



CONFERENCE SCHEDULE

PRE-CONFERENCE SYMPOSIUM

MONDAY, OCTOBER 27, 2008

How Did They Do That? Innovations in Filmmaking and Live Event Broadcast

Cinematographers, engineers, and producers are occasionally faced with the daunting challenge of capturing the images in extraordinary conditions. This Symposium will present some of the most interesting applications of new technology use to capture the dramatic images from two extremes of programming: live fast-action coverage of the Summer Olympic Games, and the methodical production of the landmark nature footage in the BBC's award-winning "Planet Earth" Series. We will hear directly from the engineers and producers that refined the production techniques, built the systems, and applied innovative fixes as unexpected challenges arose.

MORNING SESSION 8:00 a.m. – noon

Coverage of the Beijing Olympics

Moderator: Dave Mazza, Senior Vice President, NBC Olympics Engineering

And others from the NBC Olympics Engineering team

This session will start with a brief historical review of Olympics coverage, dating back to the 1936 Berlin Games. Mazza will then present an overview of the Beijing games; including the multiyear planning process leading up to the 2008 games, the new challenges faced and the development of the many systems deployed. The Broadcast Operations Center is required to support both 1080i/50 broadcast standard for HDTV and the 625/50 (PAL) standard for SDTV. Signal processing and conversation was used to support broadcasts in the U.S. HD and SD standards.

The sophisticated production systems at key venues will be reviewed, as well as the innovative "Highlight" factory used to quickly retrieve archive footage. Advances in MXF file formatting and server architecture supported the process. Mazza will also look forward in time to consider what new innovations should be prepared for future Games.

AFTERNOON SESSION 1:00 p.m. – 5:00 p.m.

Making of "Planet Earth"

Presenter: Dr. Jonathan Keeling, BBC Natural History Unit

And other members of the production team

This session will start with renowned filmmaker Jonny Keeling explaining the background on this remarkable natural history production. Dr. Keeling will explain how the series concept originated, review some of the technical challenges anticipated, and tell us about actual field experiences. Besides the expected hurdles of difficult shooting conditions and limited budgets, the production team

faced the threat of frostbite and attack by wild animals. Sessions will cover:

- ❑ Filming in extreme environments, including cold, altitude, hot, humid, deep oceans, black caves and night shooting;
- ❑ Aerial filming...refinements in gyro-mounts, ultra-telephoto optics and balloon camera;
- ❑ Distorting time...super slo-mo, seasonal transitions and time-lapse with robotic motion capture;
- ❑ Post-production challenges.

Each will be illustrated with examples of the challenges, solutions, failures, and successes in the field. Behind-the-scenes footage will reveal the technical approaches used.

This Symposium provides a rare opportunity to hear directly from some of the world's most innovative engineers and producers advancing the techniques of television production, and to view never-before-seen behind-the-scene footage of these extraordinary productions.

TUESDAY, OCTOBER 28, 2008

8:00 a.m. – 11:45 a.m. Opening General Session

Keynote: Father of MP3 - Dr. Karlheinz Brandenburg

Professor Karlheinz Brandenburg, the multi award-winning scientist often referred to as the father of MP3, will deliver the keynote address at SMPTE 2008: Annual Tech Conference & Expo. The director of the distinguished Fraunhofer Institute for Digital Media Technology, Dr. Brandenburg will present his vision for the future of digital media, including immersive entertainment, 3-D audio and video, and interactivity.

Keynote Panel: Rebel Alliance - Geeks Lead Hollywood into a New Era, Sponsored by FastCompany Magazine

The general session will conclude with this in-depth panel discussion about the future of media—transmedia branding and storytelling across multiple media channels. Leading author, contributing editor and adjunct professor, David Kushner, will moderate this panel that will include Tim Kring, Jesse Alexander, Naren Shanker and Javier Grillo-Marxuach: executive producers of *Heroes*, *Lost*, *CSI* and *Medium*, respectively. Other panelists include Emmy award winning creator, producer and game developer, Matt Wolf, and director Rob Letterman.

TECHNICAL SESSIONS

1:00 p.m. – 3:45 p.m. The DTV Transition: Moving Toward an Analog-free Future

Session Chair: Jerry Whitaker, ATSC

The date for turnoff of the NTSC television service is fast approaching. In just over five months, analog transmissions from full-power stations will cease and the transition to digital television will be

complete. Between now and February 17, a great amount of work remains to be done. In the meantime, work is under way to develop new services that promise to give broadcasters more flexibility than ever before. Before these new services can be broadcast, however, the necessary infrastructure must be developed and deployed. This session will examine work currently under way in the DTV realm, and what it means to SMPTE members.

1:00 p.m. – 3:45 p.m. **High-Speed Infrastructure for 1080P**

Session Chair: Gavin Schutz, AZCAR

Rapid consumer demand for “higher-than-1080i” HD broadcast, fueled by the 1080P images produced by Blu-Ray, is a specter haunting more than one broadcast engineer. HD SDI 1.5 Gbits/sec operation is well understood and has become standard practice, and now many facilities are looking to 3 Gbit/sec capabilities in their core as the next step. This session has lined up five experts who will give their perspectives on 1080P and the infrastructure at 3 Gbits and beyond that will be required to support it.

WEDNESDAY, OCTOBER 29, 2008

8:00 a.m. – 9:00 a.m. **Tutorial: Digital Video Package (DVP)**

Speaker: Howard Lukk, Disney

Moving from a tape-based workflow to a completely file-based workflow has its challenges for content creators and distributors. This presentation will propose a B2B solution using a master set of picture, sound and text files that can be transcoded into any downstream deliverable required for current and newly emerging media formats.

8:00 a.m. – 9:00 a.m. **Tutorial: Image Artifacts in the Digital Era**

Speaker: James Larimer, ImageMetrics, LLC

The advent of digital imaging in standard and high-definition television, electronic cinema, and the impressive advances in displays (AMLCDs, plasmas, MEMS and LCOS projection, and OLEDs) as well as advances in sensor technologies (CCD and CMOS) has changed the way imagery is captured and reconstructed on the screen. These changes have created a new array of image artifacts that compromise image quality and our ability to control it. Why these artifacts are particularly salient to the human visual system and how to control them is the subject of this tutorial.

9:30 a.m. – noon **Stereoscopic 3-D Production—Comparing Methodologies**

Session Chair: Lenny Lipton, Real D

Expert discussion in this session will compare the pros and cons of effects heavy films created with either 3-D camera photographed footage or those created by means of synthesized 3-D from planar

material. Samples will be screened and our panelists will answer the following questions:

- Can the results of synthesis be equivalent in quality to traditional means?
- Can day and date be made?
- What about budget?
- Journey was made the traditional way, but G Force, in post, is being created through conversion.
- What does the future hold for 3-D production?

9:30 a.m. – noon **IPTV and Internet Video: Delivering on the Promises**

Session Chair: Wes Simpson, Telecom Product Consulting

Over the past two years, both IPTV and Internet Video technologies have moved out of the realm of technology experimentation and into the world of commercial-scale video delivery platforms. This session will focus on recent developments in both IPTV and Internet Video delivery platforms. Several techniques that can be used to improve the efficiency of file deliveries over the Internet to both consumers and professional users will be presented. Some of the hard questions about IPTV delivery will also be addressed, including the persistent issues of channel change time and overall viewer satisfaction measurement.

9:30 a.m. – noon **New Displays—New Challenges**

Session Chair: Dave Bancroft, Thomson

We are rapidly migrating from the single-technology display era (CRT-only) to the new multiple technology display era (LCD, plasma, DMD, OLED, FED, etc.). The transition doesn't just involve the consumer: it profoundly affects quality-control monitoring for all broadcast and professional content creation. It affects the standards supporting production from SMPTE and other bodies, and many operational practices in production. This session will clarify the issues, defuse the challenges, and illuminate the way forward for the industry.

1:30 p.m. – 5:30 p.m. **Advancements in Compression and Transcoding: 2008 and Beyond**

Session Chair: Michael Smith, Consultant

Improvements in compression technology have recently enabled new video distribution frameworks like Internet, IPTV and mobile/handset. These same improvements have also increased the quality/quantity tradeoff in existing distribution models like disk, cable, satellite, and digital cinema.

This session will examine the developments in compression and transcoding technology that affect new and existing distribution frameworks as well as acquisition and production workflows.



1:30 p.m. – 5:30 p.m. **The Role of Metadata and Process in the Evolution of Media Asset Management**

Session Co-Chairs: Jim Casabella, ABC and Graham Allan, Disney

The continuing evolution to file based systems in the media industry is driving a growing awareness of the importance of metadata and process workflow as it relates to the implementation of effective media management solutions. These papers help to provide a better view of both the problems we can expect to encounter as we move forward and the potential solutions to those problems. We will also take a look into some new opportunities and enhanced workflows enabled by the increased levels of integration of metadata and workflow process in media management.

THURSDAY, OCTOBER 30, 2008

8:00 a.m. – 9:00 a.m. **Tutorial: Introduction to the Image Interchange Framework for Digital Motion Picture Mastering**

Presented by Academy of Motion Picture Arts & Sciences' Science and Technology Council, Speaker: Jim Houston, Postworks, L.A.

An introduction to an architecture and toolset designed to enable high-performance digital workflows, color management, and reliable image interchange for motion picture applications. The Image Interchange Framework (IIF), in development for three years, is a collaborative development effort by over 50 of the industry's top practitioners and technologists. This session is recommended for conference attendees who want an overview of IIF, and especially for those planning on attending the more detailed "Image Interchange."

8:00 a.m. – 9:00 a.m. **Tutorial: Timing and Synchronization for the Future**

Speaker: Peter Symes, SMPTE

The Society of Motion Picture and Television Engineers (SMPTE) and the European Broadcasting Union (EBU) formed a Joint Task Force to examine future needs for timing and synchronization in moving picture and related industries, and to recommend appropriate standardization. Current methods of timing and synchronization for television, audio, and other moving picture signals rely on standards that have been in place for over 30 years. These standards are becoming increasingly inappropriate for the digital age and represent unacceptable limitations for the future. The tutorial will cover user requirements, the fundamental approaches under consideration, and report on progress towards final proposals for standardization.

9:30 a.m. – noon **Digital Convergence: Where Stereoscopic HD Games and Movies Meet for the Home User**

Session Chair: Mark Fihn, Veritas et Visus

Recently there is a proliferation of 3-D display devices, 3-D content, and 3-D enabled video games. As we bring 3-D to the home user we have a real opportunity of using stereoscopic 3-D to bridge the gap between immersive games and exciting stereoscopic home movies. Ethan Schur from TDVision Systems will give a compelling talk on digital stereoscopic confluence, pervasive 3-D computing, and the road to mass adoption of 3-D for the home market.

9:30 a.m. – noon **Image Interchange Framework: Image Encoding, Color Transforms, and Applications**

Presented by Academy of Motion Picture Arts & Science' Science and Technology Council, Session Chair: Ray Feeney, RFX, Inc.

The Image Interchange Framework, a collaborative development effort of more than 50 of the industry's leading technologists and practitioners under the auspices of the Academy of Motion Picture Arts and Sciences' Science and Technology Council, is an architecture and toolset designed to enable high-performance digital workflows, color management, and reliable image interchange for motion picture applications. Papers in this session cover colorimetric and densitometric encoding specifications, scene referred to output referred color transformations, and practical implementation details. Conference attendees interested in this session are encouraged to also attend the "Introduction to the Image Interchange Framework for Digital Motion Picture Mastering" tutorial immediately preceding this session.

9:30 a.m. – noon **Digital News Gathering—From Acquisition to Air**

Session Chair: Dave Siegler, Cox, TV

Thanks to recent technology developments allowing for more efficient encoding, IP-centric connectivity and file-based workflows, we are now better able to deploy digital workflows in the field. As many television groups currently shoot and edit digital in the field, there are more options for acquiring and delivering stories. This technical session will present a variety of topics including advanced codecs and digital ENG, SNG, and IP delivery methods. Join us as we learn about these advances being used by the networks and local affiliates in live and non-live applications.

2:00 p.m. – 5:45 p.m. **Topics in File-based Workflows**

Session Chair: Al Kovalick, Avid

File-based workflows have replaced videotape methods for a majority of production and broadcast operations. Key to this is the transition to IT methods and techniques; flexible workflows built on the principles of SOA and software services; architectural elements of networking, storage, control, scalability, reliability, QoS, management, security and systems integration. Come to learn the latest in file-based workflow best practices, IT for video, case studies, standards, formats and future concepts.

2:00 p.m. – 5:45 p.m. **Image Acquisition**

Session Chair: Bill Hogan, Panasonic

As digital capture of moving images has increased and matured, interest has also increased in issues of quality and necessary specifications. The number of pixels and testing of digital cameras is a hot topic that is widely debated. Digital photography from the Earth to Mars is the norm and digital imagery for high-profile and high-budget theatrical features is doubling each year. This session explores content capture, quality standards and the expanded use of Digital Image Acquisition.