

# In Conversation:

## Postdoctoral Fellow Chanelle Case-Borden, Ph.D.

**CCR:** Chanelle, you first came to the NIH as a graduate student. What drew you here?

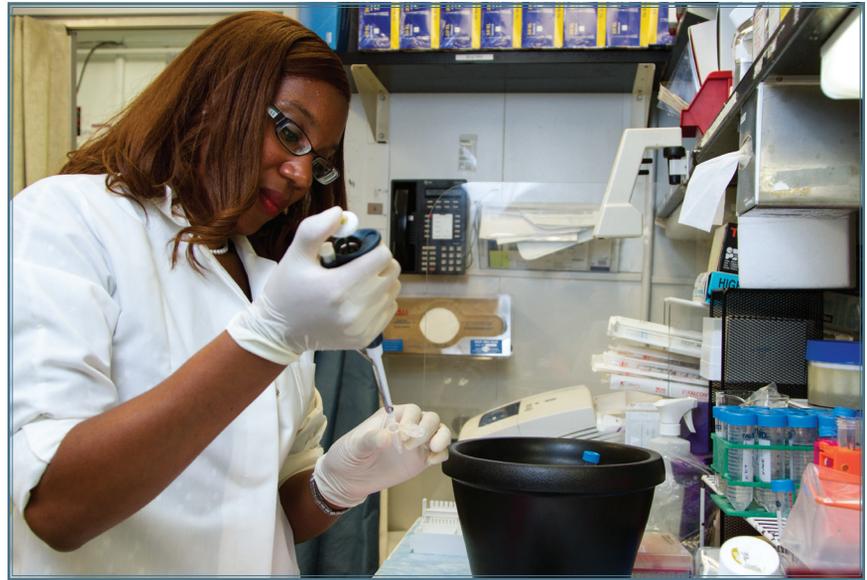
**Chanelle:** I have always had my hands in science; I was that nerd kid playing with science kits and nesting butterflies from caterpillars. When you dream of doing science, the NIH looks like that dream, with the best research facilities, some great scientists, and multiple areas of study. I found the Graduate Partnerships Program, when I was applying to graduate school.

**CCR:** And what attracts you to cancer research specifically?

**Chanelle:** Genetically, cancer is beautiful because it adapts to survive in a hostile environment. Almost no two tumors are the same, which is an important concept. I love puzzles, and there is always a mystery or problem to solve in cancer. As a graduate student with Thomas Ried, M.D., (Senior Investigator, CCR's Genetics Branch), I worked on identifying cancer biomarkers in colorectal cancer. My project focused on characterizing the protein CKAP2. During training, I performed many trial-and-error experiments, before suddenly, the project took off. Research is full of highs and lows, but that rush when things start to take off is amazing.

**CCR:** And now, you are doing a fellowship with Dinah Singer, Ph.D., in CCR's Experimental Immunology Branch?

**Chanelle:** Yes, I am working on bromodomain-containing protein 4 (BRD4), which has been shown to play a pivotal role in several types of cancer. Our lab identified BRD4 as a kinase, regulating transcription



(Photo: D. Sone)

Chanelle Case-Borden, Ph.D.

initiation and elongation. We recently discovered that BRD4 has an additional enzymatic activity, and my project focuses on understanding its biological function.

**CCR:** What are the clinical implications of your work?

**Chanelle:** BRD4 has become a popular drug target, with its major inhibitors currently in clinical trials. Some cancers heavily rely on BRD4—it's overexpressed in some and enhances the expression of BRD4-specific genes, many of which are cell cycle genes. However, what happens to the endogenous system if you block or disrupt BRD4 function remains unclear. It is a multifunctional protein, and we need to know which aspects are being disrupted by these inhibitors to determine how they are going to play out long term.

**CCR:** How do you see your career progressing?

**Chanelle:** Five years ago, I planned on running my own lab; now I'm not certain. Currently, my focus is on getting my project off the ground and publishing. Mentoring students is also a passion of mine. I've mentored four postbaccalaureate fellows and have helped several postbacs get into M.D./Ph.D. programs.

**CCR:** What advice do you give your students?

**Chanelle:** I tell them to pursue what they are passionate about. Ultimately you need to do what you love. If you go to graduate school, you have to do it with a purpose, not just as a natural progression in education. Do not take it lightly; do your research, make a plan, and don't be afraid to ask for help. Also just because you obtain a Ph.D., you don't have to stay at the bench. I am on a couple of panels for increasing diversity at NIH and could imagine working full-time on increasing diversity in science, and mentoring students to aid their retention in science.