

'The Man from the Nine Dimensions' opens series at Aspen Center for Physics

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An unlikely partnership between a theoretical physicist and a horror filmmaker has produced a surprising result: a family-friendly movie that aims to explain the universe in about 30 minutes.

"The Man from the Nine Dimensions," (<https://www.youtube.com/watch?v=TG-EraFIFJI>) by director Takashi Shimizu, will screen this evening at the Aspen Center for Physics. It will be preceded by a talk on the scientific fact behind the film from Hiroshi Ooguri, its scientific adviser and president of the Aspen Center. The event opens the summer-long series of free public talks at the center.

Along with his post in Aspen and as a professor at the California Institute of Technology, Ooguri is the principal investigator at the Kavli Institute in Japan. Colleagues there asked him to serve as the scientific adviser on the ambitious film. It was his job to ensure that while it aimed to entertain a general audience, the science in it remained sound.

The film dramatizes the pursuit of the elusive "theory of everything" that would explain the fundamental laws of nature — both the microscopic (where quantum mechanics explain how things work) and the macroscopic world of the universe (where gravity governs).

"I wasn't sure I wanted to do it," Ooguri recalled. "It's an ambitious thing. In 30 minutes, you have to explain the microscopic world of elementary particles and quantum mechanics and also how the universe works and has evolved since the 'big bang.'"

They landed on the idea of personifying the theory as a mysterious man — named for the nine dimensions in "superstring theory" — with three scientists literally chasing him throughout the film. While they're in pursuit, the Man from the Nine Dimensions takes viewers through both the microscopic and macroscopic scales and through the history of the universe with the help of special effects.

"This is a metaphor for scientists' pursuit of the fundamental laws of nature," Ooguri explained.

As the scientists searched for a director who could pull off telling the story, the prolific filmmaker Takashi Shimizu — best known for "The Grudge" horror films — stepped up. Ooguri was skeptical at first that this was the right person to make a kid-friendly movie about theoretical physics.

"I thought, 'What? A horror movie director?'" he recalled with a laugh. "But it turned out the guy is great, because he has such a creative visual imagination and as a horror director he knows how to impress people. He came up with many good ideas."

Released last year in Japan in a 3-D dome version, the film became a popular draw at planetariums and won plaudits including the Best Educational Production Award in a field of 66 films from 15 countries at the International Planetarium Society Fulldome Festival. A new 2-D version — dubbed into English — will screen in Aspen.

"When I decided to help them with the movie, I went to planetariums to see who was coming," Ooguri said. "I saw elementary school kids, young couples who happened to wander in and retired people — all sorts of people. So, I thought, the movie should be something that everyone can enjoy."

Ooguri is a believer in the utmost importance of translating complex science to children and the masses — those of us who don't know our bosons from our fermions.

Scientific advancement in the U.S, Ooguri noted, depends upon public support and taxpayer money — the Aspen Center, for example, gets about half of its funding from the National Science Foundation — and upon young people growing into the scientists of tomorrow. That requires popular excitement about scientific discovery.

Ooguri himself credits his interest in science and his pursuit of a career in physics to Carl Sagan's "Cosmos" television series. He is thrilled by the idea that "The Man from the Nine Dimensions" might inspire some of the next generation of scientists.

But the ability to talk to lay people is a rare skill and a challenge for physicists.

"There's a creative aspect to public communication," Ooguri said. "It's easier if I can use a quadratic equation. It's an intellectual challenge to explain it without."

This, of course, is the point of the long-running public lecture series and kids' picnics at the Aspen Center for Physics, where Ooguri is spending his 22nd summer and his second year as its president. Ooguri specializes in elementary particle physics but he's also become a champion of public science literacy, writing popular science books and leading public outreach efforts like the Aspen series and "The Man from the Nine Dimensions."

Walking through the center's West End campus on a recent afternoon, passing physicists working equations on blackboards and sitting quietly among the aspen groves, Ooguri said the relaxed environment and cross-disciplinary emphasis of the nonprofit has been a boon to the advancement of human knowledge of the universe and led to historic breakthroughs. Sharing that knowledge with the rest of us in weekly talks by the leading physicists who visit the center is important, too.

"I hope that this has contributed to the public life of Aspen," he said.

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