PERSONAL STATEMENT: RETRACTION OF NCB 2020 PAPER

"Discovery of iron-sensing bacterial riboswitches".
Nature Chemical Biology.
Published in October 2020.
Retracted in June 2021.

My lab's work on the discovery of iron-sensing riboswitches was published in October 2020. We have now retracted this publication.

Very soon after our paper was published, there were comments that appeared online that pointed out that specific data in this paper had features of background and band duplication. I informed my institute authorities of these concerns, following which the institute conducted an independent investigation, to assess these issues.

To my horror, we (the investigation, and independently my lab and I) found that the concerns raised about the blots and gels could not be explained. It was now unambiguous that some of the data had been manipulated. The specific data that were flagged came from one author, who left my lab abruptly within a few days after the investigation (without turning in the correct constructs/strains related to this project and without sharing some of the ITC raw data). While deeply painful and distressing, it became critical for us to now determine the veracity of these gels and blots. I requested an independent researcher with expertise in RNA work (a student from another lab in our campus) to attempt one of the flagged experiments- the native gel analysis of the Sensei RNAs reported in the paper. We found that the native gels were not reproducible. Given that the Fe-induced structural change in Sensei RNAs, as shown by the gels, was an important finding reported in this paper, we felt that retraction of the work in its entirety was essential. The independent investigation committee had also recommended retraction in their findings that were shared with me.

As the corresponding author, I must bear responsibility and am deeply shocked, disturbed and very saddened that such scientific misconduct could happen under my watch.

The way forward:
As the first step towards validating the core scientific findings reported in this paper, I have assembled a team of personnel from my lab, who are repeating different experiments and performing new experiments that will provide insights into iron riboswitches. Due to the raging pandemic, this team is currently small but working steadily and systematically. We are being extremely cautious in how we perform these experiments and in interpreting any results. For researchers interested in the details of the scientific findings, please contact us.

How my lab has emerged stronger after this event.
The foundation of my lab is built on several pillars: trust, empathy, hard work and collaboration. While one pillar has taken a painful hit, as a team we have really started to strengthen the core of the lab. We have gone from trust to "trust but verify" mode.

The last few months have brought the lab together, more than ever before. Students are helping each other out and sticking together as one team. We have taken these unfortunate events as a challenge to make our scientific practices impeccable so that such an incident can never occur again.

This has been an unprecedented, humbling and cathartic experience for my lab and I, but we are determined to come out stronger and even more committed to rigorous, transparent science.