

# New film celebrates Hubble Space Telescope

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Credit: HubbleSite

On Friday, November 16, a unique film and musical experience, inspired by the Hubble Space Telescope's iconic Deep Field image, premieres at the Kennedy Space Center. The film, titled *Deep Field: The Impossible Magnitude of our Universe*, features a variety of Hubble's stunning imagery and includes 11 computer-generated visualizations of far-flung galaxies, nebulas, and star clusters developed by the Space Telescope Science Institute (STScI), in Baltimore, Maryland. Those visualizations not only depict the awesome beauty of the universe, but also express the three-dimensional nature of celestial objects.

Deep Field is a first-of-its-kind collaboration between Grammy award-

winning composer and conductor Eric Whitacre, producers Music Productions, multi [award](#)-winning artists 59 Productions, and STScI.

The film paints the incredible story of the Hubble Deep Field, an extraordinary portrait of the universe revealed by Hubble when it was pointed at a tiny and completely dark patch of sky for a total exposure time of about six days. What it revealed was an image that contained over 3,000 galaxies scattered across space and time.

The film's symphonic score is augmented by an epic, fifth iteration of Whitacre's ground-breaking Virtual Choir (VC5). VC5: Deep Field invited singers from around the world to submit their performances of Deep Field, to be heard at the climax of the piece. Over 8,000 voices from 120 countries, aged 4 – 87, are seen and heard in this global choir.

"Hubble images, like Eric Whitacre's music, are best explored, appreciated, and savored in a deliberate fashion. As a symphonic film, Deep Field provides the perfect setting for universal contemplation," said scientific visualization lead Frank Summers of STScI. "The combination of visually stunning and complex cosmic structures with the cascading development of an equally rich and moving auditory landscape creates an intense and sublime experience."

For Deep Field, STScI's visualization team worked with 59 Productions to revise and adapt seven previously produced sequences to fit into the symphonic and astronomical narrative. The STScI team also developed four new astronomical sequences for the film.

Iconic Hubble images of the Whirlpool Galaxy and the galaxy group known as Stephan's Quintet were transformed into intergalactic experiences that take viewers soaring through the cosmos. The team also worked with supercomputer simulations from astronomers at Caltech to construct and fly through an extraordinarily detailed three-dimensional

model of our galaxy.

To create these animations, the STScI team had to invent new techniques that they hadn't used before. The complex calculations required to model the galaxies strained the limits of their computational capabilities.

"This is an audacious project. We're a small team creating large-scale visualizations in a limited time," said production lead Greg Bacon of STScI.

Hubble image processor and accomplished photographer Zoltan Levay provided the opening sequence of the film. While artist-in-residence at Capitol Reef National Park, he captured a glorious time-lapse of the Milky Way panning across the night sky. STScI's production team also included visualizers Joseph DePasquale and Dani Player.

Deep Field will be shared with the world through multiple film screenings, presentations, and performances with live orchestra and chorus in concert halls, planetariums, museums, music festivals, science centers, galleries, and events globally. It is also now available on [YouTube](#). The STScI visualizations will also be released to the public and made freely available online.

Provided by ESA/Hubble Information Centre

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