Filmmaker Valerie Weiss may have traded in her microscope for a movie camera, but science remains a constant preoccupation and source of inspiration.

Her first feature, the romantic comedy “Losing Control” (which opens Friday at Kendall Square), begins with a little girl drolly explaining on the playground the physics of a spinning merry-go-round. It’s the first hint that the film draws on Weiss’s lifelong love for math, science, and cinema, a journey that took her from Harvard Medical School, where she earned a PhD in biochemistry in 2001, to Los Angeles to pursue filmmaking full time. She wrote “Losing Control” while attending the Catalyst Workshop, at the American Film Institute, aimed at scientists trying to develop science-themed movies.

“I love ’80s and ’90s romantic comedies like ‘Bridget Jones’s Diary’ and ‘When Harry Met Sally’ and of course Pedro Almodóvar’s ‘Women on the Verge of a Nervous
Breakdown.’ I love vulnerable and smart leading characters,” Weiss recently said by phone from New York City. “Then, at some point, around the time of ‘How to Lose a Guy in 10 Days,’ those films became all about shopping and clothes and products. I’d never seen a female character who was a scientist in a romantic comedy, yet women made up half my class at Harvard and they were sexual, thinking creatures.”

In “Losing Control,” Miranda Kent (of the short-lived sitcom “Campus Ladies”) stars as Samantha, a scientist whose stalled doctoral thesis involves sperm samples being manipulated for chromosome research in a Harvard Medical School laboratory. Meanwhile, her boyfriend Ben (Reid Scott) wants to get married, which causes commitment jitters for Sam. At the urging of her best friend (Kathleen Robertson), Sam launches another experiment to gather empirical data that will prove whether or not Ben is “the one.”

Weiss credits her science training with giving her the tenacity to see her low-budget film from conception to completion. She produced it under the aegis of her own, LA-based PhD Productions. She dealt with the biggest obstacle for indie filmmakers — money — by working her contacts thoroughly to find investors who would beef up her $10,000 in personal start-up funds. Jeffrey M. Loeb, executive producer for “Losing Control,” signed on when Weiss pitched him through the Harvard Alumni Association.

“I was looking for alternative investments. I knew this was a high-risk indie film, but I believed in Valerie. She was an incredible networker and I knew she could pull it off,” said Loeb, a 2004 graduate of Harvard Law School now practicing in Chicago. “I knew Spielberg wasn’t going to ask me for money. This was the best opportunity I was going to get.”

“Losing Control” had its area premiere last fall at the Woods Hole Film Festival and was picked up for distribution in the spring by House Lights Media, a one-year-old company founded by a pair of veterans from Paramount’s Home Entertainment division.

“I loved it; it’s a single-girl movie,” said Sandy Moore, senior vice president of House Lights, which has mounted a theatrical release to niche theaters across the country, with plans to build to a wider release and eventually DVD and video on demand. “We’re trying to do a grass-roots marketing campaign through social media and other avenues. We are expanding our theatrical side by sheer effort. We’ve put our heart and soul into getting this distributed. It is an independent film but with a mainstream story.”
Weiss, 38, has been balancing her dual interests in film and science for years. She acted in plays as far back as grade school in her native Philadelphia, but her life changed when an engaging high school biology teacher helped her realize that science provided the satisfaction of “knowing the right answers,” she said. “In humanities courses, there are never right answers and you drive yourself nuts. From that point on, I studied art and science simultaneously.”

Weiss majored in molecular biology and theater at Princeton, where she met future husband Robert Johnson when both acted in a production of “Cyrano de Bergerac.” Johnson followed a head/heart career path similar to Weiss’s: He graduated from Harvard Law School, moved with Weiss to LA and now acts full time (he has a small role in “Losing Control”). The couple has two young daughters.

At Harvard Medical School, Weiss earned her PhD in X-ray crystallography (the 3-D photography of molecules) in 2001. But she never fully left directing. In her first film, the 60-minute “Dance by Design” (2003), Weiss tackled the push/pull of art and science careers in its story about Angela, an architecture student who yearns to be a professional dancer.

“I made [‘Dance by Design’] while I was writing my dissertation, and two weeks after we wrapped production, I had to defend my thesis,” said Weiss. “After that, I never did another experiment again. I was sure I wanted to make films.”

It was also during this time that Weiss, who directed plays at Harvard University’s Dudley House, founded the Dudley Film Program for graduate students to learn to make films and served as its filmmaker-in-residence until 2003, when she moved to Los Angeles to pursue her filmmaking career.

“I became a Dudley drama fellow and got filmmakers like James Toback to come and teach classes,” she said. “We also developed a festival of the film shorts that students had made. Dudley allowed me to put science and film head to head, and film won.”
But Harvard and its culture provided Weiss with a deep well of material. She says as soon as she got to Harvard and started working in labs, she knew there was an untapped movie there. Although Weiss liked the comic elements of that world, she also understood that the male-dominated fields of medicine and science would provide a comedic heroine with formidable obstacles.

“If you’re the only woman in the lab, it takes its toll on a young woman scientist. You’re not taken as seriously,” Weiss said. “I’ve had a great advisers who were supportive of me and others who were narrow-minded.”

For “Losing Control,” she created the character of professor Straub (John Billingsley), which allowed her to “riff” on entrenched sexism and “the whole Larry Summers thing,” she said, referring to the former Harvard University president’s infamous comment about women’s inexperience in math and science.

Not only did Weiss’s experiences provide the film with its twist on rom-com conventions, her connections at Harvard allowed her unusual access to shoot there.

“It was important to me to have an authentic representation of that world,” she said.

So her former professors and colleagues at Harvard welcomed, albeit unofficially, the “Losing Control” cast and crew traipsing through halls and on the grounds.

“Even scientists are a little star struck,” she said.

Asked to comment on the filming, David Cameron, communications director at Harvard Medical School, said via e-mail: “The HMS office of communications did not work with Ms. Weiss on this project.”

Weiss’s next film will be from her screenplay titled “Oversuffed,” which she describes as “Hannah and Her Sisters” meets “Parenthood” (yes, it includes a young woman who is a scientist). Even as she braces for another few years of indie film world highs, lows, and unknowns, she doesn’t regret the career shift.

“Even in my darkest days as a filmmaker, I’ve never wanted to go back,” she said. “People tell me I’m crazy. But your heart ultimately wins out over your head.”

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