

1056-H5-236

**Paul Raymond Bouthellier\*** (pbouthe@pitt.edu), 504 East Main Street, University of Pittsburgh-Titusville, Titusville, PA 16354. *Creating a Sports Video Game using Mathematical Modeling.*

Many of the most popular video games are based on sports. These programs are created by modeling the mathematics and physics of the sport. In this talk, the computer packages Flash, Swift3D, Poser, and Carrara, as well as Actionscript classes from PaperVision3D will be used to create a simple interactive golf simulation.

A three-dimensional golf ball, club, tee, ground, flag/pin, and golfer will be modeled. These 3-D models will be projected onto the 2-D screen. To view the flight of the ball from multiple angles, a user controllable rotatable camera will be created using quaternions.

The flight of the ball will be modeled using: the speed and angle the ball leaves the tee, air resistance, the lift of the rotating ball, and effects of wind. (Received August 18, 2009)