



Department of Computer Science
Research Seminars 2011

“Spectral Approaches to Character Mesh Editing”

Dr. Tim McGraw

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Date: April 28, 2011

Time: 3:30 PM

Place: 256, Coates Hall

Abstract

The design of virtual living characters for movies, games and other computer graphics applications is largely an artistic endeavor. As a result, biological considerations are often overlooked during character design.

In this talk Dr. Tim McGraw will present a method of incorporating known correspondences between biological function and geometric form in the character editing process using spectral mesh processing techniques. This method simplifies the process of character design, permitting the designer to manipulate the geometric form of a character by setting a few scale parameters, and to generate a spectrum of characters at different scales from a single mesh. This process can also provide insight into the relations between form and function of living creatures by allowing the user to explore the space of plausible creatures. Dr. McGraw will demonstrate this approach to biology-aware character scaling on triangle meshes representing quadrupedal mammals, and will also discuss some other useful techniques in spectral mesh processing.