

GRADUATE JOURNAL

Facing the reviewers

It is somewhat disheartening to reflect on my years of research and then look at the figures I've assembled for my first real research paper. I am proud of my near-finished work, but all those pages of failed experiments are hard to swallow, when I look at just seven pages of pretty pictures.

I can see the hurdles that remain, and most of them involve what I'm doing right now — staring at my laptop. Despite overwhelming mental distraction, I try to focus on writing this paper and imagining the difficult questions that those notorious reviewers might ask. I feel as if I'm 13 and being sent to the principal for smoking, except now it takes four weeks to find out my punishment. I am probably too close to this work to judge its merit: I know the intricacies of the experiments and that the story has some holes here and there.

During my graduate years, I have reviewed dozens of papers for my principal investigator and ripped apart data, suggested experiments or controls, and blatantly stated that this work is not worthy of the journal to which its been submitted. I am scared of getting a reviewer like myself! I'm hoping I am being too hard on myself because I know the work too well. In any case, I hope that the principal is in a good mood and I just get a slap on the wrist.

Jason Underwood is a graduate student in microbiology at the University of California, Los Angeles.

Hard times for Swedish physician-researchers

Physician-researchers form an important link between pre-clinical and clinical medicine. They often put research findings into practice and they play a crucial role in maintaining high standards in health care. They often teach and encourage medical students to do research. So it is important for them to strike a balance between medicine and research.

This isn't always easy, as a 2003 Swedish research council survey indicated. Many of the 425 medical students and 182 junior doctors cited bad pay and a heavy workload as reasons to abstain from research.

The situation is like that in North America: only one in five Swedish physicians with a PhD plans to become a senior lecturer. The number of researchers with MDs is declining, for several reasons.

Getting a PhD involves a huge effort, especially for MDs, who often have to work full-time in a clinical setting while doing their PhD. The average age for MDs at the Karolinska Institute to attain a PhD increased from 38.5 in 1991 to 40.8 in 1997. Sweden's healthcare system is constantly slashing costs and increasing patient numbers. MDs find it hard to allocate time for research, and the pace has made supervisors less keen to take on new recruits.

To become a specialist in Sweden, an MD has to complete a two-year internship and another five years of specialization. Their salary increases by US\$1,000 a month when they qualify, but that pay rise is often delayed for physician-researchers by the number of months they spent on research.

A PhD is no longer a prerequisite for top clinical positions at university and teaching hospitals. And

funding for medical research is declining.

To encourage more physician-scientists, economic incentives need to be created. Norway sets an example: junior doctors are allowed to include 12 months' research towards their specialization requirement. This would reduce the salary gap with colleagues who are not doing research. Healthcare providers should reward research and create an atmosphere where it is an integrated part of clinical work. This means creating positions for young physician-scientists and remedying the shortage of supervisors needed to keep Nordic medical research at a world-class level.

Finally, the state should increase funding for clinical research. If it doesn't, young physician-scientists may soon be another species menaced by extinction.

Jonas F. Ludvigsson is a physician-scientist at Örebro University Hospital in Sweden.

MOVERS

Carole Moquin-Patthey, head of unit, European Medical Research Councils, Strasbourg, France



The jewellery designed by Carole Moquin-Patthey embraces duality: a brooch may transform into a necklace, and small studs into long elegant earrings. Moquin-Patthey's own career is marked by a series of double lives — art and science, chemistry and biology, adaptability and obstinacy.

It has led her from work in a hospital pharmacy to heading the European

Medical Research Councils (EMRC), via plant biology, marine chemistry and membership of the French ethics committee. Along the way she learned Indonesian and, with her banker husband, raised three children. "Not a typical career path," she laughs.

She dropped in on the Scripps Institution of Oceanography during a holiday after graduating as a pharmacist. That impulsive move led to four months' research with William Fenical on soft corals, and to the realization that her future lay in life sciences. An encounter at a Gordon research conference sent her home to France to do a PhD.

During a few years in Australia and Indonesia, a mix of stubbornness and opportunism kept her going when the science job outlook looked bleak.

"I was translating drug-approval documents, but couldn't get a full-time job," she recalls. "I took care of my children, and it was a very enjoyable

period." A successful sideline in jewellery design didn't, however, distract her when she had a chance to return to science.

Her efforts eventually secured her a postdoc in the United States. Back in France after a decade, a 40-year-old mother-of-three without a job offer, she was undeterred by advice to stay at home. One of many unsolicited letters persuaded Boehringer Mannheim to create a new position for her. From there it was a short step to the centre of national research funding at the medical research foundation (FRM) and policy making at the national institute of health and medical research (Inserm).

Her EMRC post involves creating a new pathway for clinical research in Europe with a single entry point: part of the European public-private initiative for developing new therapeutic tools. It uses her experience in science and legal and regulatory areas — and with her easel at home, she still finds time for art. ■

CV **2001–2004:** Head of scientific strategies and partnering, Inserm, Paris, France.

1998–2001: Scientific director, FRM,

Paris, France.

1996–1998: Coordinator, clinical research and development, Boehringer Mannheim, France.

1992–1995: Scientist, Enzon, New Jersey, USA.

1990–1992: Postdoc, chemistry department, Columbia University, New York, USA.

1986: PhD in pharmaco-chemistry, School of Pharmacy.

1984: PharmD, option Industry, School of Pharmacy, Paris, France.