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Pentagon's New Goal: Put Science Into Scripts

By [DAVID M. HALBFINGER](#)

LOS ANGELES, Aug. 3 - Tucked away in the Hollywood hills, an elite group of scientists from across the country and from a grab bag of disciplines - rocket science, nanotechnology, genetics, even veterinary medicine - has gathered this week to plot a solution to what officials call one of the nation's most vexing long-term national security problems.

Their work is being financed by the Air Force and the Army, but the Manhattan Project it ain't: the 15 scientists are being taught how to write and sell screenplays.

At a cost of roughly \$25,000 in Pentagon research grants, the American Film Institute is cramming this eclectic group of midcareer researchers, engineers, chemists and physicists full of pointers on how to find their way in a world that can be a lot lonelier than the loneliest laboratory: the wilderness of story arcs, plot points, pitching and the special circle of hell better known as development.

And no primer on Hollywood would be complete without at least three hours on "Agents & Managers."

Exactly how the national defense could be bolstered by setting a few more people loose in Los Angeles with screenplays to peddle may be a bit of a brainteaser. But officials at the Air Force Office of Scientific Research spell out a straightforward syllogism:

Fewer and fewer students are pursuing science and engineering. While immigrants are taking up the slack in many areas, defense laboratories and industries generally require American citizenship or permanent residency. So a crisis is looming, unless careers in science and engineering suddenly become hugely popular, said Robert J. Barker, an Air Force program manager who approved the grant. And what better way to get a lot of young people interested in science than by producing movies and television shows that depict scientists in flattering ways?

Teaching screenwriting to scientists was the brainstorm of Martin Gundersen, a professor of electrical engineering at the University of Southern California and sometime Hollywood technical adviser, whose biggest brush with stardom was bringing a little verisimilitude to [Val Kilmer's](#) lasers in the 1985 comedy "[Real Genius](#)."

More recently, he was asked to review screenplays by the Sloan Foundation, which awards prizes for scientific accuracy, and found most to be "pretty dismal," as he put it.

"My thought was, since scientists have to write so much, for technical journals and papers, why not consider them as a creative source?" Dr. Gundersen said.

He already had contacts at the American Film Institute, and he quickly persuaded Dr. Barker, who oversees several of his other grants, to endorse what began as a weekend seminar last summer and was expanded to five days this year. The Air Force is providing \$100,000 annually for three years; the Army Research Office has added \$50,000 this year.

Much of that money will pay for other like-minded efforts: Dr. Gundersen is also starting a workshop for high school students at the film institute, and he plans to get entertainment industry people to lead seminars at scientific conferences and to give seminars to up-and-coming screenwriters on how to reach out to scientists for help with accuracy.

For now, though, the hopes of the Pentagon for a science-friendly cinema seem to be riding on the shoulders of people like Bogdan Marcu, an engineer for Boeing's rocket propulsion division who is nursing an idea for a spy thriller, and Sam Mandegar, a Ph.D. candidate in electrical engineering at the California Institute of Technology who says he wants to become a director of science-friendly movies for young people because "adults are a lost cause."

Around a table at the institute's campus, they and their colleagues, chosen from some 50 applicants, listened this week as Syd Field, author of some of the most popular how-to books on screenwriting, steeped them in the ABC's of three-act structure.

They wrestled with how to reconcile the cinematic suspension of disbelief with the scientific method and with their basic purpose of bringing accuracy to the screen.

And they got feedback for their own script ideas. A disaster movie set at the Olympics, where athletes get a virus that makes them smarter? (Problem: the main character was the virus.) A biopic on the inventor of the Ferris wheel, who died a sad and lonely alcoholic? ("Do I have to like the character?" asked its author, Jeffrey Hoch. Hardly - think "[Raging Bull](#)," he was told by Alex Singer, a veteran television director.)

Mr. Hoch was full of searching questions. "When I'm writing for a scientist, I write for my peers," he said. "Who are we writing for? The viewer? The director? The money people?"

"Tell your story for you," Mr. Field urged him. "Then, go back and rewrite it."

Dr. Gundersen chimed in: "It's different from writing for a science journal. That has to be right; you'd better not make a mistake, because people will beat the hell out of you. In a movie, I wouldn't want to say it doesn't have to be right, but it's different."

Added Mr. Singer: "They will not forgive you for being bored. They'll forgive you for anything else."

Later, over meatloaf, the workshop participants batted around their favorite depictions of science and scientists (the television show "Numbers" and the films "[Starman](#)" and "[Deep Impact](#)," among others) and what they considered the most odious ("[The Day After Tomorrow](#)," hands down).

And then there was one they could not agree on: "[Falling Down](#)," the 1993 film starring [Michael Douglas](#) as a downsized defense-industry engineer who has a violent breakdown in Los Angeles. "Why'd they have to make him look like that?" said Diandra Leslie-Pelecky, a physics professor at the University of Nebraska, of Mr. Douglas's crew cut, black-rimmed glasses and pocket protector. "He's a good-looking guy. None of my friends look like that."

But Mr. Marcu, who works at a defense-industry plant, begged to differ. "I hate to say it, but people inside those defense plants look like that," he said. "You should see the people at my company."

Where this week's efforts may lead is, at the very least, uphill: out of an estimated 75,000 scripts floating around Hollywood, only 500 or so films are made a year, Mr. Field warned the scientists. But while Dr. Gundersen and Dr. Barker conceded that the odds were stacked against any of their protégés, they are clearly holding out hope.

"I really believe we will be able to point to something that will emerge, maybe 5 or 10 years from now, and say, Gee, that name of that screenwriter is familiar, with a Ph.D. in electrical engineering or something," Dr. Barker said.

Dr. Gundersen, meanwhile, offered Valerie Weiss, a participant in the 2004 workshop, as a potential success story. A film buff at Harvard while she was getting her Ph.D. in biophysics, Ms. Weiss switched careers to film four years ago and is now trying to sell a comedy built around a Bridget Jones-like biochemist who applies the scientific method to her hunt for a mate.

She said she hoped her background would give her film the kind of personal touch that Nia Vardalos brought to "[My Big Fat Greek Wedding](#)" as a Greek-American. "To write a film that is going to have impact like that, it needs to be from somebody that has direct experience," she said.

Ms. Weiss said Dr. Gundersen's notion that scientists could make good screenwriters stood the test of reason.

"They're inherently creative, and willing to take more risks than other people," she said. "They're searching for the unknown, they're compensated very minimally, they're going on blind faith that what they're searching for is going to pay off. And filmmaking is exactly the same way."