

The Phil Patel Case

Phil Patel is an Assistant Professor in the Environmental Sciences program at State Polytechnic University (SPU). This is his fourth year in the job, and in two more years he will go up for tenure. Patel's work is interdisciplinary, touching on analytic chemistry, biochemistry, and science education.

After a year's worth of hard work, Phil and his graduate students have developed a rapid, inexpensive test to analyze trace chemical compounds in a strand of hair. To connect this test with the science education part of his research agenda, Phil plans to mount a citizen science project, recruiting participants from around the world to submit hair samples, complete online surveys (about where they live, what they eat, whether they smoke, etc.), and take part in online discussion forums. Phil thinks this project could build a database showing the impact of local environment (including air and water quality and agricultural practices) on the compounds entering people's bodies, and that non-scientists could become engaged in thinking more scientifically by discussing the connection between trace compounds in their hair and the features of the environment from which the trace compounds might be coming.

Phil believes this project, if it succeeds, will be central to helping him get tenure. It ties together his different areas of research, is likely to attract public interest, and should contribute new environmental knowledge as well as a new tool for analysis. Excited about how this is coming together, Phil meets with Cheryl Jennings, the head of the Environmental Sciences program, to update her on his plans.

"That's great!" Jennings says. "This will definitely help you get the publications you need to make your tenure case strong enough to be a slam-dunk. You should tell the Dean of Science about this project; he likes to be in the loop about research that's likely to make a splash with the public. And, don't forget to get the protocol for the citizen science part of this approved by the IRB."

Because the planned project includes hair sampling and surveys, Phil understands that the citizen scientists will also count as human subjects, so he has already drafted a protocol for the Institutional Review Board, laying out potential risks and benefits from participation, describing how personal data will be protected and how results of the research will be shared.

When Phil meets with Ken Adams, the Dean of Science, Adams is enthusiastic about the project. “This is the project we’ve been waiting for!” Adams exclaims. “This is the perfect opportunity to set up a commercial venture that will bring money into the college to support our research in a more sustainable way.”

Phil is surprised. Adams explains that Phil and the university should patent the rapid hair analysis technique (allowing them to charge a licensing fee if others want to use this technique) *and* also charge a fee from participants who send in hair for analysis. “23andMe has been charging participants \$99 to get partial gene sequences, and thousands of people have done it,” Adams says. “You just have to play up the benefits of knowing the trace chemicals in your hair and people will pay money to be in your project, too.”

After this meeting, Phil sits down with the draft of his protocol. He worries that the IRB will view playing up the benefits for participants as deceptive. He also wonders whether commercializing his project will introduce any new risks. As he’s pondering a rewrite, something else occurs to him: patenting his rapid hair analysis technique means he won’t be able to get it published, which will mean one less paper in his tenure file. On the other hand, he thinks, if he decided not to publish the results of the citizen science project, he might not need IRB approval in the first place. The Dean gave the impression that bringing in money was more important than getting new publications. Maybe commercializing is the surest route to tenure?

Should Phil Patel submit his protocol (including the possible commercialization of the test and participation in the citizen science project) to the IRB? Why or why not?