News

The 78th Annual Academy Awards Scientific and Technical Awards

Gordon E. Sawyer Awarded to Gary Demos

Gary Demos, a pioneering motion picture technologist in the motion picture industry, has been voted the Gordon E. Sawyer Award by the Board of Governors of the Academy of Motion Picture Arts and Sciences. The Award, an Oscar statuette, was presented at the Scientific and Technical Awards Dinner on Saturday, February 18 at The Beverly Hilton.

Demos has been pursuing the investigation of scientific issues in the motion picture industry for more than 30 years. In 1984, Demos received his first Scientific and Engineering Award (with John Whitney, Jr.) for the practical simulation of motion picture photography by means of computer-generated images. A decade later, Demos was awarded his second Scientific and Engineering Award (with Dan Cameron, David DiFrancesco, Gary Starkweather, and Scott Squires) for his groundbreaking work in the field of film input scanning. In 1995, the Academy honored him with a Technical Achievement Award (with David Ruhoff, Dan Cameron, and Michelle Feraud) for his efforts in the creation of the Digital Productions Digital Film Compositing System.

Demos, along with Whitney, established the "Motion Picture Project" at Information International to produce computer-generated simulated scenes for such movies as *Futureworld*, *Looker*, and *Tron.*

In 1988, Demos established DemoGraFX, a technology research and computer and visual effects consulting company where he specialized in research relative to high-performance cameras and digital compression based upon the discrete cosine transform. He is currently working on the development of new wavelet-based and optimal-filter-based moving image compression technology for high bit-depth and high dynamic range.

A member of the Academy's visual effects branch since 2003, Demos serves on the Scientific and Technical committee. He is also a member of SMPTE and has published a number of papers in the *Journal.*

Scientific and Engineering Awards

The Scientific and Technical Academy Awards were also presented at The Beverly Hilton on Saturday, February 18, 2006.

Scientific and Technical Awards are given for devices, methods, formulas, discoveries, or inventions of special and outstanding value to the arts and sciences of motion pictures that also have a proven history of use in the motion picture industry.

Awards may be granted in any of three classifications: Academy Award of Merit (Oscar statuette), for basic achievements that have a definite influence upon the advancement of the industry; Scientific and Engineering Award (Academy plaque), for those achievements that exhibit a high level of engineering and are important to the progress of the industry; and Technical Achievement Award (Academy certificate), for those accomplishments that contribute to the progress of the industry.

Scientific and Engineering Awards (Academy Plaques)

To David Grober for the concept and mechanical design and Scott Lewallen for the electronic and software design of the Perfect Horizon camera stabilization head. Perfect Horizon effectively neutralizes the extraneous motion encountered in boats, camera cars, snowmobiles, or other vehicles, leaving the pan/tilt head and camera stable and level with the horizon.

To Anatoliy Kokush, Yuriy Popovsky and Oleksiy Zolotarov for the concept and development of the Russian Arm gyro-stabilized camera crane and the Flight Head. The Russian

BKSTS and SMPTE Presents

The HD Masters Conference

Location: the bfi London IMAX

May 17 and 18, 2006

In May 2006 a unique event will take place in London. The two premiere societies supporting the broadcasting industry, BKSTS and SMPTE, in association with a major publishing house, have joined forces to present a Masters Conference on the subject of high-definition television.

High-definition is probably the most significant development in television since the advent of color, and broadcasters around the world are beginning to realize that their existing operations are going to need major changes to meet the demands of HD.

Speakers from the U.K., U.S., and Europe are being engaged to take part, and because the venue will have excellent presentation facilities, speakers will be encouraged to provide samples of the work they are doing in HD. From a delegate standpoint, the conference will provide significant opportunities to experience HD television, and to evaluate the technical and creative implications of different technologies.

One clear aim is to make the conference as interactive as possible—audience participation will be greatly welcomed! The timing of individual presentations will be organized to provide ample room for questions, and there will be several panel discussion sessions.

For more information on the Masters Conference program, venue, and more, please visit www.hdmasterconference.com

Arm and Flight Head opened new possibilities for filmmakers. With the ability to be mounted on the roof of almost any car, this remotely operated crane and camera head can move smoothly in a 360° circle around the car, even while it is being driven at high speeds by actors, creating heretofore impossible perspectives.

To Anatoliy Kokush for the concept and development of the Cascade series of motion picture cranes. The lightweight structure of the Cascade and Traveling Cascade Cranes enables the filmmaker to achieve heights of up to 70 ft, allowing for the placement of the camera in otherwise impossible locations.

To Garrett Brown for the original concept of the Skycam flying camera system—the first use of 3-D volumetric cable technology for motion picture cinematography. In creating the first remote-controlled, cable-supported flying camera system, Garrett Brown's pioneering efforts have influenced all subsequent development in this area of technology.

To David Baraff, Michael Kass, and Andrew Witkin for their pioneering work in physically based computer-generated techniques used to simulate realistic cloth in motion pictures. Their 1998 paper titled "Large Steps in Cloth Simulation" was a seminal work, providing the key in demonstrating to the industry that the calculations necessary to simulate realistic, complex cloth could be achieved efficiently and robustly. Their work provided the conceptual foundation for many cloth simulation systems in use today.

To Laurie Frost, Peter Hannan, and Richard Loncraine for the development of the remote camera head known as the Hot-Head. In use for over a quarter of a century, the Hot-Head has brought the possibility of safe, remotely operated shots to every filmmaker.

Technical Achievement Awards (Academy Certificates)

To Gary Thieltges for the design and development of the remotely operated, lightweight camera head known as the Sparrow Head. This well-integrated remote system enables filmmakers to remotely pan and tilt their camera from virtually any moving vehicle, giving the opportunity for unprecedented dynamic camera angles.

To Frank Fletcher and Dave Sherwin for the introduction and continuing development of the Power Pod modular camera head system. The Power Pod system enables filmmakers to configure a remote-controlled head to meet their own unique requirements.

To Alvah Miller, Michael Sorensen, and J. Walt Adamczyk for the design and development of the Aerohead motion control camera head and the J-Viz Pre-Visualization system. This remote head not only serves the needs of the live-action filmmaker, but also provides the functionality of a motion-controlled head, allowing for sophisticated tiling and previsualization techniques.

To Scott Leva for the design and development of the Precision Stunt Airbag for motion picture stunt falls. The Precision Stunt Airbag is designed to envelope the stunt jumper, even on off-center hits. This feature serves to enhance the safety of stunt performers in falls from up to 200 feet.

To Lev Yevstratov, George Peters, and Vasiliy Orlov for the development of the Ultimate Arm Camera Crane System for specialized vehicle photography. Representing a significant evolutionary improvement in camera car technology, this remotely controlled, gyro-stabilized, and flexible camera crane offers a highly stable platform for high-speed, rough-terrain action shots. Its ingenious applications of sophisticated technology solve many of the problems inherent in chase vehicle filming.

To James Rodnunsky, Alex MacDonald, and Mark Chapman for the development of the Cablecam 3-D volumetric suspended cable camera technologies. The evolution of the Cablecam technology has made it possible to move a camera safely and accurately anywhere through a three-dimensional space.

To Tim Drnec, Ben Britten Smith, and Matt Davis for the development of the Spydercam 3-D volumetric suspended cable camera technologies. The evolution of the Spydercam technology has made it possible to move a camera safely and accurately anywhere through a 3-D space.

To John Platt and Demetri Terzopoulos for their pioneering work in physically-based computer-generated techniques used to simulate realistic cloth in motion pictures. Their 1987 paper, "Elastically Deformable Models," was a milestone in computer graphics, introducing the concept of physically-based techniques to simulate moving, deforming objects.

To Ed Catmull, for the original concept, and Tony DeRose and Jos Stam for their scientific and practical implementation of subdivision surfaces as a modeling technique in motion picture production. Subdivision surfaces has become a preferred modeling primitive for many types of motion picture computer graphics.

To Harold Rattray, Terry Claborn, Steve Garlick, Bill Hogue and Tim Reynolds for the design, engineering, and implementation of the Technicolor Real Time Answer Print System. This system provides a method by which filmmakers can preview realtime color corrections using actual film prints, reducing both the turnaround time and the number of reprints required.

To Udo Schauss and Hildegard Ebbesmeier for the optical design and Nicole Wemken and Michael Anderer for the mechanical design of the Cinelux Premiere Cinema Projection Lenses. The Cinelux Premiere Lenses incorporate an iris and aspheric elements that provide a more uniform modulation transfer function and better light transmission to the sides and corners of the theater projection screen. This reduces the traditional problems of softness in the corners, hot-spotting, and varying brightness between film format.

Panasonic Expands Commitment to Video Projector Market

Panasonic Corp. of North America announced it has formed a new unit company—Panasonic Projector Systems Company—to meet the growing customer needs of key U.S. projector market segments. The new firm, located in Secaucus, NJ, will be headed by its president, Thomas Zitelli, formerly Director of the Information Systems Group of Panasonic Systems Solutions Company.

According to Zitelli, the company will focus its efforts on key market segments, to include business and industry, government, and higher education, among others. The company offers a broad line of DLP- and LCD-based products—from home theater and mobile projectors to fixed installation units and large-venue projectors. The new company plans to offer specific products for specific industries and applications, all with a low total cost of ownership.