flyers and advertisements for the chapter's Green Chemistry Division
Managed the chapter's social media accounts

**UNIVERSITY OF
PUERTO RICO,
AGUADILLA**

Aguadilla, PR
2014 – 2017

**NEWSLETTER EDITOR, AMERICAN CHEMICAL SOCIETY
CHAPTER**

Successfully published four newsletter editions, including new bilingual (English and Spanish) editions
Newsletter contributed to receiving the Green Chemistry Student Chapter Award for the 2014 – 2015 academic year
In charge of recruiting, managing, and mentoring writers for newsletter
Organized the structure and design of the newsletter
Edited written articles
Published newspaper online at: www.acsupragreen.weebly.com

TEACHING

Spring 2020

**BIOLOGICAL ENGINEERING SENIOR DESIGN CLASS
TEACHING ASSISTANT, MIT BIOLOGICAL ENGINEERING**

Organized course logistics and use of online student portal for all instructors and students
Oversaw managing of every-day logistics, taking class attendance, and communicating to students
Provided feedback to student assignments: e.g., scientific presentations, figures, and proposals
Organized course logistics for online teaching via Zoom for a successful end to the semester

January 2020 **MISTI GLOBAL TEACHING LABS INTERN, INJAZ AND KING'S ACADEMY**
 Worked with a team of MIT students to design and implement a hands-on curriculum on biology, neuroscience, and engineering topics
 Taught biology, neuroscience, and engineering curriculum to a group of 100 students at Injaz in Amman, Jordan
 Taught a curriculum on criminal science investigation to 20+ students at King's Academy in Madaba, Jordan
 Assisted teaching of engineering class at King's Academy in Madaba, Jordan

HONORS AND AWARDS

November 2018 AllBiotech 1 of 100 Leaders in Biotechnology in Latin America

2018 – present National Science Foundation Graduate Research Fellowship

2018 – present Sloan-MIT University Center for Exemplary Mentoring (UCEM) Scholarship

2017 – 2018 MIT Lemelson Minority Engineering Presidential Fellowship

May 2017 Tri-Beta National Biology Honor Society Beta-Mentor Award

May 2017 UPR Aguadilla Honors Study Program Recognition

May 2017 Aguadilla Municipality Excellence Medal

2015 New Jersey Space Grant Consortium Summer Undergraduate Research Fellowship

February 2015 Emerging Researchers National Conference in STEM Cell & Molecular Biology Division First Place Poster Presentation

2014 ABRCMS Travel Award Recipient

2014 – 2017 UPR Aguadilla Tuition Exemption

2014 – 2017 UPR Aguadilla Honor Roll

SERVICES

2018 Writer for the MIT Graduate Blog

2017 – 2018 Mentor for the Biological Engineering Application Assistance Program (BEAAP)

2018 Application reviewer for the MIT Summer Research Program (MSRP)

2017 Personal Statement Reviewer for MIT CONVERGE

February 2017 Judge at Regional Science fair in Mayagüez, Puerto Rico

February 2017 Host for NASA John H. Glenn Research Center Personnel Visit to The Aeronautical & Aerospace Institute of Puerto Rico (AAIPR)

January 2017 Participant in the MIT Biology and Center for Brains Minds and Machines Quantitative Methods Workshop

November 2017 Offered workshop: "Hands-on Workshop: Internship Seeking" at UPR Aguadilla

January 2016 Admissions recruiter for UPR Aguadilla at the University of Puerto Rico Expo

A F F I L I A T I O N S

2019 – present MIT Latinx Graduate Student Association

2018 – 2019 Society for Neuroscience

2017 – 2018 Academy of Courageous Minority Engineers

2016 Idea Platform

2015 – 2017 #PrettyIncredible

2014 – 2017 Tri-Beta National Biology Honor Society, Zeta Lambda Chapter

2013 – 2017 American Chemical Society, UPR Aguadilla Chapter