



## GRAD SCHOOL ON THE BIG SCREEN

Higher education goes under the microscope in new **'PILED HIGHER AND DEEPER'** movie

JOVANA GRBIĆ, C&EN CONTRIBUTING EDITOR

**IN THE OPENING** minutes of “Piled Higher and Deeper,” veteran graduate student Mike Slakernery describes academia in a nutshell to a bright-eyed, eager new graduate student during orientation: “It’s like high school, except with much bigger egos.” Just as in the wildly popular comic strip “PHD Comics,” upon which the film is based, graduate school and the ivory tower are the subjects of satire, seen as they are through the eyes of protagonist graduate-student archetypes.

There’s Cecilia (played by Alexandra Lockwood, a planetary sciences graduate student at California Institute of Technology), the eternal optimist. She’s enthusiastic about every aspect of graduate school until the realities of its drudgery and sacrifices put her dedication to the test. Social sciences graduate student Tajel (played by Caltech chemistry graduate student Crystal Dilworth) is the resident cause-adopter always prepared to

offer information such as the fact that graduate students earn less than McDonald’s employees. Slakernery (played by Caltech chemistry graduate student Evans Boney), who has been in graduate school through at least two U.S. presidents, teaches the first-year Nameless Graduate Student (played by Caltech undergraduate physics major Raj Katti) to relax a little more as he struggles to earn his place in the laboratory of formidable Professor Smith (played by information technology consultant K. Zachary Abbott).

**THESE CHARACTERS** can all be traced back to “PHD Comics,” a comic strip created and illustrated by Jorge Cham. The strip got its start in 1997, when Cham was working on his Ph.D. in robotics at Stanford University. Initially it had only a

**COMICAL** In this July 20, 2011, “PHD Comics” strip, Cham explores how intellectual freedom changes as scientists climb the academic ladder.

humble circulation in the school’s engineering labs, but the comic strip’s website now generates 7 million hits each year. Cham hopes the film, which is being shown at

schools across the country this fall, will eventually make its way into even wider circulation.

In bringing “PHD Comics” to the big screen, Cham almost exclusively used graduate students in the cast and crew and filmed around their research schedules. His goal was to prove that graduate students are more complex and diverse than how they’re often portrayed in pop culture.

“Sometimes, television shows or movies only portray one type of character that you see in graduate school, one stereotype,” he notes. “One thing we wanted to do with this movie was show that grad students are not this one-dimensional nerd or geek. You see people from all kinds of different backgrounds.”

Dilworth, who in real life is both a chemistry grad student at Caltech and an accomplished professional dancer, agrees. “With the movie, we were trying to show scientists as real human beings.” Instead

**& MORE ONLINE**

Want to see the movie for yourself? Find a screening near you at [jorgecham.com/screenings/screenings\\_map.php](http://jorgecham.com/screenings/screenings_map.php).

of depicting scientists as either robots or the title characters of “Revenge of the Nerds,” they wanted to “bridge the gap between those two,” Dilworth says. In pop culture, she explains, scientists “are only interacting with each other, and rarely in the real world. And when they do interact in the real world, it never goes well.”

**GRADUATE STUDENTS** on hand for the premiere at the University of California, Los Angeles, last month seemed to see themselves in the film’s characters. At times comparing graduate school to a pyramid scheme and a bad marriage, the film satirizes the interview process, aloof professors, the constant search for free food, group meetings, the dull monotony of lab life, procrastination, and Ramen noodles.

But “Piled Higher and Deeper” is at its best when it peels away the impeccable surface of academia to expose it for what it is: imperfect and real. The movie reminds viewers that the majority of research rests on the backs of grad students and postdocs in what can best be described as a feudal work structure. And it emphasizes that most of the time, scientists don’t really have all the answers, so they keep on looking. The movie is in many ways a meta-analysis of why scientists do what they do.

A huge part of the success of “PHD Comics” may be attributed to the fact that the strip resonates with current and former graduate students of every ilk. The comic, like the movie, never singles out one distinct field, subspecialty, or discipline, but rather makes general observations that any academic could relate to.

Cham credits the emphasis on universality to his gregarious brother, who preceded him in graduate school at Stanford and collected a diverse group of friends in different areas of study. When he would hang out with this group, Cham noticed that they would all talk about the same topics, the same gripes. “From the very beginning I saw that there were commonalities between all of these experiences. I thought it was very interesting to touch more upon these commonalities than the differences.”

Current and former students contact Cham in droves via the strip’s website and e-mail, as well as during his frequent world lecture tours. All are eager to see their stories immortalized in the strip. “One thing I realized after only a couple of years,” Cham reflected, “was that the comics weren’t really about what I was going through or my feelings. The comics

## The movie is in many ways a meta-analysis of why scientists do what they do.

were kind of a focal point for everybody’s experiences.”

Exploring that focal point has allowed Cham to elevate “PHD Comics” from a pithy humor piece to a conduit for students’ shared experiences, triumphs, boredom, frustration, and pain. Cham suggests that the comic plays this role at least in part because many students are unwilling to share their darker anguish or insecurity with each other, whether because of competitiveness or a “stiff upper lip” graduate culture. He says that many students tell him that the comic helps them to cope with and survive the hardships of graduate school.

Dilworth, who got introduced to “PHD Comics” in the chemistry lab she worked in as an undergraduate at UC San Diego, started reading it because she found it funny. But the strip soon took on greater significance because it resonated with how she perceived graduate student life. “I was an undergraduate researcher, I was not a graduate student. I was able to watch the way the adviser interacted with his Ph.D. students, the way the lab functioned, but I wasn’t a graduate student, and I didn’t share that experience yet. All of the things I read in the comics, I saw reflected in real life through the graduate students in the lab.” After a thoughtful pause, she added: “And after seeing all those things, I still decided that grad school was a good idea!”

Sometimes, this deep connection even means exploring the darker underbelly of academia, albeit subtly and always with humor at heart. “I guess it wouldn’t be a very good comic strip if it wasn’t humorous. So it always uses humor in one way or another,” Cham says. But despite this, or perhaps because of it, the comic has begun to shine a light on some of the more serious effects of graduate school and the academic system. For example, strips have explored the high rates of dissatisfaction, hopelessness, anxiety, and even clinical depression among graduate students, 10% of whom admitted contemplating suicide in

a 2004 study conducted by a UC Berkeley mental health task force. They’ve also explored the stress of how hypercompetitive grant funding and low turnover in tenured professorships have created an overabundance of Ph.D. trainees relative to available

positions in the academic marketplace.

“One of the things I think that people respond to in the comics, and the reason it’s grown in popularity, is that we don’t just make fun of situations and characters in it,” Cham says. “From the beginning, we’ve asked the fundamental question: Why? Why are we doing this? Why did we go to grad school? Why are we sacrificing all of these things? Why do we still not have a normal life

and aren’t getting normal jobs? Why are we subjecting ourselves to all of this? Because in a way, as serious as graduate school or academia gets, it’s still self-imposed. Nobody’s making you do any of these things, right?”

**IN THE END**, “PHD Comics”—the comic strip and its big-screen adaptation—is really an opportunity to ask why we, the collective academe, continue to train future generations of investigators the way we do, when to so many on the outside, the system might seem antiquated or even crazy. As Slakernery wisely sums up at the end of the movie, “There is nothing reasonable about pursuing a life of reason.”

“The big question then becomes why do we pursue an academic career, and in 14 years, I still don’t think I have an answer,” Cham says. Luckily for us, Cham, ever the faithful academic at heart, is firmly committed to gathering more evidence. “I always say that if I draw a comic strip for every day that I was in grad school, I’m still only halfway through.”

*Jovana J. Grbić, Ph.D., is the creative director of Los Angeles-based ScriptPhD, specializing in science communication in entertainment, advertising, and media. She tweets as @ScriptPhD.*



BRETT DEVERMAN