UC SANTA BARBARA

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Science of Star Trek

In the most recent episode of his YouTube series Science vs. Cinema, UC Santa Barbara physicist Andy Howell takes on “Star Trek: Picard,” exploring how the CBS offering’s presentation of supernovae and quantum computing stack up against real world science.

For Howell, the series that reviews the scientific accuracy and portrayal of scientists in Hollywood’s top sci-fi films is as much an excuse to dive into exciting scientific concepts and cutting edge research.

“Science fiction writers are fond of grappling with deep philosophical questions,” he said. “I was really excited to see that UCSB researchers were thinking about some of the same things in a more grounded way.”

For the Star Trek episode, Howell spoke with series creators Alex Kurtzman and Michael Chabon, as well as a number of cast members, including Patrick Stewart. Joining him to discuss quantum science and consciousness were John Martinis — a quantum expert at UC Santa Barbara and chief scientist of the Google quantum computing hardware group — and fellow UCSB Physics professor Matthew Fisher. Fisher’s group is studying whether quantum mechanics plays a role in the brain, a topic taken up in the new Star Trek series.

Howell also talked supernovae and viticulture with friend and colleague Brian Schmidt, vice- chancellor of the Australian National University. Schmidt won the 2011 Nobel Prize in Physics for helping to discover that the expansion of the

universe is accelerating.

"We started Science vs. Cinema to use movies as a jumping-off point to talk science" Howell said. "Star Trek Picard seemed like the perfect fit. Star Trek has a huge cultural impact and was even one of the things that made me want to study astronomy."

Previous episodes of Science vs. Cinema have separated fact from fiction in films such as "Star Wars," "The Current War," "Ad Astra," "Arrival" and "The Martian." The success of prior episodes enabled Howell to get early access to the show and interview the cast and crew.

"What most people think about scientific subjects probably isn't what they learned in a university class, but what they saw in a movie," Howell remarked. That makes movies an ideal springboard for introducing scientific concepts. "And while I can only reach dozens of students at a time in a classroom, I can reach millions on TV or the internet."

About UC Santa Barbara

The University of California, Santa Barbara is a leading research institution that also provides a comprehensive liberal arts learning experience. Our academic community of faculty, students, and staff is characterized by a culture of interdisciplinary collaboration that is responsive to the needs of our multicultural and global society. All of this takes place within a living and learning environment like no other, as we draw inspiration from the beauty and resources of our extraordinary location at the edge of the Pacific Ocean.