First person – Conor Herlihy

How would you explain the main findings of your paper in lay terms?
During the process of cell division, one copy of each chromosome is segregated into each of the two daughter cells. In order to ensure proper segregation, there are many layers of regulation. One factor that plays an important role in chromosome segregation is the protein Aurora B. Another important chromosome segregation regulator is the structure of the region of the chromosome known as the centromere. We show in this manuscript that disruption of the centromere’s native landscape can disrupt the recruitment of Aurora B to the centromere leading to improper chromosome segregation, as is often seen in cancer.

Were there any specific challenges associated with this project? If so, how did you overcome them?
When starting this project, and my PhD in general, I did not have much experience in data mining or other bioinformatics methods. So, when we decided that we wanted to mine publicly available data relevant to our study, I had a lot of learning to do. Luckily there are a lot of freely available resources online and scientists willing to help. With help from others and a lot of perseverance, we were able to use the plethora of available data to gain more insight relevant to our study. A special thank you goes out to Dr Alison Taylor at Columbia University who was especially helpful.

When doing the research, did you have a particular result or 'eureka' moment that has stuck with you?
One moment I can vividly recall is when I first saw the decrease in Aurora B at the centromere. I remember being so excited that there was a possible explanation for why we were seeing segregation defects. I felt like I was finally beginning to solve the puzzle that had been laid out in front of me. It really highlighted what I find so rewarding about science.

Why did you choose Journal of Cell Science for your paper?
We felt that JCS met our criteria of being a well-respected journal in the Cell Biology field with a rigorous peer review process. We regularly read and discuss JCS manuscripts in our lab and wanted to publish in a journal that regularly publishes quality manuscripts that are relevant to us. Furthermore, we felt like JCS would provide us with an opportunity to disseminate our research to be seen by our peers.

Have you had any significant mentors who have helped you beyond supervision in the lab? How was their guidance special?
I would like to thank the late Dr David Lawlor who was the first person who really taught me what it means to be a scientist and sent me down the path that I’m on now. Dr Lawlor was really able to provide me with a lot of perspective not only on science, but also on life as a whole.

What motivated you to pursue a career in science, and what have been the most interesting moments on the path that led you to where you are now?
Like most other scientists, I’ve been intrigued with the way things work and why they work from a very young age. I was always
asking questions. This was instilled into me from a young age by both my parents and my grandparents. I also loved spending time outside, so I think that pursuing science was an attractive path for me as it satisfied my love for the natural world and innate curiosity. Furthermore, I’ve always enjoyed changing the status quo and pursuing a career in science enables me to help change and shape the way we see the world.

Who are your role models in science? Why?
One of my scientific role models is Carl Sagan. He did a great job of not only being a leading researcher in his field, but also of educating, popularizing, and advocating for science among the public.

What’s next for you?
I have recently started a new position as a postdoc in Dr Ting Wu’s lab in the Genetics department at Harvard Medical School. I’m looking forward to continuing my scientific career in this exciting new opportunity!

Tell us something interesting about yourself that wouldn’t be on your CV
One of my favorite things to do when I’m not in lab is to spend time outside with my dog Murphy. He’s a 5-year-old mutt. We love camping and going for long hikes up in the mountains.

Reference

Side by side anaphase cells showing defects after centromere-targeted Suv39 expression and Aurora B inhibition.