

Press Releases

Heidelberg, 26 January 2007

The visual beauty of discrete geometry

The new mathematical film *Mesh* is a prizewinner



The mathematical film *Mesh*, recently released by Springer, has already won numerous international prizes. *Mesh* is a groundbreaking 40-minute computer animation that explores the advancement of discrete geometry from the ancient Greeks to contemporary research topics.

At the Digital Media Festival in Melbourne, Australia in June 2005, an excerpt of *Mesh* was awarded best in the category of Corporate/Government/Training. Three months later, the clip *Mesh: Bubble Excerpt* was chosen for the "Best Scientific Video" award at Eurographics in Dublin, Ireland. At its North American debut in September 2005 at the New York International Independent Film and Video Festival, *Mesh* won the prize of "Best Animation." With continuing success, *Mesh* was awarded "Best Scientific Visualization" at the Red Stick International Animation Festival in April 2006 in Baton Rouge, Louisiana. Once again in Australia, *Mesh* won the "Best Experimental Film" at Scinema - International Festival of Science Film in August 2006 in Sydney.

With its synthesis of cutting-edge visualization, breathtaking artistry, storytelling and humor, *Mesh* presents complex ideas in a way that is palpable and relevant to even a novice audience. The result is an ideal teaching tool that entertains and captivates. Along the way, the viewer encounters applications ranging from crystals and computer graphics to wine barrels and soap bubbles.

Many of the topics in *Mesh* have never before been portrayed with computer graphics while other concepts had only been communicated through very laconic, clinical means. Creators Beau Janzen and Konrad Polthier saw *Mesh* as an opportunity to expand the possibilities of mathematical visualization.

"*Mesh* provides a unique and unprecedented visualization of advanced differential geometric properties and constructions," says Polthier. "For example, nobody has ever seen this visually enlightening scientific explanation for the construction of bubbles before."

"Computer animation has already changed the way we make movies. It can generate visual effects that were previously unthought-of, and has even changed the kind of scripts that can be produced," says Janzen, "Now, we want to bring the same revolution to education."

Dr. Konrad Polthier is professor of mathematics at the Free University of

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Berlin, and scientist in charge of the application area "Visualization" at the German Research Foundation Center MATHEON. Having published over 40 research articles on a wide range of mathematical topics, serving as editor of book and video series, and acting as coordinator for the VisMath conferences, Polthier has become one of the pioneering scientists in mathematical visualization.

Beau Janzen has a BS in Graphic Design and a MS in Instructional Systems Design. He currently is a faculty member at the Art Institute of California, Los Angeles where he teaches mathematics and computer animation. Janzen has written, designed, and animated short educational videos for clients including NASA and General Motors. He has also worked on a wide range of projects ranging from feature films to television commercials.

Beau Janzen, Konrad Polthier

MESH

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