

Studying Complex Cellular Signaling Pathways

Caleb Stubbs, fourth-year student in the Driskill Graduate Program in Life Sciences (DGP)



Q&A

Where is your hometown?

I was born and raised in Queens, New York. Around the age of 14, I moved with my family to Raleigh, North Carolina.

What are your research interests?

I've always been interested in studying complex cellular signaling pathways. My undergraduate experience working at Pepperdine

University solidified my fascination with signaling. At Pepperdine, I studied Notch signaling during blood vessel formation in human endothelial cells.

Here at Feinberg, I'm investigating aberrant cancer cell signaling during tumor growth, using a combination of biochemical and structural approaches in the laboratory of [Dr. Karla Satchell](#).

What exciting projects are you working on?

My work focuses on a protein called Ras that is hyper-activated in 30 percent of human tumors and causes uncontrolled cell growth. Ras has been considered an "undruggable" target: There are zero FDA-approved drugs targeting Ras on the market.

Our lab has identified an enzyme secreted from a bacterium, *Vibrio vulnificus*, that inactivates Ras directly. Currently, I am studying how we can use this enzyme as a therapeutic tool to inhibit tumor cell growth.

What attracted you to your program?

The major factor was the broad research areas. Shortly after interviewing with the program, there were several labs I could see myself working in. I was comfortable around the faculty and students in the program, which added to my positive impression of Northwestern and the DGP.

What has been your best experience at Feinberg?

My best experience has been the people I have met throughout my time here. There is an amicable atmosphere with everyone you meet, which is very encouraging given the highs and lows that come with conducting research.

How would you describe the faculty at Feinberg?

The faculty here are very involved and motivated to train graduate students. They push you to ask critical questions and perform rigorous research that will help you succeed at the next level.

What do you do in your free time?

In Chicago, I have participated in many activities outside of the laboratory. I've played in pool leagues, run Chicago races and attended many Bulls and Cubs games.

What are your plans for after graduation?

I plan to stay in the research field and pursue a postdoctoral position at a university or in industry. I'm always interested in learning new information and asking scientific questions!

Research in the News

Reuters, February 14

[Why your Valentine might want hot chocolate for that walk on the beach](#)

Mary McDermott, MD, was featured.

Chicago Tribune, February 18

[Less than 5% of pregnant women have good heart health, according to Northwestern study. Experts say doctors need to do more in response.](#)

Marla Mendelson, MD, and Amanda Marma Perak, MD, MS, were mentioned.

Reuters, February 26

[Allergists Offer Advice to Parents of Kids With Food Allergies](#)
Ruchi Gupta, MD, MPH, was mentioned.

Time, February 27

[How to Manage Your Anxiety About Coronavirus](#)

Catherine Belling, MD, was mentioned.

USA Today, March 3

[Coronavirus live updates: 9th US. death is confirmed as WHO rejects pandemic](#)

Robert Murphy, MD, was mentioned.

Chicago Tribune, March 3

[I think I have the coronavirus. What should I do?](#)

Michael Ison, MD, MS, was mentioned.

New York Times, March 3

[What Pregnant Women Should Know About Coronavirus](#)

Wei Zhang, PhD was featured.