AN AUDIENCE WITH…

Susan Desmond-Hellmann

In 2009, Susan Desmond-Hellmann left Genentech, after 5 years as President of Product Development, to become Chancellor at the University of California, San Francisco (UCSF). Since rejoining academia, she has overseen the creation of numerous UCSF–industry alliances, including recent deals with Pfizer, Sanofi–Aventis and Bayer. Similar partnerships, of varying forms, are appearing around the world, as pharmaceutical and biotechnology companies seek new sources of innovation to shore up faltering pipelines. Speaking with **Asher Mullard**, Desmond-Hellmann discusses the increasing interest in industry–academia collaborations and looks back on the lessons she has learned since leaving Genentech.

What is driving drug companies to collaborate more with academia?

I think that Pfizer, Sanofi–Aventis and Bayer have come to UCSF because there is a clear recognition that the deeper their scientific understanding, the more they stack the deck in favour of positive outcomes. High-quality science and depth of understanding is what UCSF — and academia generally, though not exclusively — can bring to the table. For instance, industry has had an enormous focus on chemistry, which is fantastic. But say a drug maker is developing something for diabetes, and needs to worry about the risk for cardiovascular events over time, they are faced with a fundamental biological question: what is the impact of a medicine on human physiology? Academia, where there are alternative sources of funding and a wealth of expertise and time, is a great place to study those deep questions.

How do you try to ensure that collaborations bear fruit?

I have some basic concepts to serve as pillars for collaborations, because there's a long history of industry–academia deals not going well. People often point to failures that are caused by fights or conflicts of interest, but what I think is far more common and worries me more are deals that waste time, money or both. So, one of my pillars is the fundamental belief that the best collaborations are scientist to scientist. As administrators, our role is to enable that kind of collaboration after researchers meet — for example, at a poster during a meeting. Our approach is absolutely not a top-down one; rather, we want to make sure that, when interactions do occur between scientists, they can go on to the next step. I also believe that there is no substitute for good science.

You've recently announced deals with three big pharma players. Given the competition within industry, is there a point at which having too many partnerships may become detrimental to cooperation?

I have not heard of any push back like that. Also, through my experience in private industry, I think that the best way to spur innovation and translation is to set it up as competitively as possible. The best idea, not politically favoured programmes or pet projects, should win. The more competitive decision making, scientist-to-scientist collaborations and 'pick the winner' type approaches you can set up, the better.

What does the future hold for these collaborations?

As a former head of product development myself, I think that future investment by industry in more deals with academia will depend on a very business-like assessment by companies of what their return on investment has been. They're going to do the math, as I would expect them to. I see what's happening at our institution as one of many models of what companies are looking at right now. Others include internal reorganizations and investments in R&D in other countries, such as India and China. Whether companies will continue to invest in the model that looks like ours at UCSF will depend on whether they see returns.

Frankly, I hope they see positive outcomes. Nothing would make me happier than knowing that, at some level, we set up a deal that facilitated a breakthrough product, or a new way of diagnosing patients or of improving a therapy's safety or efficacy. And that would lead to more investments too.

Since leaving industry in April 2009, how have your thoughts on drug development matured?

It's good to have the perspective of stepping back, having been so deeply immersed in it. If there was one thing I could improve, it would be to make our ability to bring discoveries to humans more predictable. Uncertainty remains an enormous challenge, not just in clinical trials but also in the post-marketing arena. Our ability to predict long-term safety and efficacy outcomes remain so poor, so weak. I think and hope that more biomarkers, better imaging and better surrogates will help us in this. But that lack of ability to predict what will happen in the future is very challenging. I also think that in general our uncertainty hasn't been well communicated to the public.

I also feel that we are in a time like no other in terms of the possibilities. I felt that at Genentech, and I feel it even more strongly at UCSF. This is a fantastic time in science! We have opportunities unlike any I've seen in my career to make differences and do wonderful things.

What do you miss most about being at Genentech?

My favourite part of being in product development was the moment when we would unblind a trial and see the answer to a question that nobody else had previously addressed. I got to experience this with trastuzumab, bevacizumab and ranibizumab. Boy, that was fun! My heart would always be racing, because I would be worried the answer would be no. And sometimes it was. But when the answer was yes, what I found most exciting was the sense that I knew something, for the very first time, that would really change patient care.