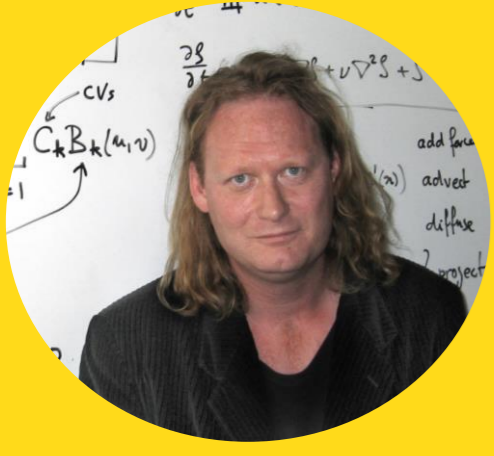


30 years in Computer Graphics: From painting and coding to the Oscars and Beyond



Jos Stam

Graphics researcher
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🎤 Host: 陈宝权 教授

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📍 北京大学静园五院204



Abstract

Computer graphics is at the intersection of Art, Programming and Mathematics.

In this talk Jos will give an overview of my career in computer graphics. From his early days as an artist to becoming a coder in computer graphics and receiving three technical Oscars for his research. In his lifetime computer graphics has undergone tremendous changes. From pixelated game characters to movies which are almost undistinguishable from reality. He will give an overview of these changes and present the research that gave him the Oscars. Has computer graphics reached maturity? Far from it. The coming 30 years might be even more exciting than the last 30 ones. He claims that we have to reconsider how computer graphics operates. The goal is not to create realistic images but to create a direct interface to the brain. This is the ultimate simulation. Perhaps we already live in such a simulation without knowing it.

Biography

Jos Stam is a Graphics Researcher. He is fascinated by Art, Mathematics and Computers. Stam was born in the Netherlands and grew up in Geneva where he created surrealistic paintings with the airbrush and studied Mathematics and Computer Science at the University of Geneva. In 1989 he decided to try his luck in the new world and pursued doctoral studies in Computer Science at the University of Toronto which he completed in 1995. After short gigs at research labs in Paris and Helsinki as a postdoc he joined Alias|wavefront's office in Seattle in 1997. There he did ground breaking research on subdivision surfaces and fluid animation. Most of his research ended up in the Alias|wavefront's MAYA software. In 2003 Alias relocated Stam to Toronto. He then worked for Autodesk as part of their acquisition of Alias in 2006 as a Senior Principal Research Scientist. Since 2018 Stam is a full-time graphics researcher at NVIDIA working on the future of graphics, AI, etc. His research spans several areas of computer graphics: natural phenomena, physics-based simulation, rendering and surface modeling, especially subdivision surfaces. His latest creation is a unified dynamics solver called Nucleus, which is embedded in MAYA and has been used in many movies to create special effects. He has published papers in all of these areas in journals and at conferences, most notably at the annual SIGGRAPH conference. In 2015 he published a book titled The Art of Fluid Animation which was recently translated into Chinese. He has also given many invited and keynote talks in every continent of the world except for Africa and Antarctica. In 2005, he was awarded one of the most prestigious awards in Computer Graphics: the SIGGRAPH Computer Graphics Achievement Award. He also won three Scientific Achievement Awards from the Academy of Motion Picture Arts and Sciences for the impact his work has had on the movie industry: in 2006 and 2019 for his work on Subdivision Surfaces and in 2008 for his work on fluid dynamics.