



Daysha Ferrer-Torres, PhD

Curriculum Vitae

University of Michigan August 2022-current Ann Arbor, MI
Research Investigator

Education

University of Michigan August 2017-2022 Ann Arbor, MI
Postdoctoral Research Fellow
Stem Cell Biology

University of Michigan Ann Arbor, MI
Doctoral Degree Cancer Biology Conferred: July 2017 Major GPA: 3.59/4.0

University of Puerto Rico Mayagüez, PR
Major –Biology Graduation date: December 2011 Major GPA: 3.48/4.0

The Palmas Academy Humacao, PR
High-School Graduation date: May 2007 GPA: 4.0/4.0

Publications

Google Scholar: https://scholar.google.com/citations?user=l2_KJX4AAAAJ&hl=en ORCID ID: 0000-0002-3576-0347

In preparation:

1. **Characterization of the developing human esophagus in vivo and in vitro** Tristan Frum, Andrea P. Álvarez-Maldonado, Helena M. Yllescas-Lopez, David E. Bayer, Zhiwei Xiao, Joshua H. Wu, Yu-Hwai Tsai, Angeline Wu, Charles J. Zhang, Michael K. Dame, Ashley J Cuttitta, Dominic J Tigani, Jonathan Sexton, Jason R. Spence, **Daysha Ferrer-Torres**

Published:

1. Charles J Zhang, Matthew J O'Meara, Sophia R Meyer, Sha Huang, Meghan M Capeling, **Daysha Ferrer-Torres**, Charlie J Childs, Jason R Spence, Robert J Fontana, Jonathan Z Sexton ***A Multi-Omics Human Liver Organoid Screening Platform for DILI Risk Prediction*** International Committee of Medical Journal Editors (ICMJE)
2. **Ferrer-Torres, D.**, Wu, J. H., Zhang, C. J., Hammer, M. A., Dame, M. K., Wu, A., Holloway, E. M., Karpoff, K., McCarthy, C. L., Bohm, M. S., Cuttitta, A. J., Tigani, D. J., Huang, S., Tsai, Y.-H., Miller, A. J., Walker, T., Bayer, D. E., Hogan, S. P., Turgeon, D. K., ... Spence, J. R. (2022). Mapping the adult human esophagus in vivo and in vitro. *Development*, 149(20). <https://doi.org/10.1242/dev.200614>
3. Ray, P., Nancarrow, D. J., **Ferrer-Torres, D.**, Wang, Z., San Martinho, M., Hinton, T., Wu, J. H., Wu, A., Turgeon, D. K., Hammer, M. A., Dame, M. K., Lawrence, T. S., O'Brien, P. J., Spence, J. R., Beer, D. G., & Ray, D. (2022). UBC5 Family Members Differentially Impact Stabilization of Mutant p53 via RNF128 Iso1 During Barrett's Progression to Esophageal Adenocarcinoma. *Cellular and Molecular Gastroenterology and Hepatology*, 13(1), 129–149. <https://doi.org/10.1016/j.jcmgh.2021.08.003>
4. Lagisetty, K. H., McEwen, D. P., Nancarrow, D. J., Schiebel, J. G., **Ferrer-Torres, D.**, Ray, D., Frankel, T. L., Lin, J., Chang, A. C., Kresty, L. A., & Beer, D. G. (2021). Immune determinants of Barrett's progression to esophageal adenocarcinoma. *JCI Insight*, 6(1). <https://doi.org/10.1172/jci.insight.143888>
5. Lin, J., Myers, A. L., Wang, Z., Nancarrow, D. J., **Ferrer-Torres, D.**, Handlogten, A., Leverenz, K., Bao, J., Thomas, D. G., Wang, T. D., Orringer, M. B., Reddy, R. M., Chang, A. C., Beer, D. G., & Lin, L. (2015). Osteopontin (OPN/SPP1) isoforms collectively enhance tumor cell invasion and dissemination in esophageal adenocarcinoma. *Oncotarget*, 6(26), 22239–22257. <https://doi.org/10.18632/oncotarget.4161>

6. **Ferrer-Torres, D.**, Nancarrow, D. J., Steinberg, H., Wang, Z., Kuick, R., Weh, K. M., Mills, R. E., Ray, D., Ray, P., Lin, J., Chang, A. C., Reddy, R. M., Orringer, M. B., Canto, M. I., Shaheen, N. J., Kresty, L. A., Chak, A., Wang, T. D., Rubenstein, J. H., & Beer, D. G. (2019). Constitutively Higher Level of GSTT2 in Esophageal Tissues From African Americans Protects Cells Against DNA Damage. *Gastroenterology*, *156*(5), 1404–1415. <https://doi.org/10.1053/j.gastro.2018.12.004>
7. Miller, A. J., Dye, B. R., **Ferrer-Torres, D.**, Hill, D. R., Overeem, A. W., Shea, L. D., & Spence, J. R. (2019). Generation of lung organoids from human pluripotent stem cells in vitro. *Nature Protocols*, *14*(2), 518–540. <https://doi.org/10.1038/s41596-018-0104-8>
8. Cancer Genome Atlas Research Network (2017). Integrated genomic characterization of oesophageal carcinoma. *Nature*, *541*(7636), 169–175. <https://doi.org/10.1038/nature20805>
9. **Ferrer-Torres, D.**, Nancarrow, D. J., Kuick, R., Thomas, D. G., Nadal, E., Lin, J., Chang, A. C., Reddy, R. M., Orringer, M. B., Taylor, J. M. G., Wang, T. D., & Beer, D. G. (2016). Genomic similarity between gastroesophageal junction and esophageal Barrett’s adenocarcinomas. *Oncotarget*, *7*(34), 54867–54882. <https://doi.org/10.18632/oncotarget.10253>
10. Shen, Y., Upadhyayula, R., Cevallos, S., Messick, R. J., Hsia, T., Leese, M. P., Jewett, D. M., **Ferrer-Torres, D.**, Roth, T. M., Dohle, W., Potter, B. V. L., & Barald, K. F. (2015). Targeted NF1 cancer therapeutics with multiple modes of action: small molecule hormone-like agents resembling the natural anticancer metabolite, 2-methoxyestradiol. *British Journal of Cancer*, *113*(8), 1158–1167. <https://doi.org/10.1038/bjc.2015.345>
11. Myers, A. L., Lin, L., Nancarrow, D. J., Wang, Z., **Ferrer-Torres, D.**, Thomas, D. G., Orringer, M. B., Lin, J., Reddy, R. M., Beer, D. G., & Chang, A. C. (2015). IGFBP2 modulates the chemoresistant phenotype in esophageal adenocarcinoma. *Oncotarget*, *6*(28), 25897–25916. <https://doi.org/10.18632/oncotarget.4532>
12. Lin, J., Myers, A. L., Wang, Z., Nancarrow, D. J., **Ferrer-Torres, D.**, Handlogten, A., Leverenz, K., Bao, J., Thomas, D. G., Wang, T. D., Orringer, M. B., Reddy, R. M., Chang, A. C., Beer, D. G., & Lin, L. (2015). Osteopontin (OPN/SPP1) isoforms collectively enhance tumor cell invasion and dissemination in esophageal adenocarcinoma. *Oncotarget*, *6*(26), 22239–22257. <https://doi.org/10.18632/oncotarget.4161>
13. Leicht, D. T., Kausar, T., Wang, Z., **Ferrer-Torres, D.**, Wang, T. D., Thomas, D. G., Lin, J., Chang, A. C., Lin, L., & Beer, D. G. (2014). TGM2: a cell surface marker in esophageal adenocarcinomas. *Journal of Thoracic Oncology : Official Publication of the International Association for the Study of Lung Cancer*, *9*(6), 872–881. <https://doi.org/10.1097/JTO.0000000000000229>
14. Nadal, E., Chen, G., Gallegos, M., Lin, L., **Ferrer-Torres, D.**, Truini, A., Wang, Z., Lin, J., Reddy, R. M., Llatjos, R., Escobar, I., Moya, J., Chang, A. C., Cardenal, F., Capellà, G., & Beer, D. G. (2013). Epigenetic inactivation of microRNA-34b/c predicts poor disease-free survival in early-stage lung adenocarcinoma. *Clinical Cancer Research : An Official Journal of the American Association for Cancer Research*, *19*(24), 6842–6852. <https://doi.org/10.1158/1078-0432.CCR-13-0736>

Published Abstract:

1. **Ferrer-Torres, Daysha**, Max Hammer, Josh Wu, Angeline Wu, Charles J. Zhang, Kateryna Karpoff, Caroline McCarthy et al. "Modeling the Human Esophagus In Vitro to Understand Racial Disparities in the Tissue Response to Carcinogens." In *IN VITRO CELLULAR & DEVELOPMENTAL BIOLOGY-ANIMAL*, vol. 56, no. SUPPL 1, pp. 2-3. ONE NEW YORK PLAZA, SUITE 4600, NEW YORK, NY, UNITED STATES: SPRINGER, 2020.
2. **Daysha Ferrer-Torres**, Derek Nancarrow, Rork Kuick, Ernest Nadal, Thomas D. Wang, Andrew Chang, Jules Lin, Rishindra M. Reddy and David G Beer Abstract 2189: Molecular similarity of Barrett’s-associated and gastroesophageal junction adenocarcinomas *Cancer Res* August 1 2015 (75) (15 Supplement) 2189; DOI:10.1158/1538-7445.AM2015-2189

Published Dissertation:

1. **Ferrer-Torres, Daysha** *Molecular Characterization of Esophageal Adenocarcinomas and Factors Influencing Racial Differences in Incidence* 2017 <https://deepblue.lib.umich.edu/handle/2027.42/138728>

Fellowships, Grants and Research Support

*competitive grants

2022-current	*K99/R00-National Institute of Diabetes and Digestive and Kidney Diseases 1K99DK133804-01 “Utilizing a human stem cell model of the esophagus to understand racial disparities during injury repair”.
2020-2022	*T32-Research Fellow for the Center for Cell Plasticity and Organ Design*
2017-2019	*Postdoctoral Translational Scholar Program (PTSP)- Michigan Institute for Clinical and Health Research (MICH)*

- 2015-2017 *F31-National Cancer Institute-CA200113 NRSA (Ferrer-Torres, PI)*
"Identification of Cell Surface Markers for Risk Stratification of Barrett's Esophagus Patients"
- 2013-2015 *T32-Ruth L. Kirschstein National Research Service Award (NRSA)- Cancer Research Training Grant-National Cancer Institute*
- 2011-2016. U54 CA163059 NIH/NCI (Barrett's Esophagus Translational Research Network) (PIs D. Beer, T. Wang, E Siebel) Multi-Spectral Targeted Imaging for Early Detection of Cancer in Barrett's Esophagus. 09/21/11 – 08/31/16
 The Barrett's Esophagus Translational Research Network (BETRNet) is a multi-institutional, multi-disciplinary Specialized Research Resource that uses multi-spectral imaging to detect esophageal adenocarcinoma early by visualization of amplified and overexpressed gene targets.
- 2012-2013 *Rackham Merit Fellowship, University of Michigan, Ann Arbor, MI*
- 2010-2012 *Sloan Undergraduate Minority Research Program*

Awards

- 2022 Cornell FIRST Future Faculty 2022 Scholar
- 2021 The Society for *In Vitro* Biology 2021 Early Career Award**
- 2020-22 Research Fellow for the Center for Cell Plasticity and Organ Design (CPOD) – T32
- 2019 Distinguish Alumni- Program in Biomedical Science, Cancer Biology**
- 2019 Keystone Symposia Future of Science Fund Scholarship Recipient
- 2018 Postdoc 180 award- Scientific Communication
- 2017/2019 Postdoctoral Translational Scholar Program (PTSP)- Michigan Institute for Clinical and Health Research
- 2016/2017 Yale Ciencia Academy Fellow- Yale University and Ciencia Puerto Rico
- 2015/2017 Ruth L. Kirschstein National Research Service Award (NRSA)(F31)- National Cancer Institute (CA200113)
- 2015 Rackham Conference Travel Grant
- 2013/2015 Ruth L. Kirschstein National Research Service Award (NRSA) (T32)- Cancer Research Training Grant-National Cancer Institute, University of Michigan, Ann Arbor, MI
- 2014 Rackham Pre-doctoral Grant
- 2012/2014 Rackham Merit Fellowships, University of Michigan, Ann Arbor, MI
- 2012 The Rackham *Summer Institute (SI)*-Rackham Merit Fellowships, University of Michigan, Ann Arbor, MI
- 2012 Outstanding Speaker Award-*2nd Biology Undergraduate Symposium*, University of Puerto Rico, Mayaguez, PR
- 2011 Cancer Research Summer Internship Program Scholarship, University of Michigan, Ann Arbor, MI
- 2010-2011 Minority Access to Research Careers Scholar (SLOAN), University of Puerto Rico, Mayaguez, PR

Research Experience

- Aug 2017/current University of Michigan Ann Arbor, MI**
Postdoctoral Research Fellow- Dr. Jason Spence
 Development of primary human esophagus 2D and 3D (organoid) models to study tissue homeostasis, development, and susceptibility to tissue injury by acid reflux with a focus on population disparities in disease progression to esophageal adenocarcinoma.
- Dec 2013/Aug 2017 University of Michigan Ann Arbor, MI**
Graduate Student- Dr. David G. Beer
 ⇒ Whole RNA and transcriptome expression arrays of esophageal adenocarcinomas and gastric cardia tumors.
 - By understanding the transcriptome (mRNA) of esophageal adenocarcinomas and gastric cardia, we seek to:
 - Find cell surface overexpressed proteins for early detection of adenocarcinomas by targeted imaging technologies
 - Understand the behaviors of expression of these tumors for possible targeted therapy

- ⇒ Identification of molecular factors that underlie population differences in esophageal cancer progression
 - Identification of protective mechanisms in the African American population and risk factors in the European American population.

Fall 2012	<p><u>University of Michigan</u> Ann Arbor, MI <i>Lab Rotation Student- Dr. Ben Allen</i> Understanding the role of two cell surface proteins, Cdo and Boc, in regulating the Hedgehog signaling pathway.</p>
Summer 2012	<p><u>University of Michigan</u> Ann Arbor, MI <i>Summer Institute Program (SI)—Dr. David Beer & Dr. Ernest Nadal</i> The pathogenic role of miR-34b/c in lung adenocarcinoma cell lines. Understanding the effects of microRNA 34b/c and its role in controlling cell proliferation, migration, and gene expression in lung adenocarcinomas cell lines.</p>
Jan 2012/May 2012	<p><u>University of Puerto Rico-Mayagüez</u> Mayagüez, PR <i>Research Assistant-Master Student—Dr. Taras Oleksyk</i> Comparative Genomics of Primate lineages and Population Genetics A comparative genomic project studying specific insertions and deletions (indels) in the Primate Lineages Puerto Rico Zoo-DNA Frozen Zoo Establishment of a biobank of DNA and tissue samples from species available at the Puerto Rico Zoo and design of the Frozen Zoo Data Base Web Page.</p>
Jan 2009-2011	<p><u>University of Puerto Rico-Mayagüez</u> Mayagüez, PR <i>Undergraduate Research Assistant—Dr. Taras Oleksyk</i> Indels In Primate Lineages A comparative genomic project studying specific insertions and deletions (indels) in Primate Lineages</p>
Summer 2011	<p><u>National Cancer Institute</u> Frederick, MD <i>Summer Undergraduate Research program—Dr. Cheryl Winkler</i> Indels In African Populations High-throughput genotyping and polymorphism identification</p>
Summer 2011	<p><u>University of Michigan</u> Ann Arbor, MI <i>Cancer Research Summer Internship Program (CarSIP)—Dr. Kate Barald</i> Testing six analogs of natural anti-cancer metabolite (2-methoxyestradiol) in Neurofibromatosis type 1 cell lines</p>
August 2011	<p><u>University of Puerto Rico-Mayagüez</u> Mayagüez, PR <i>Undergraduate Research Assistant—Dr. Taras Oleksyk</i> Local Genome Diversity Studies Puerto-Rican DNA collection from municipalities to study the genetic admixture and possible gene markers for predisposition in certain diseases in the Puerto-Rican population</p>

Positions, Honors, and Training

2021-22	Expert Consultant-Organoid biobank for Comprehensive Cancer Center-University of Puerto Rico
2020-22	Research Fellow for the Center for Cell Plasticity and Organ Design (CPOD)
2020	Co-convenor and session organizer for the 2021 Society for In-Vitro Biology World Conference
2020	Invited Plenary speaker for the 2020 Society for In-Vitro Biology World Conference
2019	Keystone Symposia Future of Science Fund Scholarship Recipient
2019	<u>Distinguish Alumni- Program in Biomedical Science, Cancer Biology</u>
2017-current	Postdoctoral Fellow- Developmental Biology, University of Michigan, Ann Arbor, MI Mentor: Dr. Jason R. Spence
2017-2019	Postdoctoral Translational Scholar Program (PTSP)- Michigan Institute for Clinical and Health Research (MICHR), University of Michigan, Ann Arbor, MI Basic Science Mentor: Dr. Jason R. Spence Clinical Mentor: Dr. Jules Lin MICHR Mentor: Donna Shewach
2013-2017	Graduate Student, Cancer Biology Program, University of Michigan, Ann Arbor, MI

Summer 2012 PI: Dr. David G. Beer
 Rackham Summer Institute trainee, University of Michigan, Ann Arbor, MI

2011/2012 PI: Dr. David G. Beer, also trained with Dr. Ernest Nadal a fellow from Spain.
 The American Society of Human Genetics

2011/2012 SACNAS- Society for Advancement of Chicanos and Native Americans in Science

Summer 2011 Cancer Research Summer Internship Program, University of Michigan, Ann Arbor MI
 Mentor: Dr. Kate Barald

May-Jun 2011 Summer Undergraduate Research Assistant, National Cancer Institute, Frederick, MD
 Mentor: Dr. Cheryl Winkler

2010/2012 Undergraduate Research Assistant, NSF-funded study “Comparative Genomics of Indels in Primate Lineages”
 PI: Dr. Taras K Oleksyk, University of Puerto Rico, Mayaguez, PR

2008-2011 National Biological Honor Society (βββ), University of Puerto Rico, Mayaguez, PR

Presentations

2022 The Gastrointestinal Tract XX Conference **Steamboat Springs, CO**
 Federation of American Societies for Experimental Biology (FASEB)
 Invited speaker session: Cellular Plasticity: Repair, Dedifferentiation, Regeneration
“In vitro Models of the Human Esophagus Reveal Ancestrally Diverse Response to Injury”

2022 University of Puerto Rico Medical School **San Juan, PR**
 Research Initiative for Scientific Engagement (RISE) Program
 Invited Seminar Speaker (online due to COVID-19)
“In vitro Models of the Human Esophagus Reveal Ancestrally Diverse Response to Injury”

2022 Ponce Health Sciences University-Moffitt Cancer Center Partnership **Ponce, PR**
 Invited Seminar Speaker (online due to COVID-19)
“Progression of esophageal adenocarcinoma: steps for modeling dysplastic heterogeneity in vitro”

2021 University of Puerto Rico **Utado, PR**
 Invited Seminar Speaker (online due to COVID-19)
“Modeling human esophagus in a petri dish”

2021 Medical College of Wisconsin **Milwaukee, WI**
 Invited Seminar Speaker (online due to COVID-19)
“In vitro Models of the Human Esophagus Reveal Ancestrally Diverse Response to Injury”

Spring 2020 2020 Society for In-Vitro Biology World Conference
Award: Invited Plenary Speaker (online due to COVID-19)
“Modeling the human esophagus in vitro to understand racial disparities in the tissue response to carcinogens.”

2018 Comprehensive Cancer Center University of Puerto Rico Medical School **San Juan, PR**
 Invited Seminar Speaker
“Constitutively higher level of GSTT2 in esophageal tissues from African Americans protects cells against DNA damage”

Fall 2019 University of Michigan **Ann Arbor, MI**
 Cancer Biology Program Retreat-Poster
“Characterization of cell states/types in human primary esophagus biopsies in vivo and in vitro.”

Winter 2019 Keystone Symposia- **Keystone, CO**
 Poster Award
 Cellular Plasticity: Reprogramming, Regeneration and Metaplasia *Travel award*
“Racial Differences in Esophageal GSTT2 and Risk of Esophageal Adenocarcinoma”

Fall 2018 University of Michigan **Ann Arbor, MI**
 Cancer Biology Program Retreat- Poster Award

“In vitro modeling of the human esophagus to mechanistically interrogate the role of GSTT2 in racial disparities in the formation of Barrett’s Esophagus and Esophageal Adenocarcinoma.”

- Fall 2017 **University of Michigan** **Ann Arbor, MI**
Cancer Biology Program Retreat
“Identification of overexpressed cell surface markers for gastro-esophageal junction adenocarcinomas detection.”
- April 2017 **Yale Ciencia Academy Fellow Program-Panelist**
Seminar Speaker
Conversations with Scientists- *“Getting Funded”*
During this conversation, scientists in research careers and funding experts talked about their experiences applying for fellowships and grants and getting funded and shared practical advice and strategies that can help students be successful in securing funding.
- September 2015 **3rd place- 2015 University of Michigan Cancer Center Research Symposium:**
Invited Speaker-Award
“Esophageal GSTT2 and racial differences in esophageal adenocarcinoma”
- July 2015 **National Cancer Institute** **Rockville, MD**
Invited Speaker
Barrett’s Esophagus Translational Research Network Steering Committee -Oral
“Identification of factors that underlie racial differences in esophageal cancer.”
- April 2015 **Annual American Association of Cancer Research Conference** **Pennsylvania, PA**
Poster
“Molecular characterization of adenocarcinomas of the esophagus and gastroesophageal junction.”
- April 2015 **University of Michigan** **Ann Arbor, MI**
Poster- Moses Gunn Annual Research Conference-Department of Thoracic Surgery
“Molecular characterization of adenocarcinomas of the esophagus and gastroesophageal junction.”
- Fall 2014 **University of Michigan** **Ann Arbor, MI**
Cancer Center Annual Research Symposium-Poster and Oral Presentation
“Molecular characterization of adenocarcinomas of the esophagus and gastroesophageal junction.”
- Fall 2013 **University of Michigan** **Ann Arbor, MI**
Invited Speaker Cancer Biology Program Retreat
“Identification of overexpressed cell surface markers for gastro-esophageal junction adenocarcinomas detection.”
- Summer, 2012 **University of Michigan** **Ann Arbor, MI**
Rackham Graduate School Summer Institute (Oral Presentation)
“The pathogenic role of miR-34b/c in lung adenocarcinoma cell lines.”
- May 2012 **University of Puerto Rico-Mayagüez** **Mayagüez, PR**
2nd Biology Undergraduate Symposium (Oral Presentation)
“Testing six analogs of natural anti-cancer metabolite (2-methoxyestradiol) in Neurofibromatosis type 1 cell lines”
- November 2011 **Annual Biomedical Research Conference for Minority Students** **St. Louis, MO**
Poster Presentation
“Testing six analogs of natural anti-cancer metabolite (2-methoxyestradiol) in Neurofibromatosis type 1 cell lines”
- October 2011 **International Congress of Human Genetics** **Montreal, Canada**
Poster Presentation
“Search for insertions and deletions from comparisons of primate genomes in human populations.”
- September 2011 **University of Puerto Rico-Mayagüez** **Mayagüez, PR**
Poster Presentation

Summer 2011	<p>“Testing six analogs of natural anti-cancer metabolite (2-methoxyestradiol) in Neurofibromatosis type 1 cell lines”</p> <p>National Cancer Institute Seminar</p>	Frederick, MD
May 2011	<p>“Experimental validation of insertions and deletions in pairwise comparisons of homologous coding sequences between humans and Old-World primates.”</p> <p>University of Puerto Rico-Mayagüez First Biology Undergraduate Symposium</p>	Mayagüez, PR
Summer 2011	<p>“<i>Experimental validation of insertions and deletions in pairwise comparisons of homologous coding sequences between humans and two African primates.</i>”</p> <p>University of Michigan Oral Presentation- Cancer Research Summer Internship Program</p>	Ann Arbor, MI

Workshops/Career Development

November 2020	Image Processing and Image Analysis – Dr. Teng-Leong Chew, Director of the Advanced Imaging Center at HHMI Janelia Research Campus (PAIR-UP) Partnering to Advance Imaging Research for URM scientists Program
Sept-Dec. 2019	Inaugural You ³ -Postdoctoral Leadership and Management Program Certification- Office of Graduate and Postdoctoral Studies at the University of Michigan
Nov-Dec. 2018	K Writing Workshop- Michigan Institute for Clinical and Health Research-University of Michigan
May 2017	Dissertation Writing Retreat- Michigan Alliance for Graduate Education and the Professoriate (MI-AGEP)
Winter 2017	Professional Research Presentation- builds skills in written, visual, and oral communication, focusing mainly on professional scientific presentations at the University of Michigan
Winter 2016	Advanced Writing for Graduate Students-writing course article for publication at the University of Michigan
Fall 2014	Introduction to Scientific Communication-writing an NRSA grant application at the University of Michigan
Fall 2009	Public Speaking- principles and practice of oral presentations, their preparation, composition, and delivery, including formal, informal, and impromptu speech.

Teaching, Mentoring and Outreach Experience

2020-2022	Independent contract for training and teaching patient-derived organoid cultures and techniques to the Comprehensive Cancer Center at the University of Puerto Rico, Medical Campus.
2022-current	Mentor Postbac Research Education Program (UM PREP)-Andrea Alvarez
Summer 2022	Mentor of Developing Future Biologist summer Fellow-Helena Yllescas-Lopez
2022	RISE-seminar speaker and mentorship
2022-current	Mentor of an undergraduate research assistant- David E. Bayer
2021	Outreach online seminar to Ypsilanti Highschool
2021	Outreach press conference Comprehensive Cancer Center University of Puerto Rico
2017-current	Mentor of an undergraduate research assistant- Max Hammer
2018	Seminar for Cancer Biology students on how to write a dissertation
Summer 2016	Mentor of Cancer Research Summer Internship student- Adam Maynard and medical student Tarum Kakumanu
Summer 2015	Mentor of Cancer Research Summer Internship student- Emilee Kotnit and undergraduates students Hannah D Steinberg; Andrew Ying
2014-2015	Mentor of undergraduate students Andrew Ying and Manisha Ravi
Jan 2014	Initiator and coordinator of the Student Cancer Biology Journal Club
Summer 2014	Mentor of Cancer Research Summer Internship student- Hannah D Steinberg
Winter 2015	Cancer Biology 554 course Teaching Assistant and Lecturer
Jan-May 2012	Genomic Lab Teaching Instructor

Diversity, inclusion, and equity highlights

⇒ An organoid biobank for Puerto Rico

- My main research contribution is the effort to increase population diversity in our biobanks at the University of Michigan and accelerate the technology transfer to underrepresented population intuitions in scientific research. This work is ongoing, and we hope to keep building these models in collaborations between the University of Michigan and the comprehensive cancer center in Puerto Rico to tackle essential questions of population disparities in health across many diseases. Information about this work is in the links provided. <https://www.youtube.com/watch?app=desktop&v=c54sTFIISFQ> (YouTube video-press conference) <https://www.noticel.com/ahora/20210428/primer-organoide-puertorriqueno-generado-por-el-centro-comprensivo-decancer/> (use google translate)
- ⇒ I have been a service member for the Society of In Vitro Biology World conference for two years. I have planned and run sections as a convener and advisor for the conference's planning.
- ⇒ I have functioned as a teaching expert in multiple panels at the University of Michigan and the Yale Ciencia Academy. When I am approached for help, I commit my time and efforts to transfer the skills I have learned to others. My seminar's themes were twofold: "How to write a successful F31", and for the Cancer Biology Program: "How to write a successful dissertation." These seminars have been provided in forums for all students and focus on underrepresented minorities.
- ⇒ Seminar, symposium speaker, and mentorship for the "Developing Future Scientist" program.
- ⇒ I am an active member of the Ciencia Puerto Rico organization. Ciencia PR is an expert resource network for scientists and the community to contact and work together.
- ⇒ I have taught and mentored over ten undergraduate students during my career in science. Students have gone to be accepted at medical and graduate school.
- ⇒ I have been a part of community outreach programs. These include Puerto Rico to the community by providing consultations about DNA, genomes, and organoids.
- ⇒ In Ann Arbor, I teach seminars and teach students from underrepresented populations in STEM (Ypsilanti Highschool) about organoid technology and opportunities at the University of Michigan.