

## Joseph A. Flaherty

**S**MPTTE members and friends are saddened to learn of the passing of a Fellow and Honorary Member Joseph A. Flaherty, Jr., on 7 August. He was 87. Flaherty is remembered as a driving force in pioneering new broadcast technologies at CBS Television where he spent the majority of his long engineering career.

He was a member of SMPTE for many years. He had served as a member of its board, and was executive vice president of the organization from 1981 to 1982. He authored numerous articles for the *SMPTE Journal* and was a frequent presenter at SMPTE Technical Conferences.

Flaherty is perhaps best known for his initiative to break away from the traditional film-based newsgathering at CBS and move to the use of small video cameras and portable video recorders for that purpose. This practice of electronic newsgathering spread to the rest of the industry, eventually replacing film-based practices. He is also regarded as a driving force behind the adoption of high-definition broadcasting as well as being an advocate for replacement of the film in television with high-definition image capture and electronic post-production, another practice that has become universally adopted.

Flaherty's early work in high-definition television culminated in a demonstration of the technology in February 1981, which



led to his appointment as chair of the Federal Communications Commission's Advisory Committee on Advanced Television Service, as the Commission was also becoming interested in "raising the quality bar" and moving away from analog television delivery to U.S. television viewers. Flaherty was a strong supporter of a worldwide high-definition standard that would allow the exchange of program content without the need for the conversion of television standards. Although his dream of an international television standard was not fulfilled, it did ultimately lead to the deployment of high-definition television broadcasting in virtually all nations.

The majority of Flaherty's career was with CBS Television, an organization he joined in 1957 as a television design engineer, advancing later to become the network's director of technical facilities planning, its vice president and general manager of the engineering and development department, and, after 23 years in that position, CBS

Television's senior vice president of technology. Prior to joining CBS, Flaherty had worked at NBC Television in New York and had also served for two years at the U.S. Army Signal Corps Photographic Center, working as a technical director and design engineer of the Army's first television facility.

During his career, Flaherty was the recipient of numerous honors and awards, including four Technical Achievements, two Personal Lifetime Achievement Emmys, the NAB's Engineering Achievement Award, and "Award of Honor" (presented for introducing high-definition television to the world). From SMPTE, Flaherty was elevated to Fellow status and received the 1974 David Sarnoff Gold Medal for Progress in Television Engineering (awarded by SMPTE), the 1984 SMPTE Progress Medal, and SMPTE's highest award, Honorary Member of the Society of Motion Picture and Television Engineers, which was bestowed on Flaherty in 1993. He also received several foreign awards and accolades, including the International Montreux Achievement Gold Medal, the Russian National Association of Television and Radio Broadcasters' International Vladimir Zworykin Award given for technical achievements in the field of television, and two French Legion of Honor Awards.

In addition to his work in the field of television, Flaherty was also a fan of science fiction writer Arthur Clarke, and served as the director of the Arthur C. Clark Foundation, an organization established with

multiple goals of encouraging the use of communications technologies and social resources for improving health education and quality of life for Earth's inhabitants, integration of science and technology with various media for the purpose of enhancing awareness of our complex and interconnected world, and

for furthering the public's understanding of science and technology and the way they impact society.

Flaherty received a degree in physics in 1952 from the Rockhurst College in Kansas City, MO. He is survived by his wife of more than 60 years, Jan, along with four sons, a daughter, and eight grandchildren.

A funeral mass for Flaherty was conducted on 14 August at St. Agnes Church in Greenport, NY, with burial following in a private ceremony held at Long Island National Cemetery in Farmingdale, NY.

—James E. O'Neal



## EXCLUSIVE ARTICLES ONLINE: ABSTRACTS

*For expanded coverage of this month's topic "Compression," you can find the following papers in the Digital Edition. Visit the SMPTE digital library at <http://journal.smpte.org> to access the issue and to read these additional papers.*

### High Throughput JPEG 2000 (HTJ2K): New Algorithms and Opportunities

By David S. Taubman, Aous Thabit Naman, Reji Mathew, and Michael D. Smith

This paper describes a drop-in replacement for the Joint Photographic Experts Group (JPEG) 2000 (J2K) block coder that offers exceptionally high throughput, with a small reduction in coding efficiency, while retaining all features of J2K except for quality scalability. Throughputs on the order of ten times or more are achievable relative to J2K. We coin the term fast block coding with optimized truncation (FBCOT) for the overall proposed algorithm. Truly reversible transcoding between J2K and FBCOT bitstreams is supported on a block-by-block basis, enabling systems in which the efficiency and scalability of J2K can be combined with the high-throughput benefits of FBCOT. The

algorithm forms the basis of a new standard that will be J2K Part-15 (also known as high-throughput J2K) and is currently at committee draft status within the ISO/IEC working group known as JPEG.

### Core Color Rendering Algorithms for High Dynamic Range Display

By Gary Demos and Doug Walker

As is well known, colors as they exist in the real world must be adjusted so as to look correct and pleasing when displayed on a TV or a cinema screen. In color science, the process of converting these scene-referred colors to display-referred colors is termed *rendering*. The Academy Color Encoding System (ACES) is a good example of a set of open-source picture rendering algorithms. In this paper, the authors, who both participated in the development of ACES, discuss the pros and cons of various rendering techniques and share the results of their latest work. Specifically, we present a method of applying a tone curve that preserves color ratios and has better noise properties than earlier techniques. This algorithm has been successfully used as part of a larger parametric rendering system for high dynamic range display. One of the nice properties of this algorithm is that it has a simple and robust inverse.



Digital Object Identifier 10.5594/JMI.2018.2866134  
Date of publication: 20 September 2018