

# Understanding the Mechanisms of Blood Cancers

Blanca Gutierrez-Diaz, Driskill Graduate Program in Life Sciences



Blanca Gutierrez-Diaz, a second-year student in the Driskill Graduate Program (DGP), studies how relapse after chemotherapy works in T-cell acute lymphoblastic leukemia, an aggressive blood cancer that affects children and adults. Diaz works in the laboratory of [Panos Ntziachristos, PhD](#), assistant professor of [Biochemistry and Molecular Genetics](#) and of [Medicine in the Division of Hematology and Oncology](#).

## Q&A

### Where is your hometown?

I was born and raised in Mexico City, the biggest city and capital of Mexico.

### What are your research interests?

I find the hematopoietic system fascinating. I have always been amazed by how a single hematopoietic stem/progenitor cell can give rise to different cell types with such diverse but precise functions. I am also interested in understanding how dysregulations in this fine-tuned system result in blood cancers and what we can do to develop therapeutic strategies to fight leukemia.

### What exciting projects are you working on?

I am currently working on two projects related to blood diseases, specifically T-cell acute lymphoblastic leukemia (T-ALL). T-ALL is an aggressive cancer that affects children and adults, and although patients' initial response to treatment is good, chemotherapy treatments have debilitating effects and present a risk of relapse. For these reasons we want to understand how relapse works in T-ALL, focusing on how posttranslational modifications affect chemotherapy response. In one of my projects I am studying how the ubiquitin-proteasomal pathway affects glucocorticoid response, and in the second project I am addressing how leukemic cells deal with chemotherapy damage to their DNA.

### What attracted you to the PhD program?

One of the things that attracted me the most to the program was the big number of faculty members with research topics related to cancer. I quickly realized the quality of research and mentorship in this program is extremely good, and I wanted to learn from the best. The fact that Northwestern University is also associated with hospitals such as the Ann and Robert H. Lurie Children's Hospital and Northwestern Memorial Hospital opens up opportunity to do more translational research. In a similar way, I was attracted to the fact that DGP students can pursue a double degree. So, in addition to the PhD degree, I am working towards getting a [Master's in Clinical Investigation](#), which I believe will shorten the gap between my future bench work and clinical research.

### What has been your best experience at Feinberg?

It is difficult to choose one, but I will say that the best experiences have come from the people at Feinberg. I feel so lucky to have classmates, coworkers and a mentor that love what they do and are as passionate about their research as I am. I am continually amazed by their work, inspired by their ideas and energized by their enthusiasm.

### How would you describe the faculty at Feinberg?

The faculty at Feinberg are very passionate. I admire how much effort and creativity they put into their work. They are also very knowledgeable and always open to collaborations. I have found that these characteristics come extremely handy if you are developing a project.

### What do you do in your free time?

I love to explore Chicago. I find this city very interesting and culturally rich. Chicago has a lot of museums and exhibitions, and it is full of art, music, amazing restaurants and very interesting neighborhoods, so there are always a lot of things to do and see.

### What are your plans for after graduation?

As a Fulbright scholar, I came to Northwestern University to learn how to do high quality research in order to apply it in my home country. My biggest dream is to become a top Hematology-Oncology researcher who can foster beneficial collaborations between the United States and Mexico. To pursue my objective, I will continue with my postdoctoral training in leukemias and at the same time keep in touch with my collaborators in Mexico.

Watch Blanca Gutierrez Diaz share what the DGP program is like for an international student [here](#).