

Q & A

Jonathan Ewbank

*Jonathan Ewbank received his Ph.D. training in biophysics with Tom Creighton in the MRC LMB in Cambridge and the EMBL in Heidelberg. After a productive spell in Ulrich Hartl's lab, then at the Sloan Kettering Laboratory in New York, working on the interaction of folding proteins and chaperones, he switched fields to do a post-doc with Siegfried Hekimi at McGill University in Montreal, studying the timing gene *clk-1* of the nematode *Caenorhabditis elegans*. He then moved to the Centre d'Immunologie de Marseille Luminy (CIML) in 1997 to work on cellular microbiology with Jean-Pierre Gorvel. In 1999, he started his own group at the CIML and has subsequently focused on host-pathogen interactions using *C. elegans* as a model.*

What turned you on to research in the first place? I was lucky enough to have had the chance to work in the R&D department of G. D. Searle (now defunct) for a year before starting an undergraduate degree. This was in 1983 when the large-scale production of recombinant proteins was becoming a reality. It was an exciting time. I worked with an enthusiastic group of people, and shared the real thrill that occasionally comes when a significant advance is made. The department used to invite academic speakers on a regular basis and one was Tom Creighton. He gave a great talk on understanding (or rather not understanding) the basis of protein folding. I was hooked and five years later started a PhD under his supervision at the MRC LMB.

What is the best advice you've been given? One of the scientists at Searle, Helmut Sassenfeld, said that it's only worth doing research if it "gives you a buzz". I say the same thing to students who come to see me, that they need to have a real enthusiasm and curiosity for

a subject. It's the only way to get through the fallow periods and frustrations that invariably accompany any project.

What has been your biggest mistake in research? While trying to clone a gene that's involved in biological timing in *C. elegans*, after several months of fruitless efforts, I had a first encouraging result. As I went further, more and more signs suggested that it was a false lead, but I wanted so much for the first result to be real and came up with more and more obtuse reasons to explain the increasing number of inconsistencies. In the end, there was the inescapable conclusion that I'd been chasing the wrong gene. A year of work just swept away. This has taught me, I hope, to be less stubborn, but I still have a tendency to try to go too fast. Fortunately I now work with my wife, whose rigour counterbalances my impetuosity. Nathalie never hesitates to point out when my ideas are on shaky ground!

Do you have a 'scientific hero'? Collectively, the MRC LMB. Almost everyone I came into contact there was remarkably open to discussion with the students. You could come away from the cafeteria with your head spinning with ideas. Students were expected to have ideas of their own and be able to defend them. And added to that was the emphasis on technological development, with a great support staff, which meant that one felt that one had access to the best possible tools.

What are the big questions that remain to be answered in your field? Can one really model the evolution and dynamics of host-pathogen interactions at the individual and population levels, and can this lead to better strategies for combating the emergence of future diseases. I adhere to the idea that, within the next 20 or 30 years, at least one very nasty pathogen — much worse than SARS and more likely natural than man-made — will sweep the globe. Defoe's *'Journal of the plague years'* still makes salutary reading.

Why do you work in France? I always found attractive the French model of permanent government-funded posts for technicians and researchers at all levels. In an ideal situation, this can encourage long-term and high-risk projects. Sadly, the emphasis is more and more on research with direct practical application. In my opinion, this is woefully shortsighted and comes at a time when other countries are again realising the value of high quality basic research. Although it's increasingly difficult to obtain these fixed posts, they also give a stability that's conducive to family life. And lastly, there was the opportunity to work at the CIML, a very dynamic institute, and live in Marseille where the quality of life is excellent.

You've a 'Science and Society' part to your webpage: why?

I've been interested in the impact on society of molecular biology since being an undergraduate. At the LMB we had a graduate student journal club, and after a talk on some of the potential problems, one of my fellow students said, "why bother discussing this; it's all going to happen anyway". I don't agree. There are enormous financial pressures pushing research in certain directions, but these can be resisted. I recently heard John Sulston give an excellent talk where he called for a more open research ethos that could counter some of the problems that arise when the stakes become so high. I sometimes get the impression that researchers take the view "well that's OK, someone else is thinking about these issues, I can just carry on with my work". In my view, these issues should be an integral part of science education. Luckily there are more and more initiatives like the annual EMBO Science and Society meetings that bring together the interested parties, and increase awareness of the issues at stake.