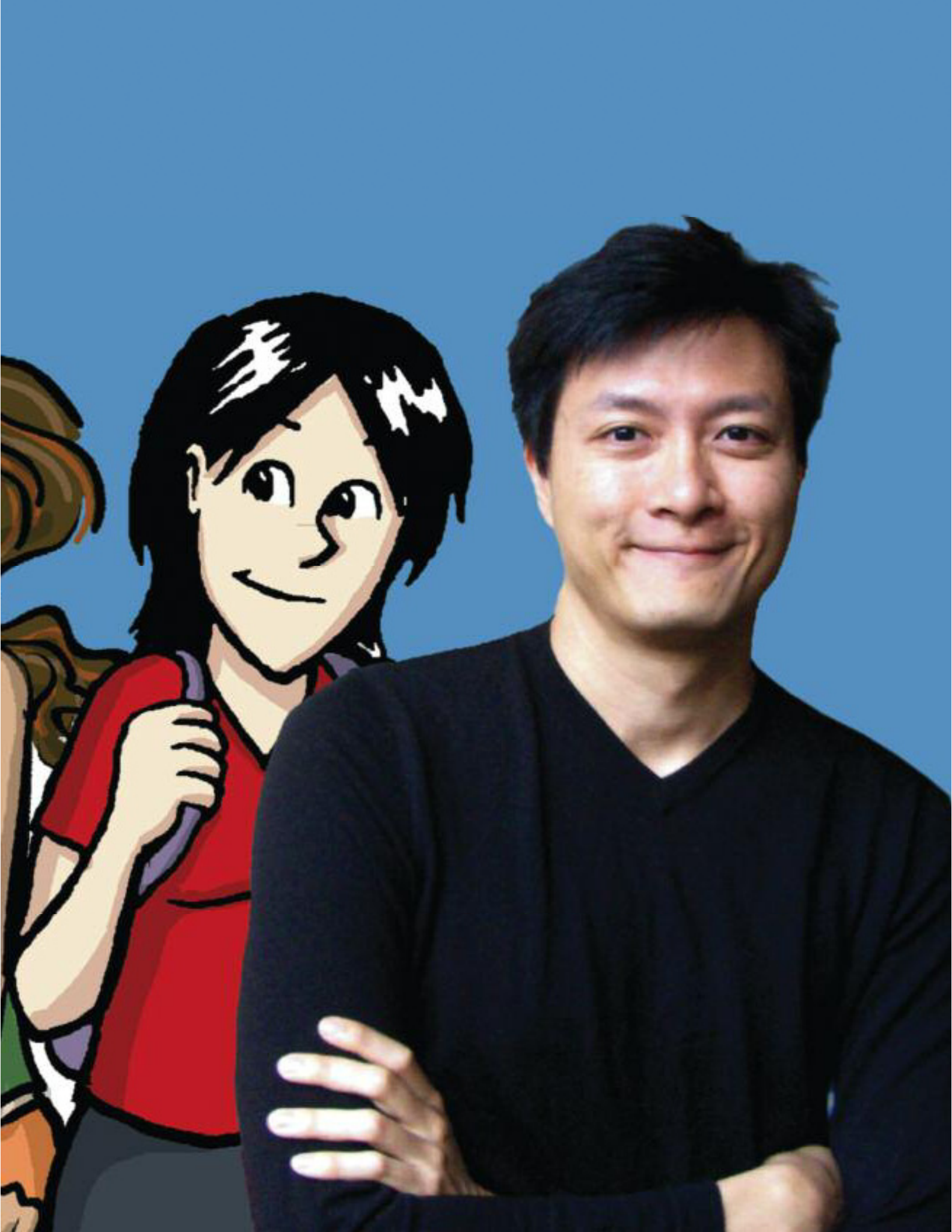


# Jumping off the page

When Jorge Cham adapted his hugely popular *PhD* cartoon for film, he eschewed animation and hired real Caltech students and academics for his comically true-to-life doctoral tales.

**Paul Jump** reports









**A**bsent-minded academics and scientists who are a few base pairs short of a double helix are as much a cinema staple as maverick cops and superheroes with a troubled past. For all the recent rise in 3D film, Jorge Cham believes that researchers are rarely portrayed in ways that transcend that stereotypical dimension.

So when it came to making a film based on his highly successful *PhD Comics* series, the key theme he wanted to convey was that academics and research students are “real people with relationships, multiple talents and passions”.

Cham has spent the past 14 years highlighting the humorous side of the downsides of life as a research postgraduate – the huge workload and the inherent sense of anonymity and personal limbo. His *Piled Higher and Deeper* strip, subtitled “the ongoing chronicle of life (or the lack thereof) in grad school”, is syndicated all over the world and his website, where the strips are archived, receives about 7 million unique visitors a year. More recently, the website has also acquired some video content, in which Cham, who holds a PhD in robotics from Stanford University, interviews researchers about scientific concepts such as dark matter.

Thanks to the comic’s popularity, he has made numerous public appearances, but he was always wary of answering questions about when he was going to turn *PhD* into a film or television show – “as if it is that easy!”

That sense of the difficulty of making a film, plus the absence of any external financial backing, meant that when Cham finally decided the time was right to do “some kind of scripted version of the comics”, his ambitions were limited to something “very small”.

He also ruled out the obvious option of adapting *PhD* as a cartoon.

“I did a couple of animation classes during my grad school years as a way to procrastinate, but it is painstaking and difficult to make it look right,” he admits in an interview with *Times Higher Education* from his home in Pasadena, California.

He also thought that using live actors would help make his point about academics being real people.



**“Fortunately – given that Caltech is so small – we found great people who all had some performance background; people are surprised that this is the first movie they have starred in”**

One way to get something made relatively cheaply would have been to approach one of the many film schools in the Los Angeles area, and to film it using some of the thousands of aspiring actors drawn to the region. But Cham lives within five blocks of the California Institute of Technology and remembered from his two years there as an adjunct faculty member that it had an active theatre group.

“I thought it would make the movie different and special if we could use real graduate students and professors, who would not just identify with the material and keep the movie faithful to it, but also identify with the theme: that academics and researchers are not nerdy stereotypes,” he says.

The fact that about 60 people responded to Cham’s institution-wide call for participants could perhaps be thought to bear out that claim – particularly given that Caltech has only about 800 undergraduates and a similar number of postgraduates.

Casting was done during a two-day session in which “people came in and talked in front of the camera about their interests”. Among those who turned up was Evans Boney, a chemistry PhD student with a beard – if not a hairstyle – that bears a striking resemblance to the chin-only number sported by Mike Slackernery, the eternal postgraduate of the comic strip.

But in general, Cham was not unduly concerned with finding actors who resembled the characters as he had drawn them.

“I mostly wanted to find people who could be true to themselves on camera and match some inner quality in the characters,” he explains. “Fortunately – given that Caltech is so small – we found some great people who all had some performance background; a lot of people are surprised that this is the first movie they have starred in.”





The nameless hero of the comic is played by first-year physics undergraduate Raj Katti, while Cecilia, described on the PhD Comics website as the “perfect grad student”, is played by Alexandra Lockwood, a PhD student who is studying – perhaps prophetically – the formation of new stars.

Almost everyone else in the cast and crew is either a real doctoral student or somehow connected to one. Meg Rosenberg, the film’s producer, is a colleague of Lockwood in Caltech’s Division of Geological and Planetary Sciences who studies moon craters, while director Vahe Gabuchian studies how cracks propagate through aircraft wings (when he isn’t directing his own comedy films).

“He was obviously better than me at directing,” Cham readily admits. “I started out as the director and I did a lot of initial casting and location work. But when I saw that the actors really responded to him and that the shots he was getting were really good, it was easy for me to let go.”

Some of the academics in the film are real professors – including all of those who refuse to let the hero join their labs at the beginning of

## “The scars of his own grad school experience run ‘pretty deep’, but many recent ideas for cartoons have been suggested by students. ‘I am just the guy who puts it all in comic form’

the film. But the biggest faculty part – that of the fearsome Professor Smith – is played by K. Zachary Abbott, a member of Caltech’s IT department.

“It was hard to find professors who could devote that much time,” Cham admits – although one of the songs on the soundtrack is performed by a band featuring a Caltech professor of computer science, and another is by “a bunch of jet propulsion lab people who have a jazz band”.

Most of the volunteers were also fans of Cham’s comics so the film quickly became a labour of love – and the “small” project blossomed into an hour-long “higher-end production”.

Cham had only two months to write the script. The key decision – and one he grappled with for some time – was which audience to target.

He explains: “Should we try to make it as broad a comedy as possible or make it specific to an academic audience? In the end I decided to make it true to the comic itself. Hopefully that will translate to a broader audience.”

He proceeded to read through his entire back catalogue of about 1,000 strips and picked out the ones that he thought could be linked into a narrative. “There is a sense of every funny comic I have ever done about group meetings or happy hours being put into the same scene,” he says. “But I also tried to introduce a story arc for each of the characters, which is not something I do very much in the comics. So the movie is more like real life: something happens and they have a realisation or change of perspective.”

After 17 days of weekend filming – plus about two months of post-production – the film was complete, and Cham declares himself pleased with the results. “It is pretty amazing what a bunch of PhD students can do. It looks all right – not like a home-grown production,” he says.

He admits that his output of comic strips slowed during the movie project, but he has no plans to abandon them – or indeed “any plans, period”. “Maybe one day I’ll decide I can’t do it any more, but [the subject] is still very interesting for me. It is something that nobody else is writing about in an accessible way.”

He says that when he first started writing it, the strip simply depicted what “I and a lot of my labmates were going through”.

“But at some point the comics took on a life of their own and it became about the general graduate experience,” he adds.

This has been especially true since he left graduate school in early 2003. And although the scars of his own experiences run “pretty deep”, a lot of recent ideas for cartoons have been suggested by conversations with students at public events or by emails sent to his website. “I feel like I am just the guy who puts it all in comic form,” he says.

That Cham is booked for speaking engage-





ments all over the world – contributing to a haul of about 100,000 air miles a year – is testament, he thinks, to the fact that although some of the specifics of graduate school life in the US may not be replicated in other countries, its spirit is universal. “People relate to the professor-student relationship and the opportunity costs of going for a PhD,” he says. “At the heart of it, the comics are about young people trying to decide what to do with their lives. Some feel like they are in limbo or stuck. They have a lot of motivation and talent, but are not quite sure what their place is.”

Showings of *Piled Higher and Deeper* are scheduled around the globe, taking in Europe, Australia and the Far East, as well as North America, and the revenue from that – plus financial support from Caltech – means that Cham has already been able to make back his money “and a good bit more”.

For all his ambitions to display the human side of the academy to the outside world, the bookings so far are largely confined to university and college campuses. But he hopes the audience might broaden after a film festival tour he is planning.

He does not think that either the film or the comic has a role in raising awareness of the plight of PhD students. Although he acknowledges that the graduate experience has a great deal of room for improvement, he does not believe it is his job to make specific recommendations – except to call for greater mutual clarity about the level of independence expected by supervisors of their students.

“My goal is just to point out the funny things about graduate life and people can make up their own minds,” he says. “There are definitely a lot of challenges and things that could be changed, but if you do survive them you are somehow better for it.”

Although he abandoned his own academic ambitions six years ago after an interview for a faculty position at the Massachusetts Institute of Technology convinced him he “didn’t have to prove anything else to myself in that way any more”, he insists he would have been “pretty happy” to remain in academic science. “But doing the comics is a lot of fun



***Piled Higher and Deeper The Movie***  
**Directed by**  
**Vahe Gabuchian**  
**Written and created**  
**by Jorge Cham**

“We have a lot in common with monks and prison inmates,” Professor Smith explains to his graduate student, Winston. “In research, you work mainly in isolation. It should be the sole focus of your life. You need to eat, sleep, breathe your research.”

“I’m allowed to sleep?” Winston marvels.

The dialogue comes halfway through *Piled*

*Higher and Deeper The Movie* and is central to the film. Both Winston and Smith, like the protagonist of *Nineteen Eighty-Four*, spend their lives in small, boxy spaces, cataloguing and clerking.

In this scene, the student and his supervisor are limbering up at a squash court, ostensibly for a friendly match – but although it’s open and glassy, they are still in a box and still playing by the professor’s rules.

Cecilia, the film’s other protagonist, also measures her life in

boxes. She’s a keen new teaching assistant and dutifully struggles around campus with crates of student essays, hoping to improve undergraduate lives and her own chances of getting a faculty post at the University of California, Berkeley. Eventually she, too, holes up in a forgotten office to focus on her work, knowing nobody will disturb her on a campus “like a rat maze. Sometimes I think grad school is just a weird psychological experiment.”

The other categories and classifications that

structure PhD life are less obvious but equally important, such as the social distinctions between professors, first years and postdocs at a campus bar, as clear-cut as high school cliques. The film occasionally makes them visible by labelling the screen in Cham’s handwriting, like a doodle on a textbook.

The movie’s comic-book roots are confirmed further through split screens and playful framing that divides the image into panels.

But the problem with PhD students, as Cecilia’s room-mate Tajel





## CELL LIFE: SCIENTISTS' LIMBO IS A UNIVERSAL PURGATORY

points out, is that they don't always fit into boxes.

"We're in this weird limbo state," she says. "Are we students... employees? Neither?"

That uneasy liminality is sometimes an issue for *PhD The Movie* as Cham shifts to a new medium. Gags that work on the page can misfire in live action: flat characters are fine in a comic strip, but one-dimensional performances work less well in cinema. The film's tone veers between throwaway one-liners, *The Big Bang Theory*-style science banter, and

even *High School Musical*-style soap and light romance.

Fortunately, Alexandra Lockwood, as Cecilia, gives this brainy movie its heart and soul. Her transformation from bouncy new teacher to deflated loner is nicely judged and cutely conveyed, as she goes from brightly picking her outfits in the first scene to curling up in a hoody and pyjamas towards the end.

"I've got my coffee, and clothes, and water, and food...and the internet. I can do an entire PhD without leaving these four

walls," she says.

"Don't you need a shower?" asks Tajel.

"All my friends are online," Cecilia shrugs.

The movie, like its creator, is science-based, and viewers from the arts and humanities may not connect so directly with Winston's experience of late-night labs and articles with 15 authors.

But you don't need to know that "Anova" means "analysis of variance", or get the joke about *p* for lactose cupcakes, to identify with the lonely limbo of the PhD student whose supervisor doesn't remember his name, or

who struggles to remember her own undergrads.

Like monks and prisoners, all PhD students, whatever their discipline, have some things in common, and Cham's movie, tapping adeptly into that shared culture, will provide a welcome break between supervision sessions and grading papers.

And it should be required viewing for their professors: they may even learn something from it.

**Will Brooker is the head of film and television research, Kingston University.**

and I felt like I was doing a lot of good with them, helping people to see the lighter side of things," he adds.

Cham takes issue with the notion that the plight of the students depicted in the film could put young people off from entering graduate school in the first place.

"For every comment I get saying 'I am glad I read your comic; I don't want to go to grad school any more', I get another saying 'I came to grad school because your comics made it seem like fun or something that was challenging but that you could take in your stride'," he insists.

He admits there is some cynicism in the film, but also points to its redemptive moments, such as when Cecilia is finally thanked by one of her students for a class she has given. And he points out that although the hero suffers "a lot of stress and pain", ultimately he "solves a problem people thought was impossible".

Indeed, Cham is so positive about the hero's personal journey that, towards the end of the film, he even allows him – for the first time in *PhD's* history – to be referred to by his actual name (see review, left). Part of his thinking was subtly to make the point that graduate life is not as anonymous as all that.

"But I also thought it made a nice ending to his character's story arc as he gains the confidence to assert who he is," he adds.

But he still agonised over whether or not to end a 14-year running joke in the comic strip and reveal the name by which the hero has always been known to Cham himself. "In the end, it was a personal decision to give the movie some weight," he explains. "I made the decision that this movie was not going to be a test pilot, or a trial run at a movie, but rather *THE PhD Movie*. I also figured I could edit it out of the final version if I changed my mind." ●

*Times Higher Education* is sponsoring live question-and-answer sessions with Jorge Cham at University College London on 14 November and at the University of Oxford on 15 November. For a list of screenings of *The PhD Movie*, see [http://jorgecham.com/screenings/screenings\\_map.php](http://jorgecham.com/screenings/screenings_map.php)