

MOVERS

Luis Serrano, director, Systems Biology Research Unit, Barcelona Biomedical Research Park, Barcelona, Spain



2001-06: Director, Structural and Computational Biology Programme, European Molecular Biology Laboratory (EMBL), Heidelberg, Germany

1992-2001: Group leader, EMBL, Heidelberg, Germany

Luis Serrano's self-reliant approach in academia has served him well. Rather than simply attend lectures to pass the end-of-year exam, the biology major at the Complutense University of Madrid created and undertook an independent research proposal — a hands-on exercise that convinced him research was his calling.

In the early 1980s, Serrano pursued graduate work at the Autonomous University in Madrid, focusing on protein microtubules. It was a wise decision given that protein structure and folding were becoming hot topics. There he learned an important lesson for advancing an academic career: construct experiments with a view towards making a small but valuable stepwise contribution, rather than attempt to solve a bigger, less manageable problem in one attempt. Through his PhD work in cell biology and protein biochemistry, and postdoc work on protein folding at both the Autonomous University and the University of Cambridge, UK, Serrano has been at the leading edge of protein biology research. He ultimately chose to go to EMBL in Heidelberg, Germany, for his first senior research position. "I had the best environment to become fully independent, with all the resources I ever wanted," he says.

Serrano has also served as the scientific consultant to four different European companies, advising them at their start-up phase regarding the feasibility of an idea. But the corporate world doesn't hold the same allure for him as academia. "What could a company offer me that I don't have at EMBL?" he asks, noting that a company would dictate the path of his research. Given his independent streak, it's not surprising that Serrano advises young scientists not to blindly follow their supervisor, but to challenge themselves to come up with an original idea. "Become a super researcher, not a super technician," he says.

Now Serrano will direct a new systems-biology unit as part of a joint venture between EMBL and the Centre for Genomic Regulation (CRG) in Barcelona. It will be funded in part by the Spanish Ministry for Education and Science. "The partnership with the CRG will lead to greater interaction between EMBL and the Spanish scientific community, which is in a tremendously dynamic phase of its development," says Iain Mattaj, director-general of EMBL. And as Spain continues to increase spending on new research efforts as part of its National Research and Development Plan, Serrano hopes to use the 'EMBL model' to create a training ground for talented young scientists to become systems biologists. ■

Virginia Gewin

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RECRUITERS & ACADEMIA

Training peer reviewers

The peer-review process provides an opportunity for clinicians and scientists to train their fellows and postgraduate students as part of a one-on-one journal-club exercise. Supervisors can assess students' critical thinking and writing skills early in their careers. Consider these ten steps to teach the art of reviewing.

1) Explain how to proceed with a peer review, stressing the importance of respecting confidentiality and the rules of the journal or grant body.

2) Establish a submission deadline. The review process should take up to three hours. Set a time for final discussion before the deadline, allowing both student and supervisor time to read and review the work.

3) Adopt the right mindset. Don't accept the manuscript 'as is', and don't be hypercritical. The student might imagine that it's their own manuscript that to be rejected, and that they have the opportunity to improve it.

4) Read the manuscript once, taking rudimentary notes.

5) Follow the journal-specific author and reviewer instructions. Note those pertaining to the category of the manuscript, the word length, abstract structure and the format for references, figures and tables.

6) Verify each citation with PubMed or similar — which also gives

you a chance to read generally on the topic. Highlighting minor citation errors shows that the paper has been read thoroughly. Ask the following: does the submitted work complement or duplicate the authors' and others' previous work?

7) Re-read the manuscript armed with the specific author instructions and good background knowledge.

8) Write the review envisaging that the editor is too busy to read the manuscript in-depth. Summarize the key features in a paragraph, stating the topic of the paper, what was performed, the key conclusions drawn, why this is important, and why this is a novel contribution. Strengths or problems with the manuscript or methodology should then be detailed.

9) Write all comments as if they will be seen by the authors. Although most reviewers are anonymous, caution students that a disgruntled author could recognize one's spelling variances, grammar or clichés.

10) Submit the review, telling the editor the review was written with a student and that you agree with their assessment. Show the student the submitted review as well as the editor's and other reviewers' comments. ■

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GRADUATE JOURNAL

Computer cold turkey

This week, I suffered one of those losses we all dread. Without any warning, my three-and-a-half-year-old laptop hummed, blue-screened and collapsed. Despite frantic resurrection attempts, it did not recover. Within hours, IT pronounced it dead.

Naturally, such a loss provokes strong emotions. Some of these I was prepared for: the heart-wrenching anxiety of checking my back-ups, and the frustration of hours drudging through the latest computer lingo to find a suitable replacement. But what surprised me was how addicted I had become to the ability to log on any time, any place. Without the freedom to work in cafes and e-mail from home, I felt unproductive and out of touch.

But after the worst withdrawal symptoms had passed, I wondered whether full technological access comes at a cost. An omnipresent tool can make you constantly feel guilty for not working. Before its demise, my laptop would fill my home with whispers: "Come on, your thesis deadline is just three months away! Write, write, write!" Glumly, I'd obey, only to stare torpidly at the screen through the night instead of sleeping. Now, deprived of the 'freedom' of working at home, I'm pushed to make the most of my desktop hours at the office. And for the first time in ages, without my laptop's accusatory glare, free time actually feels free. ■

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