Hiroshi Hamada

Shaping gradients

***Dev Cell* 2:785-796 (2002). Arthur D. Lander, Qin Nie, and Frederic Y.M. Wan. Do morphogen gradient arise by diffusion?**

This is the first and one of a few *Developmental Cell* papers, and in a strict sense the only one so far, that is purely theoretical and does not contain any ”wet” data. The paper has at least two important messages for experimental biologists. First, through theoretical analysis, the authors studied how morphogen gradients are established and proposed that passive diffusion is sufficient. They concluded that almost all published experimental data was consistent with mechanisms based on simple diffusion rather than an alternative process, transcytosis, which was the prevailing model at that time. Their analysis illustrates a valuable lesson: that there is often more than one way to interpret seemingly straightforward experimental data. Second, and perhaps more importantly, the paper acted as a stimulus for developmental biologists (including myself) to integrate theoretical biology into their experimental investigations. In recent years, there have been many examples of beautiful work in biology that combine both approaches, and I believe there will be more in the future.

Dear Dr Lander

As you may know, next July will mark the 10th anniversary of the launch of Developmental Cell. To make that occasion, we have a variety of features planned during the year. One of them is a series of short features called 'Paperpicks'. In these, editorial board members will pick a paper from Dev Cell's archive that they particularly liked and write a short paragraph describing why. We're then thinking that we will present these picks in a similar format to the current abstract pages and have a short video (preferably, if not then an audio file) from the authors of the original paper discussing either how the research came about or how they have developed on it from that point. In the first group of invitations that we sent out, Hiroshi Hamada picked your 'classic' gradient paper from 2002. I'm attaching what Hiroshi wrote as his contribution for your reading pleasure (!).

The end result with the video would look something like this in terms of format (the Paperflick from Jerry Olefsky, with Hiroshi's paragraph taking the place of the abstract and highlights):

http://www.cell.com/abstract/S0092-8674(10)00888-3#Summary

As you have probably guessed, the reason for writing now is to ask you if you would prepare a video to be part of this feature about your paper. It really wouldn't need to be long or complicated, and if you'd prefer to delegate the job to one of the other authors (even though they are presumably elsewhere now) that would also be OK.

We're planning to run these throughout the year starting in January, so I'd like to ask if you would be able to send in the video no later than November 15th with the aim of using it early in the year.

We have some basic guidelines about video preparation here, although obviously the planned content of these features is a little different from

standard video abstract:

http://www.cell.com/video_guidelines

I hope you will think this is a nice idea overall and be willing to make a short video!

Best wishes

Debbie

<<Hiroshi Hamada.docx>>