

PATCHING THE LEAKY FACULTY PIPELINE



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I have heard the analogy of a leaky pipeline being used to describe the process of developing from a student to an academic. I have seen the analogy in action throughout my career path, with so many friends leaving along the way. It is true that academia is not right for everyone, and I suppose the process, however bruising it may be, helps individuals figure that out. There are many situations, however, when the cause of the leak is external—a sharp object puncturing the pipe, if you will. For those situations I would like to offer another analogy: the set

of tools or patches that we as individuals, departments, and universities can offer to prevent or mitigate leaks from the pipeline. I cannot claim to have made it all the way through the pipeline; as I write this I am in the year leading up to tenure evaluation. My career has certainly seen a lot of punctures, but the support of individuals and good departmental and university policies have prevented me from leaking out along the way so far. I want to share some of my experiences with you to provide food for thought for colleagues, departments, and universities wanting to help young colleagues make their way through the academic pipeline.

I was incredibly fortunate in having very patient, understanding advisors. My daughter was born when I was a master's student at the University of Texas at Austin. It was a competition between finishing my thesis and her birth, and she won. During that time my advisor, Mark Cloos, was very understanding of my situation. He supported me throughout, both financially and personally, even lending a baby swing, which I kept in my office. Some days, I brought my daughter in her baby seat into the microprobe lab with me. She attended lectures in the graduate metamorphic petrology class I was taking, in which Bill Carlson graciously agreed to host an extra "student." Although my daughter seems to have no interest in science, I often wonder how much metamorphic petrology sank into her subconscious that semester.

Later, during my PhD at Johns Hopkins University, John Ferry was extremely welcoming of my daughter. He also put up with the interruptions that life sometimes brings. My husband had an offer of a tenured faculty position in England while I was still working on my PhD. We felt it was an opportunity we couldn't pass up, so we moved to London for a year to try it out. John was very supportive of me during this time even though I made very little progress on my PhD. Then, later on, health issues for both my husband and myself nearly derailed me again. It was quite a ride for several years, but my advisor, John, was a steady influence throughout.

On-campus daycare, especially for babies, was something that made life as a graduate-student mother much easier. At the University of Texas there were several choices of on-campus daycare, and we chose a co-op daycare. It was the best daycare experience we had—I could visit my daughter at lunchtime with just a short walk across campus. This was not the case at Johns Hopkins, and I spent a lot of time driving to and from daycare centers during the early years of my PhD.

Having a supportive spouse made a world of difference. As geologists, many of us spend time in the field. As a graduate student I had the opportunity to assist in several field excursions. My husband and daughter came along. They would go off and do something different during the day while I participated in the field work, and we would all meet up for dinner in the evening.

A proactive department chair, Mike Brown, and a forward-thinking spousal-hire policy at the University of Maryland helped me to land my current job. The department took a risk on an untested, freshly minted PhD by hiring me right out of my degree, but they offered me a two-year postdoctoral fellowship linked to a tenure-track faculty position

to help get me started. For spousal hire to work, the fit has to be right for the departments of both spouses. When it works it can potentially benefit both the individuals hired and the departments.

Active mentoring for new faculty and general support from senior faculty, both within my department and in the wider community, have been critical to my career. My senior colleagues have exercised "tough love" in making sure that I know what is expected of me and encouraging me to do things that help me meet those expectations. They have pushed me to become involved in the greater geologic community in ways that I would not otherwise have considered, and, even though this has taken me outside my comfort zone at times, I have learned much in the process. They have pushed me to continually submit grant proposals, despite my early failures, offering advice on all aspects of the grant-proposal process. They continue to push me to produce high-quality work and write thoughtful papers about my results.

A number of professional development resources have helped me launch my career. The Early Career Geoscience Faculty workshop run by the On the Cutting Edge program was invaluable in giving me a clearer understanding of the tenure-track process in the United States and helped me develop my research and teaching. The workshop leaders continue to act as unofficial mentors as I move forward, plus the program introduced me to a peer group of tenure-track geoscience faculty at other universities.

Now for some ideas: If you are an advisor or mentor, remember that there is no single path through the pipeline for students, postdocs, and junior colleagues. Life's "punctures" will ensure that their experiences will not parallel yours. Provide support in whatever way you can. Remember that we all have lives outside of our jobs, and sometimes, especially during adversity, we need help organizing and prioritizing. Make the expectations of academia as clear as possible so that those you mentor and advise have every chance of succeeding. While we may agree with Peter Doherty (Nobel Laureate in Medicine) that to succeed as a scientist, "You have to be willing to get up when you're knocked down.... We scientists are rather accustomed to falling flat on our faces!", it sure helps to have someone give you a hand up the first few times.

Departments can be proactive when recruiting early-career faculty and think outside the box in their hiring policies. Mentoring programs for early-career faculty are crucial. Departments should offer a supportive environment in which junior faculty have the opportunity to succeed. Universities that provide faculty and students, as well as their partners and families, with affordable on-campus daycare and quality healthcare options create an atmosphere in which individuals can work more productively.

It is up to all of us to contribute to keeping the pipeline in good shape. Act in any way you can to promote policies that make life easier for those dealing with health issues, parenting, two-body problems, or any other issue that contributes to the leaky pipeline. Collectively, we can stem the leaks, so that there is always a supply of diverse, vibrant faculty.

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In her research, Assistant Professor Sarah Penniston-Dorland uses geochemical tracers and petrologic tools to investigate high-temperature processes in rocks as diverse as blueschists and amphibolites of the Catalina Schist and mafic and ultramafic igneous rocks of the Bushveld Complex.