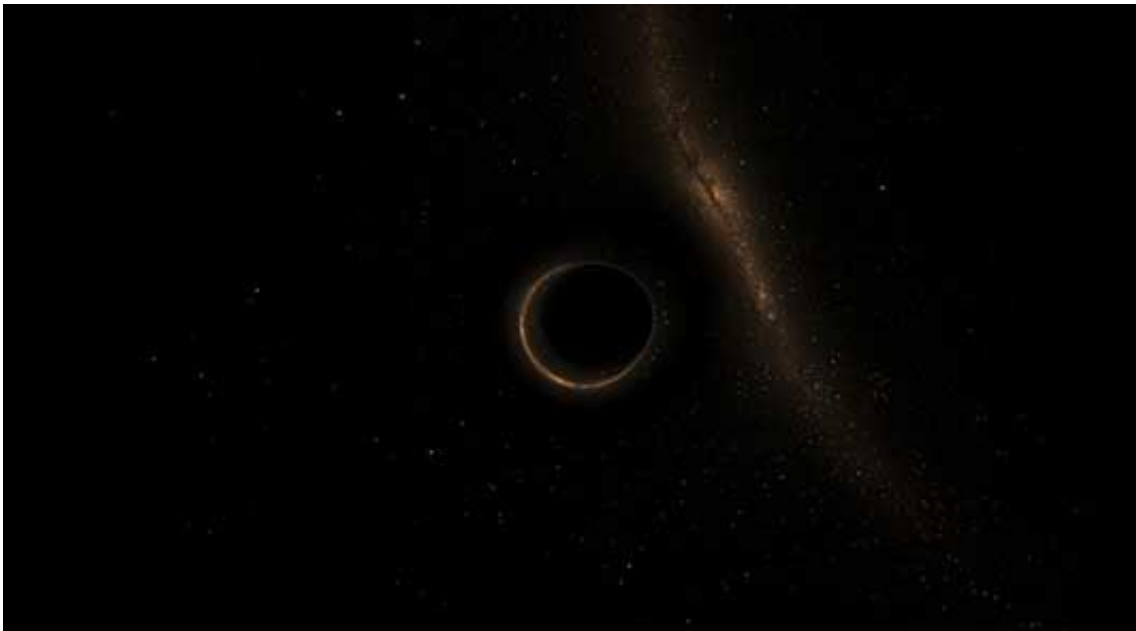


Astrophysicist creates galaxies for Hollywood epic

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Credit: University of Hertfordshire

A University of Hertfordshire astrophysicist has created animated sequences of cosmic phenomena for renowned Hollywood filmmaker Terrence Malick's new film, *Voyage of Time*.

Due for release on Friday 7 October, the ambitious documentary charts the history of the universe and the evolution of life. There will be two versions released:

- an IMAX feature narrated by one of Hollywood's biggest actors, Brad Pitt.
- a feature-length movie narrated by Academy-Award winning actress Cate Blanchett.

Scientific visualisations

Dr Jim Geach, a Royal Society University Research Fellow (URF) at the University of Hertfordshire's Centre for Astrophysics Research (CAR), was contacted by Malick after the director read an article by Dr Geach in Scientific American magazine. He explains: 'The article contained some scientific visualisations of numerical simulations of galaxy formation that caught Malick's eye.'

Dr Geach, and his colleague Dr Rob Crain, also a Royal Society URF based at Liverpool John Moores University, were then asked to produce several sequences for the film. These sequences depict huge cosmic events such as the formation of a galaxy, the explosion of a star in a supernova and the coalescence of a colossal structure called a cluster.

Due to the complex nature of the animation and rendering process, it took approximately a year to complete the project for the film. For each sequence an individual frame could take up to 30 minutes to render and there are around 1000 frames in each of the animations.

Truly inspiring

Dr Geach said: 'Most of the images we generated were rendered right here on the University's high performance computing facility – it's fantastic to now see them on the big screen. The film tells the most remarkable of all stories in a truly inspiring way, and it's gratifying that years of research and development, and literally millions of calculations,

can be portrayed so beautifully'.

On working with one of the movie industry's most renowned filmmakers Dr Crain added: 'Collaborating with a legendary director on a high-profile feature film is tremendously exciting, and naturally we jumped at the opportunity. Galaxies are amongst Nature's most majestic structures, and the dramatic story of their formation, assembly and evolution looks sensational in Voyage of Time.'

Deeper questions of our universe

The pair, who are the only UK-based scientists to work on the visuals of the project, have also provided voiceovers for educational films that will be released online to accompany the theatrical release which they hope will encourage the next generation of budding scientists.

Dr Geach said: 'What this movie demonstrates is that complex scientific ideas and concepts can be presented in a beautiful way, and the gulf between the artistic and scientific communities is not as wide as you might think. Rob and I are proud to have contributed a small part to this project and hopefully it will inspire the new generation to ask – and try to answer – the deeper questions of our universe.'

Provided by University of Hertfordshire

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