



Annual Technical Conference & Exhibition Conference Program

Tuesday, 22 October

09:00 – 09:15

Welcome and Opening

Rooms: Salon 1, Salon 2

09:15 – 10:15

Opening Keynote

Rooms: Salon 1, Salon 2

Thomas Gewecke (Warner Bros., USA)

10:15 – 10:45

Break

Rooms: Salon 1, Salon 2

10:45 – 12:15

Digital Cinema

Room: Salon 2

Chair: Peter Ludé (Consultant, USA)

10:45: Full Accessibility System for Digital Cinema Using Wi-Fi

Israel Gonzalez-Carrasco, Ángel García Crespo, and José López-Cuadrado (Universidad Carlos III de Madrid, Spain)

11:15: A Study on Laser-Illuminated Digital Cinema Projector Safety

Peter Ludé (Consultant, USA); Dave Schnuelle (Dolby Laboratories, USA); David H. Sliney (Consulting Medical Physicist & Department of Environmental Health Sciences, Johns Hopkins Bloomberg School of Public Health, USA)

11:45: Gamut Mapping for Digital Cinema

Jan Froehlich (University of Tuebingen & Stuttgart Media University, Germany); Andreas Schilling (University of Tuebingen, Germany); Bernd Eberhardt (Stuttgart Media University, Germany)

The Move to the All-IT Facility – Part 1

Room: Salon 1

Chair: Al Kovalick (Media Systems Consulting, USA)

10:45: The Evolution to Network-Distributed Genlock

Paul Briscoe (Harris, Canada)

11:15: Analysis of PTP Locking Time on non-PTP Networks for Genlock over IP

Nikolaus Kerö (Oregon Systems, Austria); Tobias Müller (University of Applied Sciences Technikum Wien, Austria); Thomas Kernen and Mickael Deniaud (Cisco Systems, Switzerland)

11:45: The Principles of Low-Latency Media Centric IP Network Architectures

Thomas Kernen (Cisco, Switzerland); Steven Posick (ESPN Inc., USA)

12:30 – 14:00

Industry Luncheon

Room: Hollywood Ballroom

14:15 – 15:45

The Move to the All-IT Facility – Part 2

Room: Salon 1

Chair: Al Kovalick (Media Systems Consulting, USA)

14:15: Media Facility Infrastructure of the Future

Eric Pohl (National TeleConsultants, USA)

14:45: Software-Defined Network for Media Workflows

Tom Ohanian and Ammar Latif (Cisco Systems, USA)

15:15: The Foundations of the All IT Media Facility

Al Kovalick (Media Systems Consulting, USA)

Multi-view Production

Room: Salon 2

Chair: Howard Lukk (Disney, USA)

14:15: Tri-Focal Rig

Johannes Steurer (Arnold & Richter Cine Technik & ARRI, Germany)

14:45: Depth/Disparity Creation for Trifocal Hybrid 3D System

Ralf Tanger, Marcus Müller, Peter Kauff, and Ralf Schäfer (Fraunhofer Heinrich-Hertz-Institut, Germany)

15:15: Depth/Disparity Interchange Representation for Post-Production

Peshala Vishvajith Pahalawatta and Kevin J Stec (Dynamic Digital Depth, Inc., USA)

15:45 – 16:15

Break

Rooms: Salon 1, Salon 2

16:15 – 17:45

The Move to the All-IT Facility – Part 3

Room: Salon 1

Chair: Al Kovalick (Media Systems Consulting, USA)

16:15: Video Processing in an FPGA-Enabled Ethernet Switch

Peter Braam (Parallel Scientific, USA); Warren Belkin (Arista Networks, USA); Serguey Zefirov (Parallel Scientific, USA); Dennis Batchelor (Parallel Scientific, USA); Thomas Edwards (Fox Network Engineering & Operations, USA); Andy Bechtolsheim (Arista Networks, USA)

16:45: All-IP Video Processing of SMPTE 2022-6 Streams on an All Programmable SoC

Matt Klein (Xilinx, USA); Thomas Edwards (Fox Network Engineering & Operations, USA)

17:15: IP and Media Perfectly in Tune? – Running an IT Media Facility in a Predictable Way

Luc Andries (SDNsquare & Gaston Crommenlaan 10 bus 101, Belgium)

Multi-view Post Production

Room: Salon 2

Chair: Kevin J. Stec (Dynamic Digital Depth, Inc., USA)

16:15: View Rendering and Compositing

Simon Robinson (The Foundry, USA), Csilla Andersen (Dolby Laboratories, USA)

16:45: Distribution Servicing

Walt Husak (Dolby Laboratories, USA)

18:00 – 20:00

Opening Night Reception

Room: Exhibit Hall

Wednesday, 23 October

Evolving Technologies for Broadcast Facilities – Part 1

Room: Salon 1

Chair: Harvey Arnold (Sinclair Broadcast Group, USA)

09:00: Playout Automation in a Virtual Environment

Eric Openshaw (Pebble Beach Systems & Pebble Beach Systems, USA); Glen Sakata (Affinis Advisory Group LLC & Affinis Advisory Group, USA)



09:30: Mobile Emergency Alerting via ATSC Mobile DTV

James Kutzner (Public Broadcasting Service, USA); Wayne Luplow (Zenith Electronics, USA)

10:00: Sending ads/offline Content to Affiliate Stations Using Primary Distribution Feeds Based on Hitless Compression Standard with No Cost or BW Increase

Gustavo Marra (ATEME, USA)

Audio Developments for Cinema and Broadcast

Room: Theatre (Chinese 6)

Chair: Thomas A. Scott (Onstream Media/EDnet, USA)

09:00: Are We CALM?

J. Patrick Waddell (Harmonic Inc., USA); Jim Starzynski (NBC Universal, USA)

09:30: An Open Object-Based Immersive Audio Content Format

Ton Kalker and Jean-Marc Jot (DTS, Inc., USA)

10:00: A Perspective on the Evolution of Sound System Equalization and its Possible Impact on the New Standards Being Developed

John Murray (Optimum System Solutions, USA)

Storing and Protecting Your Assets – Part 1

Room: Salon 2

Chair: Paul Chapman (Foto-Kem Industries Inc., USA)

09:00: Archive eXchange Format: Interchange and Interoperability for Operational Storage and Long-Term Preservation

S. Merrill Weiss (Merrill Weiss Group, LLC, USA)

09:30: What Cybercriminals Don't Want You to Know When You Decide How to Protect Your Network

Francisco Artes and Stefan Frei (NSS Labs, Inc., USA)

10:00: Latest Status of UMID Application Project in SMPTE

Yoshiaki Shibata (Chair, SMPTE TC-30MR SG UMID Applications, Japan)

10:30 - 11:00

Break

Rooms: Salon 1, Salon 2

11:00 – 12:30

Evolving Technologies for Broadcast Facilities – Part 2

Room: Salon 1

Chair: Harvey Arnold (Sinclair Broadcast Group, USA)

11:00: Hybrid Broadcasting in the Internet Age – IP Core Network Concepts and Broadcast Market Exchange

Mark A. Aitken (Sinclair Broadcast Group, USA)

11:30: Towards a Hierarchy of SDI Data Rates

John Hudson and Edward Frlan (Semtech Corp., Canada)

12:00: Live Stream Media Monitoring in the Cloud

Hiren Hindocha (Digital Nirvana, USA)

Storing and Protecting Your Assets – Part 2

Room: Salon 2

Chair: Paul Chapman (Foto-Kem Industries Inc., USA)

11:00: Faxes, E-mails, Pagers, and The Macarena – Relics of the '90s that Have No Place in Today's Media

Christopher J. Lennon (MediAnswers, USA); Angela Tietze (Entertainment Communications Network, Inc., USA)

11:30: French Cinema Goes IMF

François Helt (Highlands Technologies Solutions, France); Benoit Fevrier (EVS-Opencube, France); Frantz Delbecque (Eclair Group, France); Xavier Brachet (Mikros Image, France); Hans-Nikolas Locher (Commission Supérieure Technique de l'Image et du Son, France); Marc Bourhis (FICAM, France)

12:00: Archives – “It's a Retrieval Problem, Not a Storage Problem”

Josef Marc (Archimedia Technology Inc., USA); Chi-Long Tsang (Archimedia Technology Inc., Hong Kong); Victor Steinberg (VideoQ Inc., USA); Maxim Levkov (Artek Media International Inc., USA)

12:30 – 14:00

Fellows Luncheon

Room: Mount Olympus Room

12:30: Fellows Luncheon Keynote

Glenn Reitmeier (NBC Universal, USA)

14:15 – 15:45

Color Management

Room: Salon 1

Chair: Joseph Slomka (Foto-Kem Industries, Inc., USA)

14:15: Beyond BT.709

Maciej Pedzisz (British Sky Broadcasting Ltd., United Kingdom)

14:45: An IIF-Based Post-Production Infrastructure Developed for Feature Film Production and Higher Education in Iraq

Christopher Woollard (University of Greenwich & BKSTS, BSC, United Kingdom)

15:15: Academy Spectra Software Tool: Color Rendering Analysis Application

Jonathan Erland (Composite Components Company, USA)

Advancements in Image Processing – Part 1

Room: Salon 2

Chair: Jim DeFilippis (TMS Consulting, USA)

14:15: Filtering in a High-Dynamic Range (HDR) Context

Gary Demos (Image Essence LLC, USA)

14:45: Advancements in Image Processing: Adaptive File-based Standards Conversion of Mixed Cadence Material – Towards the Holy Grail?

Bruce Devlin (AmberFin, United Kingdom)

15:15: Camera Radiometric Calibration from Motion Images

Ricardo Figueroa (Rochester Institute of Technology, USA); Jinwei Gu (Columbia University, USA)

15:45 – 16:15

Break

Rooms: Salon 1, Salon 2

16:15 – 17:45

File-Based Workflows

Room: Salon 2

Chair: Paul Chapman (Foto-Kem Industries Inc., USA)

16:15: North American Broadcasters Association Study of Issues in File-Based Interoperability and Watermarking

Clyde Smith (Fox NE&O, USA); Thomas Bause Mason (NBC Universal, USA)



Annual Technical Conference & Exhibition Conference Program

16:45: Using LTO and LTFS for File-Based Program, Graphics, and Footage Delivery

Josh Derby, Bert Collins, Charles Myers, and Adam Weyl (Discovery Communications, LLC, USA)

17:15: Advanced Storage Techniques Using Scalable Media

Heiko Sparenberg (Fraunhofer IIS, Germany)

Stereoscopic 3D Imaging, Processing, Distribution and Display

Room: Salon 1

Chair: Kevin J. Stec (Dynamic Digital Depth, Inc., USA)

16:15: Your Eyes Don't Do the Math: Effect of Temporal Display Protocols on Perceived Brightness

Zoltan Derzsi (Newcastle University, United Kingdom)

16:45: Study on the Acceptance of Higher Frame Rate Stereoscopic 3D

Wolfgang Ruppel (RheinMain University of Applied Sciences, Germany)

17:15: Controlling Miniaturization in Stereoscopic 3D Imagery

Michael D. Smith (Wavelet Consulting LLC, USA); Jason Malia (Georgia Institute of Technology & Warner Bros Entertainment Inc., USA)

18:00 – 18:30

Annual Membership Meeting

Room: Salon 1

Thursday, 24 October

09:00 – 10:30

Advancements in Image Processing – Part 2

Room: Salon 2

Chair: Sara Kudrle (Miranda Technologies, USA)

09:00: New Generation of Contribution Services Using the New HEVC 422 Profile, for 4K Format

Juan Jose Anaya (SAPEC, Spain); Damian Ruiz (Universitat Politècnica de València, Spain)

09:30: A Technical Overview of VP9 – The Latest Open-source Video Codec

Debargha Mukherjee (Google, Inc., USA); Jim Bankoski (On2 Technologies, USA); Ronald Bultje, Adrian Grange, Jingning Han, John Koleszar, Paul Wilkins, and Yaowu Xu (Google, Inc., USA)

10:00: Developing Requirements for a Visually Lossless Display Stream Coding System Open Standard

Dale Stoltzka (Samsung Electronics, USA)

Cloud-Based Systems – Part 1

Room: Salon 1

Chair: Don Craig (Arboretum Studios, USA)

09:00: Deploying Video Platforms in the Cloud

Andrew Sinclair (News Corporation/Sinclair Media Technology, Australia)

09:30: Private Patching in the Cloud: Offering the Media Industry a Mind of Its Own

Robert Jenkins (CloudSigma, USA)

10:00: Building Scalable Media Workflows on the Cloud

Bhavik Vyas (Amazon Web Services, USA)

10:30 - 11:00

Break

Rooms: Salon 1, Salon 2

11:00 - 12:30

Advancements in Image Processing – Part 3

Room: Salon 2

Chair: Sara Kudrle (Miranda Technologies, USA)

11:00: Development of the Super Hi-Vision HEVC/H.265 Realtime Encoder

Yasuko Sugito, Kazuhisa Iguchi, Atsuro Ichigaya, Kazuhiro Chida, Shinichi Sakaida, and Yoshiaki Shishikui (NHK, Japan); Hiroharu Sakate, Takayuki Itsui, Nobuaki Motoyama, and Shun-ichi Sekiguchi (Mitsubishi Electric Corp., Japan)

11:30: VC-5 Video Compression for Mezzanine Compression Workflows

Ed Reuss (Unaffiliated, USA)

12:00: Analyzing and Optimizing Video Quality in the New H.265 (HEVC) Standard

Advait M. Mogre, Shekhar Madnani, Bhupender Kumar, Muneesh Sharma and Shailesh Kumar (Interra Systems, India)

Cloud-based Systems – Part 2

Room: Salon 1

Chair: Don Craig (Arboretum Studios, USA)

11:00: Building Real World Media in the Cloud

Andy Hurt (Front Porch Digital, USA)

11:30: Look to the Cloud: Enabling Seamless Video in a Multi-Device World

Jeff Malkin (Encoding.com, USA)

12:00: Virtualization of Broadcast Playout

John Shike and Martin Holmes (Snell, USA)

12:30 - 14:00

Boxed Lunch in Exhibit Hall

Room: Exhibit Hall

14:00 - 15:30

More, Better, Faster Pixels – Part 1

Room: Salon 1

Chair: Peter H. Putman (Kramer Electronics, USA)

14:00: Beyond the Interface: Other Work in SMPTE Related to UHD TV

J. Patrick Waddell (Harmonic Inc., USA)

14:30: Creating an Innovative Broadcasting with Technology and Standardization

Tadaaki Yokoo (Association of Radio Industries and Businesses, Japan)

15:00: A Design Approach to Creating Scalable Beyond-4K Video Processing System on FPGAs

Benjamin Cope (Altera, United Kingdom)

Advancements in Image Processing – Part 4

Room: Salon 2

Chair: Jim DeFilippis (TMS Consulting, USA)

14:00: HEVC: The Key to Deliver Enhanced Viewing Experience Beyond HD

Sophie Percheron and Jerome Vieron (ATEME, France)



14:30: Enhanced Image Processing Beyond Baseband: CPU/GPU Processing Model Unlocks Performance Possibilities

Kirk Marple (RadiantGrid Technologies, LLC, USA); Elisabetta Fernandez (Wall Street Communications, USA); Chris Gorman and Ernie Sanchez (Cinnafilm, USA)

15:00: Taking the Pixel Out of the Picture

Phil Willis (University of Bath & Centre for Digital Entertainment, United Kingdom)

15:30 - 16:00

Break

Rooms: Salon 1, Salon 2

16:00 - 17:30

More, Better, Faster Pixels – Part 2

Room: Salon 1

Chair: Peter H. Putman (Kramer Electronics, USA)

16:00: Development of a Multilink 10-Gbit/sec Mapping Method and Interface Device for 120 frame/sec UHD TV Signals

Takuji Soeno, Yukihiro Nishida, Takayuki Yamashita, Yuichi Kusakabe, Ryohei Funatsu, and Tomohiro Nakamura (Japan Broadcasting Corp. (NHK))

16:30: Compact 120-fps Super Hi-Vision (8K) Camera with 35mm PL Mount Lens

Hiroshi Shimamoto, Toshio Yasue, Kazuya Kitamura, and Toshihisa Watabe (NHK, Japan); Norifumi Egami (Kinki University, Japan); Shoji Kawahito (Research Institute of Electronics, Japan); Tomohiko Kosugi and Takashi Watanabe (Brookman Technology, Inc., Japan); Taku Tsukamoto (Astrodesign, Inc., Japan)

17:00: Creative Application of Digital Media and Technology in the Themed Entertainment Industry

Rick Rothschild (Far Out! Creative & Themed Entertainment Association, USA)

Cinematography

Room: Salon 2

Chair: Paul Chapman (Foto-Kem Industries Inc., USA)

16:00: Lightfield Acquisition and Processing System for Film Productions

Siegfried Foessel, Frederik Zilly, Michael Schöberl, Peter Schäfer, Matthias Ziegler, and Joachim Keinert (Fraunhofer IIS, Germany)

16:30: Lens Considerations for Digital Cinematography

Laurence J. Thorpe (Canon USA Inc., USA)

17:00: High-Accuracy Digital Camera Color Transforms for Wide Gamut Workflows

Jon McElvain (Dolby Laboratories, Inc., USA); Walter Gish (Dolby Laboratories, USA)

List of Exhibitors

Company	Booth Number	Company	Booth Number
Adder Corporation	306	IEEE Broadcast Technology Society	315
Adobe	406	intoPIX	429
Advantage Video	114	IO Industries	212
AJA Video Systems	317	isovideo LLC	106
AmberFin	100,102	Leader Instruments Corp.	210
Apace Systems	427	LitePanels	437
Arista Networks	314	LumaForge	108
Artel Video Systems	105	MeghaWare	305
Aspera	302	Metaglobe	403
ATEME	204	Miranda Technologies	207
ATTO Technology, Inc.	202	Neutrik USA, Inc.	425
Avocent	303	Nevion	300
axle Video	407	NVIDIA	404
Blackmagic Design	110,112	Omnitek	408
Canon	213,215	Panasas, Inc	411
Cinedeck, LLC	412	Pebble Beach Systems	409
Cinegy	101	Photo Research	205
Cobalt Digital	206	Pixel Power	201
COLORFRONT	308	Reeldata	401
Communication Specialties, Inc.	415	Rohde & Schwarz	216
DAX	435	Screen Systems	107
Daystrom	310	SGL	214
Digital Rapids	316	Smyth Research	414
Digital Vision	113	Snell Inc.	200
DMLite	416	Sohonet	313
Dolby Laboratories	111	Spectra Logic	104
Dot Hill Systems	304	SRI International Sarnoff	431
Ensemble Designs	209	Tektronix	103
Ericsson	203	Telestream	208
Evertz Microsystems	115,117	Thinklogical	307
EVS	420	TOSHIBA BROADCAST	309
Facilis Technology	418	TVLogic	301
GEPCO Wire & Cabling Solutions	312	Video Clarity	211
Grass Valley USA LLC	217	Wohler Technologies, Inc./	
Harmonic Inc.	109	RadiantGrid	311
Harris Broadcast	400	Xilinx	410
HELIOS Software GmbH	402		

Floor Plan

