



M. MARGOLIN

Meryl Streep plays the patron of physics student Liu Xing in *Dark Matter*.

FILM

Celluloid explores life of graduate student killer

Emma Marris

In 1991, Gang Lu, a Chinese graduate student studying space plasma physics at the University of Iowa, shot and killed five people, wounded one, and then shot and killed himself. Three of the victims were on his dissertation committee; letters he left indicated that he shot them because they did not think highly enough of his dissertation.

The crime deeply affected Chen Shi-Zheng, then a graduate student in the performing arts at New York University. "The event shaped me profoundly for years," he says. Chen identified with the troubled gunman who, like him, had come from China to study in the United States. "Foreign students are just passengers," he says. "You are not human beings; you get overlooked completely."

Now a successful opera director, Chen has returned to the crime that haunted him with the film *Dark Matter*. Released this month in the United States, it is a fictional treatment of the Gang Lu story — one that humanizes the shooter to an uncomfortable degree.

Rather than exploring what makes someone commit such a terrible crime, the film invites the world to comprehend the pressured lives

of foreign students. "The tragic ending is the point of departure that gets people thinking about graduate student life," says Chen. "I want people to be as shaken as I was." But, he insists, he did not intend to make a campus-violence film. "It was intended to be about the Chinese experience."

Many Chinese graduate students have high expectations about how their lives should pan out. It rarely goes quite as planned, explains Chen. They may work long hours and feel socially isolated. To capture this invisibility metaphorically, Chen switched the student's field to astrophysics, specifically dark matter, the unseen substance prevalent throughout the Universe.

Chen and the screenwriter worked with astrophysicist David Weinberg from Ohio State University in Columbus to get the science right. Weinberg helped to stage a plausible academic disagreement between arrogant adviser Jacob Reiser (played by Aidan Quinn) and brilliant student Liu Xing (played by Liu Ye).

"My notion," says Weinberg, "was that Reiser had become famous by coming up with a creative idea for the initial conditions for the early Universe, but the data were turning against him

and he was in denial about that."

Xing goes off on his own, dropping the 'Reiser model' and becoming more interested in the interplay of superstring theory and the identity of the dark matter particle. Reiser, selfishly, is not pleased.

Xing is portrayed as a sympathetic, even charming, character; a victim very much wronged by his department. During most of the film he hangs out with his friends who toil at their theories and unwind with a little table football, beer and idle chatter about women. Meryl Streep plays Joanna Silver, a wealthy patron of the university and Xing's confidante.

The film does such a good job of making its protagonist lovable that it risks seeming to defend or even glorify the horrible murders that Lu committed. The counterparts to Lu's real victims are here played as villains.

Will cosmologists walk out of the film enraged by scientific inaccuracies? Weinberg says no. "If you are going to be infuriated, it will be over the question of whether it is justifying the events."

"Everyone says they didn't see it coming," says Chen of early reaction to the film's violent end. "In the real case, no one saw it coming." ■
Emma Marris is a correspondent for *Nature*.

***Dark Matter* opens in the United States on 11 April (www.darkmatterthefilm.com).**