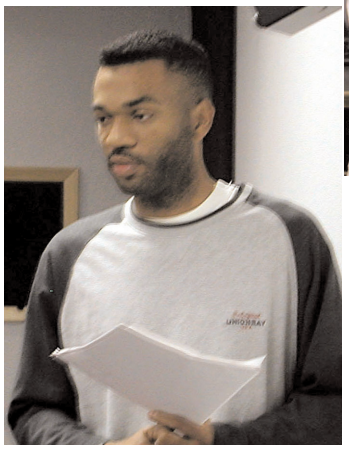
Section Meetings

Chapman University

The SMPTE Chapman University student chapter started off their fall semester with a meeting on October 16. The guest speaker was Rohan Shand, an engineer at KLCS-TV, who works on various shows such as "Mosiacs," "Homework Hotline," and "In Focus." He enlightened the audience about three essentials of capturing good audio.



Rohan Shand, the guest speaker at the October meeting of the Chapman University Student Chapter.

The first is mic selection. Shand said that when choosing a mic, look at its pickup pattern and know when to use it. For example, a lavaliere may be more appropriate for a wide shot, so you can hide the mic; a shot gun could be used for the close ups. He suggested checking the sound when using two mics close to each other, because phase cancellation can occur; if it does, try moving the mic or talent an inch apart.

The second essential is to record reference levels. A good audio person should record 30 sec of tone so that in post, you will be able to calibrate your levels when syncing the dailies. Record a minimum of 10 sec of ambient or room tone to have in case you need to fill in gaps during editing. Shand suggested that if a room is reverberant, get blankets to cover up the walls, especially in the corners.

The last essential is monitoring levels. In order to do so correctly, a good pair of headphones is essential to listen for levels and noise. Another aide is the VU meter; not letting the volume go higher than 0 dB. Using automatic gain control can help decrease distortion.

Later, Shand answered questions about voicing a room for good production sound. He also explained surround sound, mixing, and encoding.

—Serena Hongphairoch, Chair

Rohan Shand with members of Chapman University's Student Chapter at the October meeting.

Detroit November 2002

SMPTE's Detroit Section met on November 12, at Stratton Camera in Farmington Hills, MI. Thirty-two attendees, including SMPTE members plus guests from other local media organizations, were presented a program about camera optics and unique optical accessories designed to enable the use of motion picture lenses on electronic cameras.

Secretary/Treasurer Bob Zeichner, Roscor Michigan, reviewed some optical design problems and gave a short history of the development of camera lenses. Some commonly known, but often misunderstood, terminology associated with lens function was discussed. Zeichner accompanied his tutorial with illustrations designed to help in comprehending concepts like depth of field, depth of focus, and circles of confusion. Lon Stratton, a local DP and owner of Stratton Camera, demonstrated the new digital 35mm motion picture lens adapter from P & S Technik. This is a device that enables PL-mount motion picture camera lenses designed for 35mm film cameras to be used on B4-mount video cameras in a way that preserves the depth of field characteristics of those lenses.

Zeichner then explained the "Scheimpflug rule" as it applies to still photography, which served as a lead-in to demonstrations of the shift and tilt lenses currently in use on motion picture cameras and now adaptable to B4 electronic cameras. A Panasonic variable frame rate HD camcorder along with a 50-in. HD plasma display were used to demonstrate how adjusting the lens plane relative to the film plane can be used to alter the object

Lon Stratton and Bob Zeichner demonstrating new equipment at the Detroit Section meeting in November.

Guest speaker Lon Stratton displays a probe lens to attendees of the November meeting of the Detroit Section.

plane, enabling selective focus unachievable with fixed lenses.

A lively Q&A session followed with many members of the Detroit film, video, and broadcast community staying for hands-on demonstrations and more in-depth exploration of some of the interesting optical accessories gathered for the evening's presentation.

Thanks to Angenieux, 16x9, Inc., Panasonic, and Astro Systems for demo equipment, Roscor for refreshments, and Stratton Camera for opening their facility to SMPTE for this informative meeting.

—Chuck Reti, Chair

Napa Valley College November 2002

At the November 27 meeting, Tony Cox gave a spectacular presentation to student members of SMPTE 11 on his duties as chief engineer at Film Core editorial house in San Francisco. Aided by digital camera stills, Cox took the enthralled students through a virtual tour of his facility, briefly describing the function of each room.

Affectionately dubbed "the Henry repair man" by his colleagues, Cox admitted to a lack of operations knowledge even as he built FilmCore's equipment room from rack unit to wire runner. He quickly compensated for this shortcoming by acquainting himself with the operation of each editing system as he networked the Avid and Henry suites into a functional system and redesigned each edit bay layout to mirror the FilmCore L.A setup.

Cox encouraged students to overcome the mentally challenging tasks of combining engineering solutions with production experience by using those opportunities as outlets for creative growth. As the meeting progressed, he answered many probing questions on his systems design challenges with infectious enthusiasm.

SMPTE 11 would like to thank Tony Cox for his many educational contributions to the NVC Telecommunications program as one of our valued alumni.

—Faye Pilgrim, Secretary

Napa Valley College November 2002

During the SMPTE San Francisco Section meeting, Prof. Donald Godfrey of Arizona State University gave an intriguing presentation on the life of the recently recognized father of television Philo T. Farnsworth.

Prof. Godfrey's speech, primarily based on his biography of the late inventor, affectionately referred to as Philo T., was an intimate portrayal of the man behind the legend.

Using images from comic strips to pencil sketches, Godfrey addressed many of the myths surrounding the grass roots of television's origins, including the David vs. Goliath image of Farnsworth vs. RCA. Fueled by Farnsworth's most devoted advocate, "Pem" Farnsworth, he wove images of the boy genius turned inventor who lived a life marked by a tragedy for every groundbreaking success.

Thanks to dedicated educators such as Godfrey; Mr. Tolman, Farnsworth's high school teacher (Tolman helped Farnsworth defeat RCA in the 1922 court battle); and NVC instructor Gary Vann, aspiring innovators of media will continue to be encouraged.

—Faye Pilgrim, Secretary

New York
November 2002

Photo Credit: Steve Gottlieb

Speakers at the New York Section meeting in November. (l-r) Donald McClure, Martin Holmes, Michael Arbuthnot, and Chuck Roback (Manager, NY Section, and meeting producer).

The November 13 Section meeting, "Restoration of Film Originated Material," was held at a meeting room of Brown Raysman with a crowd of approximately 45 in attendance. Presentations of restoration techniques were given by Michael Arbuthnot, daVinci Systems; Donald McClure, Mathematical Technologies Inc.; and Martin Holmes, Snell & Wilcox.

Arbuthnot opened by stating that the basic reason for restoration is the preservation of human history, a sentiment later echoed by McClure and Holmes in their lectures. Beyond the obvious economic rewards of preserving and repurposing potentially valuable assets, the human race in this past century has amassed an enormous record of self-documentation that will be our legacy to our children. Arbuthnot described the Revival software from daVinci Systems, a product based on research originally conducted at Nanyang Technological University of Singapore. Revival operates on well-endowed general purpose computing platforms such as the SGI Octane or better. It is fundamentally a non-realtime process: ingest pictures to disk, process, write restored frames to disk. It operates in multiple resolutions for both video and film applications. Various algorithms are used to handle maladies such as scratches, dust, chemical stains, and so forth. The core algorithms operate both spatially and temporally, making film-frame-based errors more manageable. Dirt, blotches, etc., are compared between a group of successive frames to make a decision about what is "good" and what is "bad" and appropriate corrections are made. Ironically, fixed vertical scratches are the most obvious to see but most easily missed; since they appear in the same spot in so many frames, the system can be fooled into thinking they are part of the scenery. Much effort is placed on automation for large throughput, but with manual control at all points for the difficult errors.

McClure also presented a software non-realtime solution in the form of MTI's DRS restoration toolbox, a set of software tools intended to run on any worthy platform, PC or SGI. The roots of the MTI software were in medical imaging and the knowledge and statistical analysis techniques honed for that were later applied to image restoration. Like Revival, there is a degree of automation as well as manual intervention.

Both of these systems address the gamut of film problems: dust, stains, blotches, flicker and dye-fading, grain noise, image stabilization, aperture correction, video dropout, and severe frame damage (e.g., splice-damage). Both have the ability to treat titling and other special cases in a manner different from regular imagery. Holmes discussed how Snell & Wilcox had taken a slightly different approach, concentrating mostly on video-based legacy material and providing realtime hardware solutions. S&W have leveraged their knowledge of motion analysis to intelligently treat material both for stabilization and noise reduction. Several realtime clips were displayed in split-screen format to drive home the key elements of image analysis.

All of the above systems stressed not only damage repair but also stabilization and noise reduction; key factors in the efficiency of MPEG coding. This is very important since much legacy material is being restored for DVD release. Stability issues are handled first, before any noise reduction or fix-it work.

Another point made by the presenters during an informal Q&A following the lectures is that the purpose of restoration is to preserve history, and to that end, magnetic records are unsuitable as archival media. Unfortunately, that is the only practical solution today. To complete the restoration/archive process, a better long-term storage mechanism is required, probably optical in nature. As progress is made in this area, SMPTE will undoubtedly be on the leading edge of its application to image preservation.

The New York Section would like to thank Arbuthnot, McClure, and Holmes for an excellent set of lectures as well as providing the refreshments for the meeting. We would also like to thank the offices of Brown Raysman for their support of the Society.

—Bill Topazio, Governor, New York Region

Several of the cameras being evaluated during the demonstration at the Rochester Section meeting.

Speaker Carl Mrozek describing one of the cameras being evaluated at the Rochester Section meeting in November.

Rochester November 2002

WXXI Studios in Rochester was the gracious host for a lively and informative discussion of the advantages and disadvantages of various "pro-quality" video cameras. The presentation on November 12 was highlighted by a side by side "shoot-out" of four different cameras, which gave the audience not only the option to compare options and features, but also to compare image quality with their own eyes.

The speaker was Carl Mrozek, a videographer specializing in wildlife and other outdoor subjects, who also regularly writes articles and reviews for national publications. The cameras demonstrated were the Panasonic AJ-D900 2/3-in. CCD DVCPRO 25/50; a Sony DSR-570 2/3-in. chip and a Sony DSR-370, recording in DVCAM format; and a JVC KY-19 CCD analog camera that docks to various digital and analog VTRs. There were surprising differences in color reproduction and sharpness among the models that did not necessarily correlate with price/quality expectations.

Mrozek gave the audience pointers in comparing specifications, and had suggestions on how to do your own evaluation, in line with the philosophy that a picture (or better yet, side by side pictures) is worth a thousand specs. "Try to have in mind what's most important for your typical and extreme applications and see how well it delivers. Road-testing a camera under actual field conditions is the best way to find out what a camera will or won't do. One November trip to the sub-arctic, I discovered that a particular new digital camera did not take well to harsh conditions. Although it performed well in western NY, arctic snow, bitter temperatures, winds, and blowing powdery snow were more than it could handle for more than 20 minutes at a time before shutting down. Hence, I missed a lot of outstanding wildlife footage, but did get to shoot more stills than I anticipated," he said.

Basic features to compare include sensitivity, dynamic range, color reproduction, sharpness, and special features, which distinguish a camera from its competitors, but only if it works for you. "The quality of IT CCDs has improved greatly in recent years and many camera experts and salesmen question the prudence of spending a lot more for a camera with FIT CCDs with only slightly less smear than a comparable current camera with IT CCDs. Accessibility of features is another factor; if it takes you 10 minutes or more to locate and change a function in a hidden menu, the camera may have limited utility in the field when you're shooting ENG style."

However, Mrozek says, "Don't limit your evaluation to the technical aspects of the camera. Ergonomics and construction are also important. A big factor separating broadcast cameras from pro cameras is durability. Somewhat surprisingly, plastic bodies can be more rugged than a metal frame, which may fracture when dropped and be more expensive to repair."

Following the formal part of the presentation, the audience gathered around the cameras and peered through the viewfinders. The 30+ members and visitors in attendance made this one of our better-attended meetings of the year.

—Ron Uhlig, Secretary/Treasurer

Rocky Mountain
October 2002

Chuck Zabilski describes Crown Media's NOC at the Rocky Mountain Section meeting in October.

We can always count on an early season snowstorm in Denver and October 29 proved no exception. Despite gridlocked traffic and freezing temperatures, 34 members attended the open house provided by Crown Media, Hallmark Entertainment Networks. Our hosts were Dave Hritz, Centerre Construction, Denver; Chuck Zabilski, vice-president of operations; and Kim LeGate, director of engineering (Kim is one of our local SMPTE board members).

Crown Project Manager Pat Huff provided an overview of the layout and design of the 10,000 sq. ft. facility. Presenting a unique challenge to Crown's satellite is that European distribution is in PAL while other markets, including Latin America, are in NTSC along with both NTSC and PAL for Asia. This is accomplished with a fully redundant plant where longform material is sourced on digital tape and interstitials are played out via servers. A unique cataloging system (written by Zabilski) identifies master and backup tapes to be played out. Each operation supervisor (POD) monitors 16 channels with the ability to take control of any of the other channels in the facility. Pods are all visible from a master viewing area separated by a glass. Up to 256 monitors may be viewed from this location.

Zabilski emphasized the level of redundancy in the plant which includes dual playout servers, routers, distribution, and power. Power consists of redundant 300 KVA UPS systems, which in turn, are backed up by redundant 750-kW diesel generators. Both the NOC and the production facility are powered by the UPS and generator configuration. Each rack of equipment is supplied with a separate power source. Crown's grid in Englewood, CO, experienced blackouts last summer, testing the design: no programming outages occurred.

The facility was launched in February of 2001 with channels into Europe, Israel, Mideast, Russia, and Latin America. The facility is hybrid tape-based Sony IMX for longform playback with Pinnacle servers providing the work for interstitial insertion—controlled by DAL automation.

Our thanks to Dave Hritz, Chuck Zabilski, and Kim LeGate for an informative session.

—Rome Chelsi, Section Chair

Coming in February!!!
Don't miss the 37th Advanced Motion Imaging Conference in Seattle, Washington
February 27 - March 1, 2003.