Real-Time Simulations for Animation and Control of Physical Phenomena

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Alias

Abstract

In this talk we will present some of my research done at Alias Systems in real-time simulations of physical phenomena. In particular, we will describe a stable solution of fluid flow. But real-time cloth, hair, caustics and diffraction effects will also be covered. We will then show how these fast simulations can be used to control physical systems to achieve particular effects. For example, we will describe my recent work with Treuille et al from the University of Washington in controlling smoke animations using key frames.

Speaker Bio

Jos Stam is one of Alias's Research Scientists. His main interests are in the areas of natural phenomena modeling, such as smoke and fire, illumination models, physics-based animation and subdivision surfaces. In general, he is interested in any research that involves math and cool pictures.

He was born in the Netherlands and educated in Geneva, Switzerland where he studied pure mathematics. After moving to Canada, Jos received a PhD in Computer Science from the University of Toronto in 1995.

In 1997, Jos joined Alias after spending two years in Europe in various research labs. Throughout his studies and during his career with Alias Jos has published several papers at SIGGRAPH and elsewhere that address various areas of computer graphics.