

AMPAS Presents Scientific and Technical Academy Awards for 1996

Arthur Hiller, president of the Academy of Motion Picture Arts and Sciences, has announced the recipients of the 1996 Awards for Scientific and Technical Achievements. The presentations will be made on March 1, 1997, at the Regent Beverly Wilshire Hotel as part of the 69th Academy Awards.

The Scientific and Technical Awards were voted on by the Academy's Board of Governors, based upon recommendations from the Scientific and Technical Awards Committee, chaired by Edmund M. DiGiulio. They are given for devices, methods, formulas, discoveries, or inventions of special and outstanding value to the arts and sciences of motion pictures and which also have a proven history of use in the motion picture industry.

The awards may be bestowed in any of three classifications: the Academy Award of Merit, presented as an Oscar statuette, is given for basic achievements that have a definite influence upon the advancement of the industry; the Scientific and Engineering Award, an Academy plaque, is granted for those achievements exhibiting a high level of engineering as well as an importance to the progress of the industry; and the Technical Achievement Award, an Academy certificate, is offered for those accomplishments that contribute to the progress of the industry.

The Academy Award of Merit is being presented to SMPTE Sustaining Member Imax Systems Corp. for the method of filming and exhibiting high-fidelity, large-format, wide-angle motion pictures. Integral to the process for presenting cinema programs in the Imax or Omnimax format is the rolling loop projector, developed from a film transport mechanism originally invented by P. R. W. Jones. Improvements made on the patent by the Imax Systems Corp. and the development of other peripheral equipment made possible the high-speed, horizontal projection of 70mm pictures, 15 perforations per frame, onto screens of unusually large proportions in theaters designed to specifications for optimum viewing of those motion pictures. Originally awarded a Scientific and Engineering Award in 1985, this is an "upgrade" award.

The recipients of the Scientific and Engineering Awards are:

- John Schlag, Brian Knep, Zoran Kacic-Alesic, and Thomas Williams for the development of the Viewpaint 3D Paint System for film production work. Viewpaint is an interactive 3-D paint system that allows artists to apply color and texture details to computer generated effects.

- William Reeves for the original concept and the development of particle systems used to create computer generated visual effects in motion pictures. The concept of particle systems inspired and continues to influence further developments in the area of computer generated tornadoes, flames, sparks, snow, clouds, and other visual effects.

- Jim Hourihan for the concept and design of the Dynamation software system for motion picture visual effects. Dynamation is used to create a wide variety of computer generated effects such as tornadoes, flames, sparks, snow, and clouds in motion pictures.

- Jonathan Erland and Kay Beving Erland for the development of the Digital Series Traveling Matte Backing System used for composite photography in motion pictures. This system reduces both the time and expense of shooting and posting composite photography. The spectral reflectance of the backing material, paint formulation, and the spectral transmission of the fluorescent lamps match the peak sensitivity of the recommended camera film.

The recipients of the Technical Achievement Awards are:

- Perry Kivolowitz for the primary design and Garth Dickie for the development of the algorithms for the shape-driven warping and morphing subsystem of the Elastic Reality Special Effects System. These components form the core of an efficient and easy-to-use system that greatly simplifies the creation of shape-changing visual effects in motion pictures.

- Ken Perlin for the development of Perlin Noise, a technique used to produce natural appearing textures on computer generated surfaces for motion picture visual effects. The development of Perlin Noise has

allowed computer graphics artists to better represent the complexity of natural phenomena in visual effects for the motion picture industry.

- Nestor Burtnyk and Marcell Wein of the National Research Council of Canada for their pioneering work in the development of software techniques for computer assisted key framing for character animation. The pioneering work of Burtnyk and Wein demonstrated the first significant use of the computer in 2-D key-frame character animation and influenced many subsequent developments in computer animation techniques.

- Grant Loucks for the concept and specifications of the Mark V Director's Viewfinder. The Mark V has simplified the operation and extended the range of a valuable tool used for previewing scenes covering a wide range of lens focal lengths and film formats.

- Brian Knep, Craig Hayes, Rick Sayre, and Thomas Williams for the creation and development of the Direct Input Device. The Direct Input Device is an encoded armature that allows stop-motion animators to bring their skills and artistry directly into computer animation.

- James Kaiya and Timothy Kay for their pioneering work in producing computer generated fur and hair in motion pictures. This pioneering work inspired the development of the computer generated fur and hair systems that are in use today.

- Jeffrey Yost, Christian Rouet, David Benson and Florian Kainz for the development of a system to create and control computer-generated fur and hair in motion pictures. This system represents a significant advancement for controlling computer generated short fur and long hair in a motion picture production environment.

- To Richard A. Prey and William N. Masten for the design and development of the Nite Sun II lighting crane and camera platform. The Nite Sun II is a mobile crane system for location lighting and camera use. This unique, self-contained system with its platform, has the ability to lift 1,200 pounds of personnel, lighting, and camera equipment up to 124 feet above the ground.