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FIRST PERSON

First person – Yuqing Xia and Ning Huang

First Person is a series of interviews with the first authors of a selection of papers published in Journal of Cell Science, helping early-career researchers promote themselves alongside their papers. Yuqing Xia and Ning Huang are the co-first authors on 'CCDC102B functions in centrosome linker assembly and centrosome cohesion', published in Journal of Cell Science. Ning was, and Yuqing is a PhD student in the laboratory of Jianguo Chen and Junlin Teng at College of Life Sciences, Peking University, China, working on the functional roles of centrosomal proteins.

How would you explain the main findings of your paper in lay terms?

NH: Microtubules, filament-like structures in the cell, function as railways that link important destinations and allow motor proteins, together with their cargo proteins to travel along their tracks. In mammalian cells, the main train station for these tracks is called the centrosome, which aggregates most of the railways in the cell. Interestingly, the centrosome contains two cylindrical structures named centrioles. To make sure there is only one station in each interphase cell, the two centrioles of different centrosomes are linked by a proteinaceous linker. In our study, we identified a new centrosome linker component, CCDC102B, and describe its role between the centrioles of linked centrosomes in the maintenance of the filament-like structures.

YX: The centrosome is the organelle that allows the cell to have a particular shape and to move. It is also required for the correct alignment of the chromosome during mitosis. Like DNA, the centrosome will duplicate during interphase. A proteinaceous linker of centrosomes is an important structure that holds the duplicated centrosomes together during interphase. Removal of this linker at the onset of the mitosis enables the centrosome to separate and assist in the chromosome alignment during mitosis. The main findings of this paper are the identification and characterization of a new linker protein, CCDC102B. It appears as fibers at the proximal end of the centrosome and works together with other linker proteins to maintain centrosome cohesion. Its disassociation from the centrosome depends on the modification mediated by another protein, the phosphorylation mediated by Nek2A.

Were there any specific challenges associated with this project? If so, how did you overcome them?

NH: I think the most difficult part in this study were obtaining the immuno-EM images of CCDC102B. The proteinaceous linker of the centrosome is easily destroyed during the immuno-EM sample preparation. We tried for several months, and finally found a mild method to fix the cells and protect filament structures.

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Yuqing Xia

When doing the research, did you have a particular result or 'eureka' moment that has stuck with you?

NH: In this study, I think the 'eureka' moment was when we first screened the localization of CCDC102B, and found its filament structures between the centrioles. At that moment, we knew that it was the protein we were looking for.

Why did you choose Journal of Cell Science for your paper?

NH: I am a big fan of this journal and I read almost all the abstracts when the latest issue is out! It has a high reputation and quality standard in the cell biology field.

YX: Because my research interest is the centrosome, and many of the new findings on centrosomes are reported by Journal of Cell Science.

Have you had any significant mentors who have helped you beyond supervision in the lab?

NH: I was very lucky to join Dr Jianguo Chen and Dr Junlin Teng's lab. As my supervisors, they encouraged me to think about the project by myself, and gave me a lot of freedom to do the project I was interested in. I am also very grateful to my colleagues; not only

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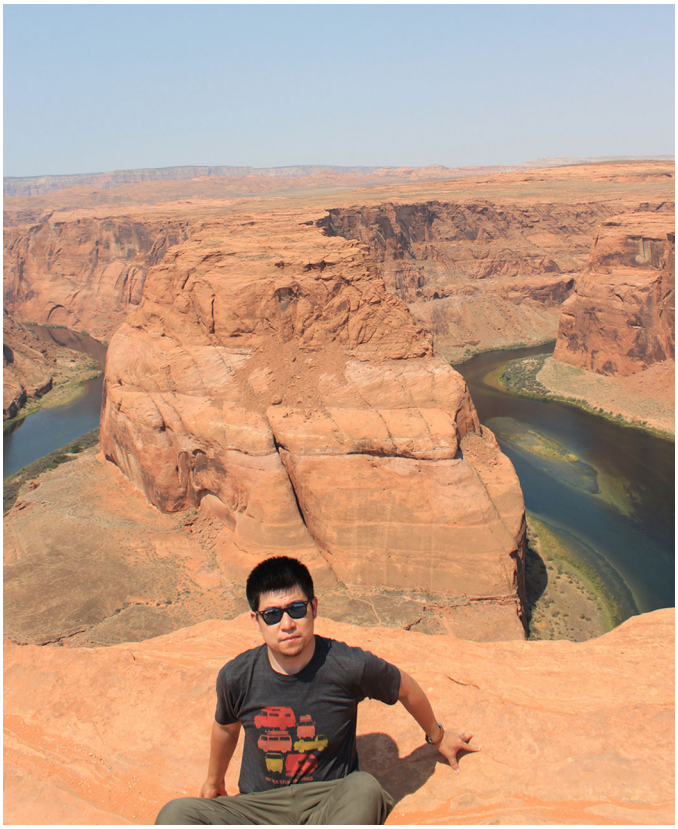

Ning Huang

do they help me a lot in my research, but also let me know the meaning of my life.

Who are your role models in science? Why?

NH: My role model in science is Dr Erich Nigg. He did a series of outstanding studies to identify new components of centrosomes and cilia, and revealed their roles in the different cell events. His research on centrosomal proteins really inspired me a lot when I began my PhD study.

YX: Leonardo da Vinci. He may be most known as a great painter, but he was also a great biologist, geologist, construction and military engineer. He was an all-rounder. He was energetic and smart, not limited to a particular field. I just want to be like him – try a lot, enjoy a lot, and be good at a lot of things.

What's next for you?

NH: To experience different fields in biological research, I started my postdoc career on microtubule-based axonal organelle transport with Dr Zu-hang Sheng at the National Institute of Neurological Disorders and Stroke (NINDS). For now, I am not sure whether I will continue my research career after the postdoc training, but I think I am good at it and I really enjoy the research process.

YX: I guess I'll leave academia. Science is fun, but most of the researches do not have a job scenario, and even if they do, it usually takes a very long time to see land. However, I'm not that patient. I prefer to see that my work directly helps people and makes their lives better. Therefore, I guess industry will suit me better.

Tell us something interesting about yourself that wouldn't be on your CV

NH: Jogging is my favorite! When the experiments are not working, jogging helps me to relieve the pressure and re-organize my thoughts.

YX: I love belly dance very much. And I took the stage to perform it at the 120th anniversary party of our university. It wouldn't be on my CV, but I am really proud of it.

Reference

Xia, Y., Huang, N., Chen, Z., Li, F., Fan, G., Ma, D., Teng, J., and Chen, J. (2018). CCDC102B functions in centrosome linker assembly and centrosome cohesion. *J. Cell Sci.* **131**, jcs222901.