

The SMPTE Advanced Television and Electronic Imaging Conference to be Held February 3-5, 1994 in Chicago, Ill.

The 1994 SMPTE Advanced Television and Electronic Imaging Conference will have as its theme, "Unveiling New Technologies and Applications." The papers presentations will cover such topics as computer imaging, display advancements, production and post-production developments, medical applications, fiber optics, advanced television, print media association, and digital television terrestrial broadcasting (DTTB). The technical program is being put together by Program Co-Chairmen Steve Robinson, Serial Scene, and James. L. Pianowski, Sony Corp. General Arrangements Chairman for the Conference is Don T. Adydan, Post Effects.

According to Adydan, "This program was designed to appeal to engineering, operations, and technical management personnel. Since the latest applications of compression technologies will be discussed in each of the program categories, special emphasis was placed on the tutorial. The one-day tutorial session will provide background information on the development of various compression schemes and the terminology used to describe them. It is desired to present advancements in technologies traditionally addressed by SMPTE as well as some of those in related communication industries."

SMPTE Editorial Vice-President David L. George, Imagineering Ltd., commented, "In Chicago we will be touching on topics of current concern and getting some feedback from users as to the effectiveness of several of the new technologies."

All-Day Tutorial to Precede Conference

"Compression: Expectations and Realities," an all-day tutorial, will precede the 1994 SMPTE Advanced Television and Electronic Imaging Conference, to be held at the Chicago Downtown Marriott in Chicago, Ill. The tutorial will be held on Thursday, February 3, starting at 8:30 a.m., and the conference will fol-



Editorial Vice-President David L. George

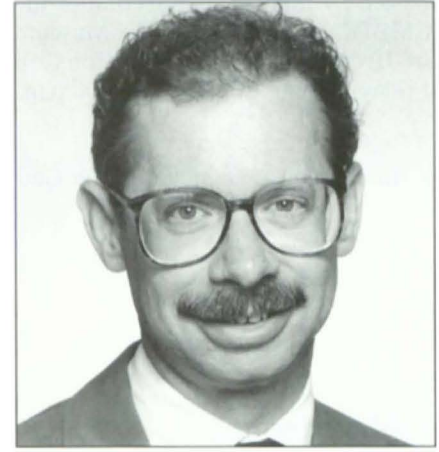
low on Friday and Saturday, February 4 and 5. Friday's sessions will also begin at 8:30 a.m., and Saturday's at 8:00 a.m. The tutorial will be chaired by Charles A. Poynton, Sun Microsystems Computer Corp., with Merrill Weiss participating in the program.

Charles A. Poynton is a staff engineer at Sun Microsystems, where he is working to integrate video technology — particularly HDTV, digital compression, and accurate color reproduction — into color workstations. Before joining Sun in 1988, Poynton operated his own company, Poynton Vector Corp. in Ottawa, Canada, where he designed and built the digital video equipment in use at NASA's Johnson Space Center that converts video from the Space Shuttle into NTSC for recording and distribution. A Fellow of the SMPTE, Poynton is active in many of SMPTE's standards activities and a contributor to the *SMPTE Journal*.

I - Fundamentals of Video Compression

The first half of the tutorial will cover the basic techniques of video compression, culminating in MPEG (Moving Pictures Experts Group) standards. A brief outline of the subjects covered follows:

- *Digitization*: Selection of the proper choice of sampling and quantization parameters.



Conference Vice-President Edward P. Hobson

- *Facsimile Compression*: The uses of fax coding and compression will be discussed and explained, emphasizing the difference between data compression and image compression, as that between lossless compression and lossy compression.

- *Transform Coding*: The discrete cosine transform at the heart of the JPEG (Joint Photographic Experts Group) and MPEG standards will be outlined.

- *JPEG*: The JPEG is an international committee that developed a standard for the compression of still gray-scale or color pictures. It can also be used to compress a video sequence as a set of independently compressed frames. The uses of motion video compressions that employ JPEG-like compression will be discussed.

- *DPCM* (differential pulse code modulation): This basic technique of differential coding will be discussed in detail.

- *MPEG*: This group is close to achieving agreement on a standard for video compression that combines all of the elements discussed.

- *Standards*: The morning session will conclude with a discussion of the state of standardization of video compression systems.

II - Compression in Editing

III - Compression in Studio and Broadcast

Luncheon and Evening Reception

The SMPTE Annual Get-Together Luncheon, featuring an address by John Culp, Special Projects Engineer for NASA, will be held at the Marriott on Friday, February 4, at noon. A reception for conference attendees, hosted by the Chicago Section of the SMPTE, will be held at the Museum of Broadcast Communications on Friday evening from 6:00 to 8:00 p.m.

Proceedings

In addition to a ticket to the Get-

Together Luncheon and the Friday evening reception, paid conference registrants will receive a complimentary copy of the technical proceedings.

Registration Information

On-site registration will be available at the conference for those who did not make advance arrangements.

Hotel Rates

To make reservations at the Chicago Downtown Marriott, please call (312) 836-6128 or Fax (312) 838-6139.

Rates are \$114, single or double, plus city and state tax.

Travel Arrangements

Special travel rates are available from Media Travel (800) 283-TRIP. Be sure to mention that you are attending the SMPTE Conference for the maximum discounts available.

Remember — it's not too late to make plans to attend the February conference! We hope to see you all there.

— Joyce R. Hurwitz

The Technical Program

This program is subject to change.

Friday Morning February 4, 1994

Manipulation of High-Resolution Data

8:15
Opening Film

8:30
Opening Address, David George, Imagineering Ltd., Toronto, Ont., Canada

8:50
Program Chairman's Introduction

8:55
1. Visual Investigation on the Head-Tape Interface in a HDTV Digital Baseband VCR, T. Ebihara, J. Itoh, Y. Ohtsubo, and A. Takahashi, Research and Development Center, Toshiba Corp., Kawasaki, Japan

9:20
2. Scalable Speed Search Technique for Digital VCRs, M. Kobayashi, A. Takeuchi, Y. Hamamoto, C. Yamamitsu, and I. Arimura, Audio Video Research Center, Matsushita Electric Industrial Co., Ltd., Osaka, Japan

9:45
3. An Image Enhancer for a Small HDTV CCD Camera, K. Mitani, Y. Fujita, NHK Science and Technical Research Laboratories, Tokyo, Japan;

and H. Kanno, Matsushita Communication Industrial Co., Ltd., Tokyo, Japan

10:10
4. Computer Controlled Digital HDTV Chroma-key, Z. Misawa, K. Nakajima, T. Iwamoto, and S. Shimoda, NHK (Japan Broadcasting Corp.) Development Center, Tokyo, Japan

10:35
5. VideoPaper: Changing the Way We Communicate with Video, Greg Lowitz, Hewlett-Packard Co., Santa Clara, Calif.

11:00
5A. Desktop Video and Multimedia Communications, Angelo Bravos, Ameritech, Hoffman Estates, Ill.

12:00
Get-Together Luncheon

Friday Afternoon

Testing in the Digital Environment

1:45
Opening Film

2:00
6. Performance Evaluation: From NTSC to Digitally Compressed Video, William Y. Zou, PBS, Alexandria, Va.

2:25
7. Development of Studio Apparatus Supporting System, T. Yasuda, K. Nomura, and H. Kouchi, NHK (Japan Broadcasting Corp.) Tokyo, Japan

2:50
8. Monitoring and Diagnostics in Digital Television Systems, William C. Miller, Capital Cities/ABC, Inc., New York, N.Y.

High-Density Storage

3:15
9. Digital Multi-Media: Now That I've Got It, Where Do I Put It?, Martin J. Stein, Ampex Systems Corp., Redwood City, Calif.

3:40
10. Digital Disk Recorder Technology — A Case for Magnetic Disk Arrays, Christopher L. Romine, Sierra Design Labs, Incline Village, Nev.

4:05
11. The Merging of Computer and Video: Using Ethernet and SCSI for Digital Video Input and Output, Stephen Kilisky, Abekas Video Systems, Redwood City, Calif.

4:30
12. The Impact of Hard Disk Based Storage Systems on TV Automation, Raymond K. Baldock, Odetics Broadcast, Wayne, N.J.

4:55

13. Recording and Playback of High Definition Television—Images Using a Digital Disk Array System, Anthony J. Magliocco, Recognition Concepts Inc.; and James Pearman, Sony Pictures High Definition Center, Culver City, Calif.

Saturday Morning February 5, 1994

Advanced Transmission Techniques

8:00

Opening Film

8:15

14. Delivery of TV Over Existing Phone Lines, Peter F. Prunty, Fusion Data Comm, Brookfield, Conn.

8:40

15. A Vertical Network Approach to Multimedia, Steve A. Day, American Lightwave Systems, Inc., Meriden, Conn.

9:05

16. Subjective Testing of Broadcasting Quality Compressed Video, William Y. Zou and Keith Ellsworth, PBS, Alexandria, Va.; James A. Kutzner, Twin Cities PTV, St. Paul, Minn., and Paul Hearty, CRC/ATEL, Kanata, Canada

9:30

17. Artificial Reality Television System, Terrenz Sword, Graven Images, Marina Del Rey, Calif.

9:55

18. Video On Demand: Architecture, Systems, and Applications, Winston Hodge, Hodge Computer Research Corp., Orange, Calif.; Stuart Mabon, Micropolis Corp., Chatsworth Calif.; and John T. Powers, Jr., Hodge Computer Research Corp., Orange, Calif.

10:20

19. Synchronous Digital Fiber Optic Networks for Video Transmission, Ken Regnier, C-Cor/Comlux, Inc., Fremont, Calif.

10:45

20. Hierarchical TV Transmission by Spread Spectrum Multiplex, Y. Ito,

H. Hamazumi, and H. Miyazawa, NHK Science and Technical Research Laboratories, Tokyo, Japan

11:10

21. From Post-Production to the Cinema of the Future (Part One - Post Production), Richard A. Mizer, Pacific Bell, San Ramon, Calif.

11:35

22. Integrating Television into the Digital Telecommunications Network, Howard Meiseles, Vyvx Inc., Tulsa, Okla.

Saturday Afternoon

Acquisition and Conversion for Resolution Independence

1:15

Opening Film

1:30

23. 525, 1:1, Progressive Scanning Television Camera with 16:9 Aspect Ratio, N. Wada and S. Nishikawa, Matsushita Electric Industrial Co., Ltd., Osaka, Japan; K. Itakura, Matsushita Electronics Corp., Osaka, Japan; and A. Hori and T. Kurosaki, Nippon Television Network Corp., Tokyo, Japan

1:55

24. Prism's Decres: Artifact Reduction for MPEG Coding, Richard Bruno, Prism Interactive Corp., Wheaton, Ill. and Biquan Lin, Illinois Inst. of Technology.

2:20

25. Adaptation of Wavelet-Based Video Compression for Interlaced

Material, John Huffman, Aware, Inc., Cambridge, Mass.

2:45

26. Intelligent Robot Camera System, N. Yamanaka, K. Mituzuka and Y. Yamamura, NHK (Japan Broadcasting Corp.), Tokyo, Japan

3:10

27. Interfacing Digital and Analog TV Systems: The Facts on Format Conversion, Michel Proulx, Leitch, Inc., Chesapeake, Va.

3:35

28. Image Data Compression for Professional Television Tape Recording, Fraser Morrison, Ampex Recording Systems Corp., Redwood City, Calif.

4:00

29. Resolution Independent Film Scanning—How Independent is Independent? Peter R. Swinson, Rank Cintel Ltd., Hertfordshire, England

4:25

30. Desktop Systems Supporting Role in Traditional Production Environments, Brett Bilbrey, Intelligent Resources Integrated Systems, Inc., Arlington Heights, Ill.

4:50

31. Why a Dedicated System Will Always Outperform a Standard Platform, David Scammell, Quantel Ltd., Newbury, England

5:15

32. A Descriptive Language for Codifying the Video Signal, Gregory Eitzmann and John Hallesy, Silicon Graphics Computer Systems, Mountain View, Calif.



Chicago skyline.