

Section Meetings

Hollywood—April 2007

The Section meeting on April 24, which featured “professional video reference grade monitors,” attracted approximately 200 members and guests, making this the second best-attended meeting in the past few years.

The pre-meeting social hour in front of the Linwood Dunn Theater included a 40 ft of display showing various monitors connected to show the same source material simultaneously.

The meeting began with an introduction by Secretary/Treasurer Allan Schollnick, followed by Section Manager Paul Chapman, who introduced the first presenter, Ron Williams, Landmark Group. Williams gave a technology overview and discussed various possible technologies along with their pros and cons. He also discussed the associated calibration issues.

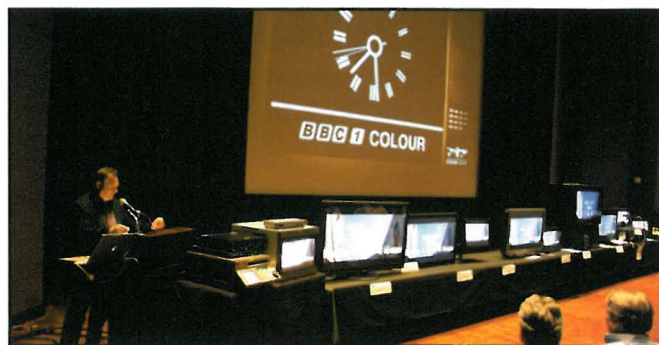
Nancy Wilkerson, Walt Disney Company, followed with a review of the committees that are working on issues concerning professional monitors.

Paul Chapman then introduced representatives from Boland, Cinetal, E-Cinema, Frontniche, JVC, Panasonic, Sony, TV Logic, and Tamuz, who gave five-minute presentations on their equipment on display. The meeting concluded with a short Q & A session.

—Richard P. May, Section Manager



Section Manager Paul Chapman announces the speakers.



Secretary/Treasurer Allan Schollnick greets the audience next to the tables displaying the exhibits.

Hollywood—May 2007

Since the opening of the Academy of Motion Picture Arts and Sciences' Pickford Center, the Hollywood Section has held most of its monthly meetings in the Linwood Dunn Theater at that location. The main occupant of the Pickford Center is the Academy Film Archive. Other than vault names based on Mary Pickford's movie roles (Amarilly, Esmeralda, etc.), when entering the building there is no evidence of the wealth of motion picture history held there, and maintained by the archive's 27 staff members.

For the meeting on May 22, the Section invited the Archive to present a sampling of their work. The meeting began with a preshow get-together. After opening announcements by Section Chair Patricia Keighley, the Archives director, Michael Pogorzelski, began the presentation with a brief history of the Archive since its official founding 19 years ago, showing some photos of the climate-controlled vaults.

The first screen presentation was a kinescope of the television broadcast of the 25th Academy Awards (1953) hosted by Bob Hope. This was restored from a copy found at the Library of Congress that was in serious need of restoration. “Before” and “after” sections of the clip were run. The next example was the Archive's first restoration using digital technology, showing a four-minute section of Twentieth Century Fox's 1945 Technicolor feature *Leave Her to Heaven*. The only surviving archival element of this picture was a color reversal intermediate, made about 30 years ago from the three-strip nitrate camera negative, which was subsequently destroyed. Scanning the CRI, separating it into its individual color channels and cleaning and

correcting registration errors provides stunning results.

Archive preservation manager Joe Lindner introduced *How the Hungry Man Was Fed* (1911). This was restored from a 22mm film containing three strips of images, each about 5.5mm wide. It had been digitally scanned and transferred to 35mm film for conventional projection.

Mark Toscano introduced *General Electric Sound System with Walter Damrosch*, a demo film made in 1929 with the famous orchestra conductor speaking and playing the piano. The optical soundtrack was shown on the edge of the film, so the audience could see the source of the recording.

Heather Olson described Alfred Hitchcock's Home Movies. These were shot in 16mm lenticular Kodacolor around 1928. Toscano returned with two Ray Harryhausen experimental animated films, a test from an unproduced *War of the Worlds*, followed by a complete short, *Little Red Riding Hood*. Olson then described the preservation efforts on Satyajit Ray's films from India, with a clip from *Parash Pathar*. Toscano returned to describe and show an avant-garde film, *Hot Leatherette*.

The final clip was a section of the 1958 Technirama feature, *The Big Country*, recently restored by the Archive from the original Eastman color negative. Its 2:35 x 1 image, filling the entire front of the theater, was extremely impressive, especially following the previous 16mm examples. The presentations were followed by a Q&A session.

—Richard P. May, Section Manager

The April Section meeting, hosted by Kodak, began with a riveting presentation of SMPTE RP40 and 35PA test film by Ed Schuller. The nuances of the 35PA test film were reviewed and Schuller explained how this test pattern can be used to check framing, ghosting, sharpness, and a variety of other projection quality parameters.

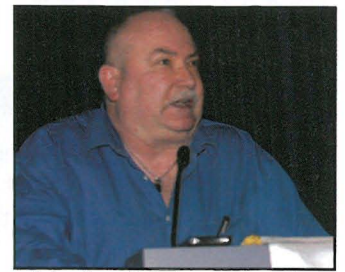
The program for the evening was titled "Film Restoration: Defect Detection and Correction Using Infrared Enabled Film Scanners." Program Chair Rich Carlson introduced Gabriel Fielding, Kodak Research Engineering, who discussed the concept of infrared scanning for detecting dirt and scratches on film, with a presentation describing Kodak's Digital ICE technology. Digital ICE (Image Correction and Enhancement) was a concept developed in the late 1990s by a company in Austin, TX, called Applied Science Fiction. Originally, it was used for retouching and repairing consumer still photographs. Kodak acquired the company in 2003 and along with it came the Digital ICE technology. Engineers in the Entertainment Imaging Group at Kodak quickly recognized the potential of Digital ICE in motion imaging and took over development of ICE in 2006.

Currently, the technology is only available with an Arri film scanner. A film frame is scanned four times—once in R, G, and B and a fourth time with infrared light. Film dyes are nearly transparent to infrared light. Any dirt or scratches in the base of the film will block or deflect the IR light creating a "map" of the defects present in the film frame. Cyan dyes do tend to absorb into the IR range so algorithms were designed to differentiate the image data from the defects. Once the defect matte has been created, pixel corrections are made using band-pass decomposition of the image and defect channels. All this is done with very little effect on the productivity of the film scanner. Film scans at 2K resolution run at their normal speed while 4K scans are only marginally slower.

John Dowdell III followed with examples of Digital ICE in action. Goldcrest Post has been using the technology in its Arri film scanner to work on film restoration projects and found that it dramatically reduces the amount of dust busting necessary. To test the



Gabriel Fielding takes questions from the audience.



John Dowdell shows examples of DICE.

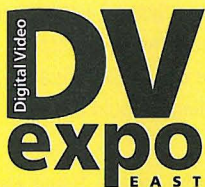


Ed Schuller explains RP40.

efficiency and effectiveness of the technology, Goldcrest pulled a 20-year-old original negative from their vault and ran it straight through the scanner with and without DICE—no film cleaning ahead of time. The comparison was very impressive. DICE cleaned up over 90% of the dirt and scratches.

To demonstrate how DICE works, three scans of scenes from the old film were projected. The first scan was raw with no DICE applied, to illustrate the level of dirt and scratches on the film; the second was the actual IR-scan of the frames showing the defect matte; and the third scan showed the scenes with DICE technology applied. The manner in which Dowdell put the images together and presented them was very effective in demonstrating how the DICE technology works. The presentation was followed by a Q & A session.

—Rich Carlson, Program Chair



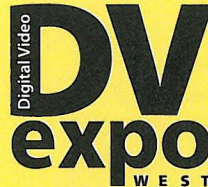
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Five-time Emmy award-winning cinematographer Donald M. Morgan, ASC, was the guest speaker at the Pasadena meeting in May. Morgan began his career in the entertainment industry in 1953 when his father, who worked for Disney animation during the 1930s and 1940s, got him a job as a film lab technician at the age of 20.

Morgan did not plan for a career in the industry. He had previously been a rodeo rider and racecar driver. "I hated school, I wasn't sure how I was going to make a living," Morgan said working at the film lab was unfulfilling, so he left and became an assistant to Nelson Tyler, who invented the Tyler helicopter camera mount. "All the movies wanted aerial shots, even though they didn't belong there," he said.

The excitement of working in a helicopter was very fulfilling for Morgan. After the competition grew and the work began drying up, Morgan sought to expand his knowledge and moved forward. He became interested in photography and lighting and got a job as a lighting board operator, where he worked on commercials. He taught himself how to light for film by purchasing paintings and analyzing how artists used light to portray their mood.

Morgan's first film as director of photography was called *Win, Place, and Steal*. "When I first started, I used to get a lot of criticism because they said my work was too dark. I think I was one of the [first] guys to do the dark thing." His body of work as cinematographer includes *Dillinger*, *Geronimo*, *Miss Ever's Boys*, *A Lesson Before Dying*, *For Love or Country*, *Out of the Ashes*, *Something the Lord Made*, *Hercules*, *Elvis*, *Christine*, *Starman*, and more. When director Robert Zemeckis hired him to shoot a film, "he knew what he wanted and how he wanted it"



(L-R) Guest Speaker Donald M. Morgan, ASC, and Pasadena Student Chapter President Akash Singh.

said Morgan. "But sometimes my job is to make suggestions."

Morgan shared a story of how a friend once told him, back in the 1950s, that film wasn't going to last very long. "I've been afraid to lose my job for the last 53 years," laughed Morgan. He also shared his philosophy on cinematography. "The art of cinematography is to bring the look, not the real look, but something exciting to look at." In the past few years, he's worked on television movies, and recently received the ASC Lifetime Achievement Award.

Morgan, who is 75 years old, said he loves working with young people. "If you're looking for me to fall in a heap, I think you'll be surprised." Don't think that this former rodeo rider or racecar driver isn't up for another film project. "It's never been work for me, I don't intend to retire."
—Horacio Jimenez, Secretary

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Rochester—April 2007

Twenty people attended the meeting on April 25 for a presentation by Gerard de Haan, R&D manager of Cineco/Haghefilm Laboratory in Amsterdam, the Netherlands. De Haan discussed and showed examples of many unusual projects that Cineco has done for George Eastman House over the years. He also discussed the digital methods employed, including using the Diamant and Fusion programs, which can provide correction of unsteadiness, brightness flicker, dye fading, and even replacement of damaged or decomposed frames. However, he also stressed that the best photo-mechanical methods can be easier and less expensive than digital techniques and can be used in conjunction with digital if necessary. Wet-gate printing is routinely used with scratched and damaged elements. The Desmet Color process allows early tinted and toned films to be restored onto modern color print film using flashing and special exposure techniques in the printer.

35mm restoration prints were shown, illustrating the use of digital restoration of 22mm, 28mm, and 35mm film and Spirograph discs: *The Fairy Godfather* (1916) (unsteadiness); *Visages d'Enfants* (1925) (correction of decomposing frames); *A Daughter of Israel* (1915) (severely warped 28mm); 1953 Japanese feature *Shin Heiki Morogalare* (yellow dye fading, which cannot be corrected simply by adjusting printer lights). The restoration of a 1909 Spirograph disc with its spiral of images required special software to be written to digitally scan the disc on a rostrum camera with a rotating stage.



(L-R) Gerard de Haan, Haghefilm, Amsterdam; Section Chair Mark Henry; Section Manager Ed Stratmann, George Eastman House; Juan Vrijs, Haghefilm.

—Edward E. Stratmann, Section Manager

Rochester—May 2007

On Thursday, May, 10, Rochester members were treated to a presentation on the latest digital tools for the restoration of film sound by James Young, technical supervisor at Chace Productions Inc., Burbank, CA. Young first defined the terms preservation (technical copying to prolong access), restoration (removal of flaws due to age and use), and remastering (removal of flaws due to technical limitations/re-purposing content). He noted that the many formats of analog recordings and digital files are a challenge in restoration work, the first step is to reproduce the sound from the existing elements. Poor physical quality may require the use of tape baking, special replay heads, and chemical treatment of the tape to ensure proper head contact to avoid dropouts. Using examples from *The Wizard of Oz*, Young demonstrated how spurious clicks and other noise can be removed using broadband digital noise reduction, where conventional analog filtering would severely degrade the track. Spectral Interpolation as employed by Cedar Re-Touch and Audio Cubed Spectrapolator is a new time-based digital technique that removes noises and thumps without affecting speech at the same frequencies. Wow (slight variations in audio pitch caused by tape drag and stretch) can now be

corrected using Clarity DSP, which captures and corrects fluctuations in the tape bias frequency (80 to 100 kHz), using a special head and preamplifier. Chace Productions have developed the COSP-Xi (Chace Optical Sound Processor—eXtended intelligence), which is designed to play back sound negatives with their inherent cross-modulation distortion and correct it digitally, as would normally be done in the printing process by cancellation. Young concluded with a number of audio examples of soundtrack restorations and cautioned that the excessive use of digital processing can cause artifacts such as broadband digital noise and loss of part of the dialog.

—Alan J. Masson, Secretary/Treasurer



James Young of Chace Productions Inc. speaking at the Rochester Section meeting.



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Seventy-two members and guests attended the Section meeting on May 17, at the facilities of Novalux, a young company developing solid-state laser engines for video display devices and other applications.

Gregory Niven, executive vice-president of marketing, presented technical details of how tiny, solid-state lasers are made, beginning with the 4-in. silicon wafers that are transformed into InGaAs IR, high-power, surface-emitting-diode lasers. The IR lasers are manufactured for specific wavelengths and are then frequency-doubled to become precise red, green, or blue light sources. The lasers are used in video displays and projectors and as light sources in other applications.

Niven drew technical comparisons between the laser technology and LEDs, arc lamps, and plasma displays, with respect to such parameters as light output, power consumption, heat generation, lifecycle, chroma shift, and relative costs to deploy in video display devices. He explained how this technology is going to fit into the marketplace with existing technologies. He also outlined some of the challenges of introducing a new technology into an established market and who the principal players will most likely be.

To complement the presentation, Novalux showed working displays on nearly identical 50-in. panels, comparing the Novalux laser engine, an LCD using a UHP lamp, and a plasma panel. Additionally, a much smaller, proof-of-concept laser projector was placed alongside a standard briefcase-type projector, with the laser unit revealing noticeable improvements in brightness and picture quality.

Niven showed presentation images on a modified Infocus DLP projector with the laser-light engines remoted via fiber optic light pipes. Using just 11 light engines, the projected image filled a 10-ft screen in a dim, but not dark, room.

Novalux graciously provided refreshments for the meeting.

—John Goodell, Section Manager/Webmaster



Attendees view side-by-side monitors of various lighting technologies. The Novalux screen is 2nd from right with the speaker setting on top. Chris Stuart, Novalux Engineer (left side forward) answers technical questions.



Attendees view presentation on Novalux modified projector, using light from engines located outside room (quiet) and transmitted over fiber optic light pipes.

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