

Member Profile: Jonathan Erland

SMPTE Life Fellow Jonathan Erland is a pioneering visual effects technologist. While his work in the motion imaging field goes back to his early training at the London Film School, where he received his visual effects “baptism by fire” creating and acting in an antiwar, battlefield film set in World War II, he is perhaps best known today for his leadership in advancing the field of visual effects, for his important work in imaging research and illumination science, and for developing traveling matte composite technology, including the now ubiquitous Digital Green.

Erland did not invent green screen or blue screen, but he did perfect them. The Digital Green and Digital Blue traveling matte system created by Composite Components Company, founded in 1993 by Erland and his wife, Kay, set the standard for optimal color density, reflectivity, and saturation for the cleanest possible composite. The pair earned a Scientific and Engineering Award from the Academy for the Digital Series of traveling matte backings.

For the motion picture industry, standardization to a very specific color value drastically reduced the time and expense of rotoscoping and color correction necessary with poorer-quality backing. Traveling matte backings from CCC contributed to the stunning and even breathtaking visual effects in movies such as *The Life of Pi*, *Lucy*, *What Dreams May Come*, and *Vale-rian and the City of a Thousand Planets*.

Erland studied film at the London Film School and theater at the Central School—with classmates including Vanessa Redgrave and Judi Dench—and at the Goodman Theatre in Chicago, he began work with the Canadian Broadcasting Corporation during the heyday of live television drama.

Leveraging his knowledge of theater technology, the young Erland helped to build the Charles Eames-designed audio-animatronic puppet theaters for the IBM pavilion at the 1964 New York World’s Fair. This experience made him a good fit for Industrial Light & Magic (ILM), newly founded at the time by John Dykstra, and Erland applied his knowledge to ILM’s visual effects work for *Star Wars*—and subsequently to visual effects for the original *Battlestar Galactica*, as well as *Star Trek: The Motion Picture* and others.

Continuing his work with Dykstra, Erland served as a director of research and development for Apogee Productions, where he received patents for a reverse bluescreen traveling matte process, the Blue-Max High-Power Flux Projector, and a method for making front projection screens.

Erland joined the Academy of Motion Picture Arts and Sciences (AMPAS) in 1984 and since then has held many leadership roles within the Academy. He served as a chairman of the Visual Effects Award Steering Committee and, in 1995, established visual effects as a branch of the Academy. He has served on the Academy Board of Governors, the Executive Committee of the Visual Effects Branch, the Scientific and Engineering Awards Committee, the AMPAS Student Academy Awards Committee, and the Foreign Films Committee. He was a founding member of the Academy Museum of Motion Pictures Committee as well as the Academy Science and Technology Council.

Erland was also a founder of the Visual Effects Society (VES), for which he has served as a director, membership chair, and member of the Technology Committee. In 2006, the VES

awarded him its inaugural Founder’s Award. Four years later, Erland—along with Douglas Trumbull and Dennis Muren—became the first VES Fellows.

In his significant work with SMPTE, Erland has authored some 20 technical papers and served as program chair for the SMPTE



Technical Conference. He has received the Society’s Journal Award and the Fuji Gold Medal, as well as other prestigious industry awards including an Academy Award of Commendation for “his leadership efforts toward identifying and solving the problem of High-Speed Emulsion

Stress Syndrome in motion picture film stock” and the John A. Bonner Medal of Commendation, which recognizes “outstanding service and dedication in upholding the high standards of the Academy.” He also has been awarded the Gordon E. Sawyer Award by the Academy, earning an Honorary Award (an Oscar statuette) recognizing his technological contributions to the industry.

Erland’s latest endeavor is the non-profit Pickfair Institute for Cinematic Studies (pickfairinstitute.org), which conducts research and produces educational materials and lectures on the history, technology, and advancement of cinema. The institute’s initial projects include the use of current digital cinema projection to provide for the digital projection of archive films, as well as the Creative Frame Rate (CFR) Project, which demonstrates how high frame rate captures and temporal oversampling provides for resampling at various frame rates. This work opens up tremendous possibilities for the return of the silent era’s CFRs and for their addition to the artistic palette of today’s cinematographer.