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FIRST PERSON

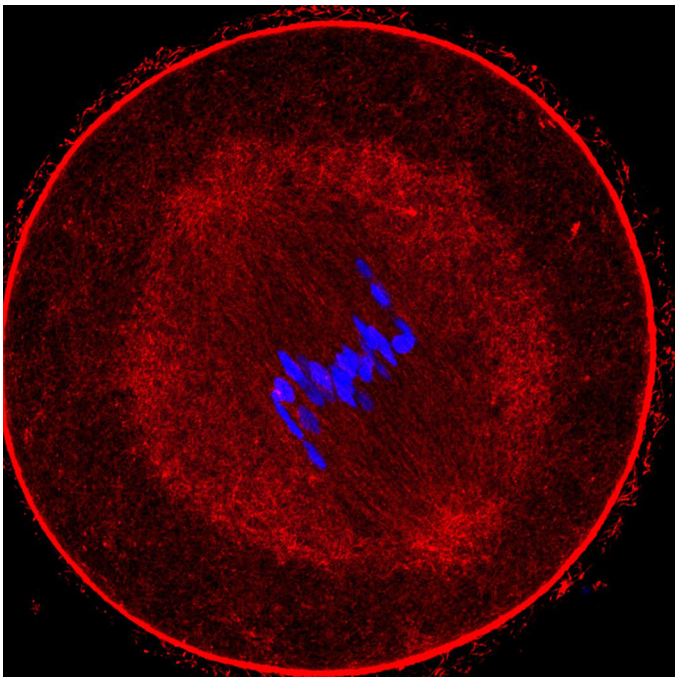
# First person – Zhe-Long Jin

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. Zhe-Long Jin is the first author on 'CAP1-mediated actin cycling via ADF/cofilin proteins is essential for asymmetric division in mouse oocytes', published in Journal of Cell Science. Zhe-Long is a PhD student in the laboratory of Prof. Nam-Hyung Kim at Chungbuk National University, Cheongju, Korea, working on the actin cytoskeleton and actin dynamics during female meiosis.

Zhe-Long Jin

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

When an oocyte is fertilized by sperm, the chromosomes of the mother and the father unite and a genetically unique embryo starts to form. Surprisingly, human eggs frequently harbour an incorrect number of chromosomes. Depending on the age of the woman, around 10 to 50% of eggs are chromosomally abnormal, or aneuploid. Fertilization of these aneuploid oocytes can lead to miscarriages, infertility, and Down syndrome. Actin is a family of globular multi-functional proteins that form microfilaments and participate in many important cellular processes in mammalian oocytes. Actin promotes chromosome segregation, and the dynamic reorganization of actin filaments is the main driving force for asymmetric division and polar body extrusion. Our results provide evidence for the importance of dynamic actin recycling by the protein cyclase-associated protein 1 (CAP1) for the asymmetric division of mouse oocytes.



**CAP1 knockdown induces abnormal actin (red) mesh accumulation in the mouse oocyte.**

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

It is difficult to get a clear actin filament image. In order to solve this problem, we reduced the background fluorescence as much as possible and used high-resolution microscopy.

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

I have read many papers in Journal of Cell Science before; I think the journal has a good impact and publishes quality research. I am honoured to publish in Journal of Cell Science.

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

Dr Namgoong helped me a lot in the lab. He is always very meticulous when running an experiment.

**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?**

My decision to pursue a career in science is greatly influenced by my father, a professor of animal science. As far as the most interesting moments are concerned: every time I am able to share new results with members of the lab.

**Who are your role models in science? Why?**

My role model is Prof. Sun of Nanjing Agricultural University. He also graduated from our laboratory. He is an excellent scientist with many published articles.

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**What's next for you?**

I want to continue to study and do research in Korea.

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

I can speak Korean, Chinese and a little bit of English. Although I have been in the lab for two years, I am actually still afraid of doing mouse experiments.

**Reference**

**Jin, Z.-L., Jo, Y.-J., Namgoong, S. and Kim, N.-H.** (2018). CAP1-mediated actin cycling via ADF/cofilin proteins is essential for asymmetric division in mouse oocytes. *J. Cell Sci.* **131**, jcs222356.