

AES 116th Convention

**2004 May 8-11
Messe Berlin
Berlin, Germany**





“At last I can welcome the guests of the 116th AES Convention for a second time to Berlin, Germany’s capital city.” With these words, Reinhard Sahr, chair of the convention greeted the thousands of audio engineers who flocked to the Messe Berlin in May for the principal European gathering of the year. Covering four complete days of exhibition and technical sessions, and incorporating an additional pre-convention symposium for radio broadcasters on multichannel audio, the 116th Convention’s expansive program offered something for everyone’s interest and attracted visitors from around the world.

AWARDS AND OPENING CEREMONY

At the opening ceremony Roger Furness, AES executive director, noted that, thanks to the addition to the European Union only a week before of ten additional countries in eastern Europe, Berlin, the capital of Germany, now sits at a focal point of the expanded Union, making it a superb venue to return to after eleven years in other locations.

AES President Ron Streicher also welcomed delegates to Berlin and reinforced the fact that education is an important element of the AES mission. He gave information on the new Distinguished Speakers Program and said that he hoped many others would join him in contributing to the fund supporting this worthy program that will enable distinguished speakers to visit AES sections around the world to share their knowledge. Streicher then introduced Rheinhard Sahr, 116th Convention chair, who acknowledged the importance of the convention’s comprehensive program in enabling people to find their way through the always expanding universe of new audio technology. He also introduced and thanked his hard-working committee (see page 763).

Awards were then presented to those who had merited particular recognition in the audio engineering world. This year’s Publication Award recognizing an author under 35 years of age, announced by *Journal* Editor Daniel von Recklinghausen, was given to Ville Pulkki for his paper “Localization of Amplitude-Panned Virtual Sources, Part 2: Two- and Three-Dimensional Panning” (*J. Audio Eng. Soc.*, vol. 49, pp.739-751, 2001 September). Fellowship Awards were presented to Roland Goh for his contributions to professional sound system engineering and to Rhonda Wilson for her contributions to accurate reproduction of recorded music. Goh has been an AES member for 30 years and is the longest serving member in Singapore. Wilson has been an officer of the AES in various capacities for many years, including chair of the British section, governor, ➤

Opening Ceremonies and Awards



**Roger Furness,
AES executive director**



**Ron Streicher,
AES president**



**Reihnard Sahr,
116th Convention chair**



Packed house at 116th opening ceremonies

and vice president of the International Region.

The keynote address at the opening ceremony was given by David Wood, head of new media for the European Broadcasting Union, based in Geneva. In an entertaining and informative talk, Wood spoke of the changing face of broadcasting. With tongue firmly in cheek, he humorously suggested that the EBU's mission in the IT-based production world was to reduce the number of technical people in a radio station to two, one man and one dog, the dog being there to make sure that the man doesn't press any buttons. The EBU believes in the European model of radio, which strives to broadcast content that has "something in there that makes you think." Wood emphasized to attendees that we

need to preserve our cultures with drama and music.

He also pointed out that this changing world requires a high level of investment in research and development, and there is the need to turn R&D into products. DVB-H (Digital Video Broadcast-Handheld), for example, provides a whole new way of delivering content to users, but it requires multimedia content and blurs the boundaries between radio and television broadcasting. He emphasized the importance of multichannel audio, pointing out that home cinema is sweeping the world and that broadcasters need to be persuaded of its merits, particularly in radio. Audio has a tremendous advantage over video, he suggested, in enabling three-dimensional scenes with depth to be reproduced relatively easily.



David Wood, keynote speaker



Ron Streicher presenting Fellowship Awards to Ronald Goh and Rhonda Wilson.



Editor Daniel von Rechlinghausen, left, presenting Publications Award to Ville Pulkki.



Garry Margolis,
Awards Committee
chair

EXHIBITION

The exhibition halls of the Messe Berlin, coordinated by Thierry Bergmans, thronged with enthusiastic delegates eager to discuss the most recent offerings and innovations from the 256 manufacturers who exhibited their products. The following is a snapshot of some of the innovations on display.

Mixing consoles were in the forefront of new developments and showed some surprises. The introduction of Digidesign's ICON integrated console attracted a large crowd of visitors to demonstrations every day during the convention. The ICON sports a sophisticated D-Control worksurface that is fully integrated with ProTools and its

interfaces, being equipped with surround sound facilities for up to 7.1 channels. This console is claimed to incorporate similar components to those offered by the traditional large digital console manufacturers, being more than just a control surface for ProTools.

In another region of the exhibition floor many people crowded around SSL's new Analogue Workstation System (AWS 900). This compact SSL console incorporates Super-Analogue circuitry identical to that found in the larger XL 9000 K series console and also includes a digital audio workstation controller that can operate with the principal workstation software and hardware packages used in modern operations. In this way it offers an analog alternative ➡

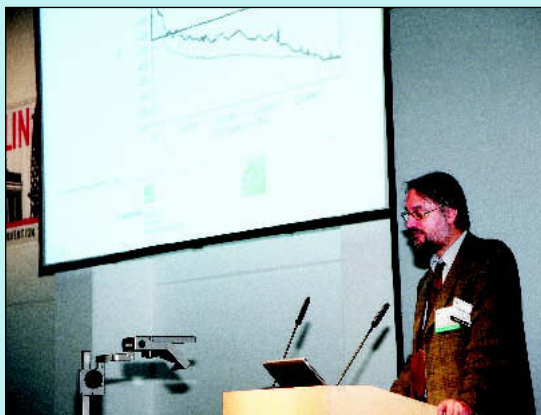


Left, Neville Thiele (wearing tie) discussing his poster presentation with Dick Small. Below, 81 technical papers were poster presentations at the 116th.



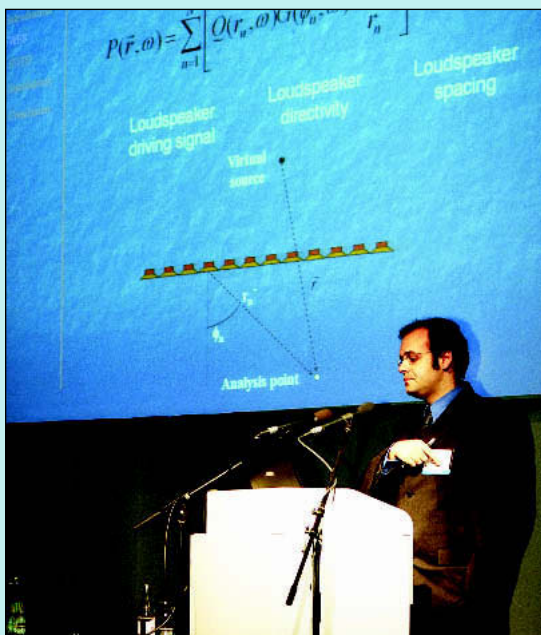
Visitors through exhibition.

Karlheinz Brandenburg presenting tutorial seminar *All About Data Reduction*.



to the digital mixing control options of Digidesign's product described previously. The AWS 900 is claimed to offer a greater bandwidth than 192-kHz recorders, and it has a full monitoring system up to 5.1 surround.

AMS Neve contributed substantially to the console product line-up with its new MMC Concerto digital audio mixer. It can offer up to 500 audio paths with surround mixing up to 7.1 channels and is based on the experience gained from mixers such as the Capricorn. It's aimed at the music-to-air or music recording in broadcasting contexts. Further offerings in the new console line-up included Studer's Vista 8 which incorporates a completely redesigned control bay with greater ergonomic flexibility than previous Vista consoles. ➡



Author Jose Escolano presents paper on wavefield synthesis.



Auralization-Tool or *Toy* was one of 17 workshops at the 116th: from left, chair Jan Voetmann, Lise-Lotte Tjellesen, Jens-Holger Rindel, Dorte Hammershoi, Christoph Moldrzyk, and Ingolf Bork.

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Reinhard Sahr (right), 116th Convention chair, and Jörg Knothe, vice chair and tours chair



Papers chairs, from left, Ben Bernfeld, Stephan Peus, and Wolfgang Hoeg



Wolfgang Ahnert, workshops chair

SADiE's new large-scale digital audio workstation, the PCM-H64, can be switched between different sampling frequency configurations from 64 channels at 48 kHz/24 bit, to 16 channels at 192 kHz. The company also showed a neat little mobile system for the SADiE editor, the BB2-J, which provides an audio interface and processing along with an edit control wheel, all of which can be used alongside a laptop computer running Windows XP for mobile radio broadcasting applications. Toward the small end of the mixer/workstation hybrid scene, Tascam showed its new Firewire controller and audio interface, the FW-1884, showing what can be done with audio over desktop computer interfaces.

Euphonix and Sony had come to an arrangement that enabled Sony's DSD processing cards to be used in conjunction with a Euphonix System control surface, interfaced using the company's EuCon protocol. Sony Oxford's new prototype 128 F_s processing doubles the sampling rate compared with current implementations that run at 64 F_s, and the cards are capable of being switched to conventional multibit PCM so that jobs can be undertaken in both formats.

On the audio networking front, Otari was showing its Lightwinder LW-55 system, designed to transmit 128 audio channels over a single optical fiber that can be up to 22-km long. RS-422 interfaced digital data can also be transmitted over the same fiber if required, and a number of 8-channel I/O modules in different formats enable audio signals to be interconnected. The company's new DR-800 multichannel digital audio recorder was also on display offering a phenomenal 170 minutes of 48-track audio on a removable 72-Gbyte hard disk, coupled with multilayer audio editing facilities and MADI interfacing.

Leaving the console and recording system front, microphone and loudspeaker introductions continued apace, led by AKG's introduction of its WMS-400 multichannel wireless microphone system. The system is innovative in its use of an automatic frequency search and frequency database that can tune in very short times to optimize performance, enabling the whole system to be set up in less than a minute. Further developments in the microphone domain included Sanken's revolutionary dual-capsule lavalier, the COS-22,

Martin Wöhr, (left), exhibitor seminars chair, was also cochair of the 116th Multichannel Symposium with Jürgen Marchlewitz, right.



Werner Schmidt (center) facilities chair, with cochairers Gerhard Picklapp and Ulrike Schwarz



Han Tendeloo, program coordinator

Thierry Bergmans (right), exhibit coordination, with Roger Furness



designed with two omnidirectional capsules in a module of less than 20 mm in length. This can either be used, it is claimed, to generate stereo, or with one of the capsules phase inverted for noise cancelling, or simply to increase redundancy in the case of capsule failure. Neumann was celebrating its 75th anniversary with the introduction of an official Jubilee Edition of its classic M149 microphone, based on the U47 of the 1950s. A limited edition of 500 units is available with a platinum-plated grille.



Wolfgang Niehoff (right), tutorial seminars chair, presenting award for student recording competition.



Martin Litauer and Julia Havenstein, education events chair and vice chair



Ernst Völker, historical events chair



At 116th press conference: Ron Streicher, AES president, Gisele Clark, promotion, and Stefani Renner, press relations.

Genelec added to its line of loudspeakers with a range of nearfield monitors employing two-way active technology. The 8000 range replaces the long-established 1029, 1030, and 1031A models.

EXHIBITOR SEMINARS

Exhibition visitors continue to appreciate the new series of exhibitor seminars developed at recent conventions. Martin Wöhr organized the 116th seminars, designed to enable com-

We Thank...

Reinhard Sahr
chair

Jörg Knothe
vice chair and tours chair

**Ben Bernfeld and
Stephan Peus**
papers cochairs

Wolfgang Hoeg
posters vice chair

Wolfgang Ahnert
workshops chair

Wolfgang Niehoff
tutorial seminars chair

Martin Wöhr
exhibitor seminars chair

Martin Litauer
education events chair

Julia Havenstein
education events
vice chair

Ernst Völker
historical events chair

Werner Schmidt
facilities chair

**Gerhard Picklapp and
Ulrike Schwarz**
facilities cochairs

Han Tendeloo
program coordinator

panies to explain and demonstrate their technology in a more detailed way in quieter rooms away from the exhibition areas. Particularly interesting and packed with visitors from morning until night was a seminar resulting from a collaboration between SoundField, Genelec, DTS, and Steinberg, designed to promote music mixing for surround. This gave delegates the opportunity to hear about everything from capture, through mixing and postproduction to reproduction. A nonstop series of these exhibitor seminars took place throughout the convention, covering topics ranging from surround microphone systems, through grounding and EMC issues to acoustic design for control rooms.

PAPERS SESSIONS

Ben Bernfeld and Stephan Peus, papers cochairs, and Wolfgang Hoeg, posters chair, worked hard to select from well over 250 proposed papers to create a program that reflected the latest developments in audio research. Alongside the formal lecture presentations, there was an extensive program of poster presentations at the 116th in which authors could discuss their research during extended time slots using laptop demos in conjunction with their posters.

The hot topic of archiving and metadata drew a large audience to the session *Audio Archiving, Storage, and Restoration: Content Management*, chaired by Derk Reefman. In the first paper in this session, "Take Care of Tomorrow Before it Is Too Late—A Pragmatic Archiving Strategy," authors Nicolas Hans and Johan de Koster detailed case studies for winning management approval of digital media libraries. The topic of how to generate metadata automatically was also discussed in this session, and Andrew Mason's paper described a series of EBU tests designed to test commercial audio watermarking systems.

In the two-part session on spatial audio perception and processing authors described a variety of experiments designed to determine the spatial performance of emerging spatial audio systems, such as 5.1 surround and wavefield synthesis, and how to train listeners to evaluate such systems. Richard Duda described a novel technique for implementing motion-tracked binaural sound that preserved the information needed for dynamic head-motion cues. The ➡



Kees Immink flanked by, from left Wieslaw Woszczyk, Technical Council chair, and vice chairs Bob Schulein and Jürgen Herre.



116th Heyser
Lecturer Kees
Immink

Large crowd enjoys
reception after the
Heyser Lecture



system allows listeners to hear binaural recordings over headphones that carry small head trackers so that the reproduced sound scene adapts to head movements.

The world of low bit-rate audio coding continues to excite interest and new developments. At the 116th delegates heard about a new innovation in the MPEG-4 standard known as ALS (Audio Lossless Coding) as well as an important extension to the MPEG standard, called MP3 Surround. MP3 Surround has complete backward compatibility with existing MP3 players by using a compatible downmix, either automatically or manually generated, coupled with a low bit-rate extension involving parametric representations of interchannel level, time, and correlation values based on binaural cue coding (BCC). The quality of the results as evaluated in listening tests turn out to be quite high for only a modest extension in the bit rate compared with two-channel MP3. A number of papers in another session, *Spatial Audio Coding*, also covered topics involving similar processing methods whereby spatial audio signals can be encoded at relatively low bit rates by parameterizing the interchannel relationships.

WORKSHOPS

Workshops provide an ideal way for learning about the latest developments in audio technology, bringing together the expertise of individuals from around the world and enabling delegates to discuss issues of concern in a public forum. Wolfgang Ahnert, workshops chair, organized 17 opportunities for learning in Berlin. The diverse range of topics ran the gamut from *Sound Systems for Hearing Impaired People* to *The Role of Multiple Low-Frequency Signals in the Perception of Reproduced Sound*. *Multichannel in Automobiles* was a hot-topic workshop at the 116th, as manufacturers realize that the car is a great place to experience surround sound; a number of luxury car makers already offer surround sound systems that upmix two-channel material and discrete 5.1 systems are beginning to appear.

The acoustics community gathered for a comprehensive discussion of auralization tools in a workshop chaired by

Jan Voetman on Saturday morning. Proponents of some of the most widely used auralization packages and researchers in this field took the audience through the basics of the technology, explaining how to deal with problems and discussing the difficulties of conducting comparisons between real acoustical environments and simulated ones.

Among the other interesting workshops was one on the relatively new DRM, or Digital Radio Mondiale, which is a new digital broadcasting system for frequency bands below 30 MHz. Using MPEG-4 AAC+ coding, it involves efficient audio encoding and high audio quality in 9- or 10-kHz RF channels. Chair Peter Senger and the panel of experts explained the various features of the system, including data services and multimedia options that will enhance radio services.

TUTORIAL SEMINARS

Tutorial seminars are another recent and popular innovation by the Audio Engineering Society that draw large audiences consisting of both students and seasoned engineers. Chair Wolfgang Niehoff coordinated 15 seminars covering audio fundamentals in important areas. The ever-popular Stanley Lipshitz and John Vanderkooy explained the basics of digital audio. Other topics covered were sound reinforcement, surround sound design in TV, the center channel challenge, and audio data reduction.

AES technical committees often sponsor workshops and tutorial seminars at conventions. Summaries or selected presentations are made available on the relevant technical committee web pages. For example, the extensive 116th tutorial seminar *Listening Tests in Practice* chaired by Nick Zacharov, and also given last year in New York at the 115th Convention, can be found at <http://www.aes.org/technical/pseas/>. This seminar, which took place over the whole of the last afternoon at the 116th, took delegates through all the fundamental issues involved in designing and running listening tests, including the key standards involved.

A full listing of all papers, workshops, and tutorial seminars begins on page 776 of this issue. A CD-ROM of all



Among the vintage audio equipment displayed and discussed at the historical venue was a hand-cranked movie projector whose operation was demonstrated by Ulrich Illing.

Over 170 people attended the day-long multichannel symposium "The Effect of Multichannel on Radio Operation," chaired by Martin Wöhr (left) and Jürgen Marchlewitz.



29 exhibitor seminars drew large crowds: Norbert Sobol, top photo, speaks at AKG seminar; Andrew Goldberg, bottom photo, speaks at Soundfield/Genelec/DTS/Steinberg seminar.

116th Convention papers and individual PDF files can be purchased online at http://www.aes.org/publications/convention_cds.cfm.

SPECIAL EVENTS

The Effect of Multichannel on Radio Operations

A special preconvention symposium on multichannel audio in radio operations, chaired by Martin Wöhr and Jürgen

Marchlewitz, was held on the Friday preceding the 116th Convention. This exceptional event proved the popularity of the topic among radio broadcast engineers and operators, attracting 170 delegates for lively debate on the future of multichannel sound in radio. From the presentations given it is clear that the technical challenges of handling multichannel sound in broadcasting networks can be surmounted in a variety of imaginative ways. For example, Bosse Ternström from Swedish Radio was able to show how DTS-encoded audio had been routed throughout SR's internal systems, "hidden" in various ways within conventional network routing structures, and even broadcasted successfully over satellites. Downloads by hundreds of thousands of Internet listeners of multichannel material from the Swedish Radio website demand about 75 to 80 percent of its bandwidth. Representatives of management, however, need to be convinced that money spent on this type of service attracts more than a relatively small fraction of the broadcaster's listeners. Other panelists spoke of multichannel as a way to give radio some extra appeal, as stereo did for radio in the 1960s, but the danger now is that television will get there first and steal the limelight.

HEYSER LECTURE

The AES Technical Council's Richard C. Heyser Memorial Lecture was given by former AES President, Kees Immink to a packed hall with over 200 people present. Immink's lecture, "From Analog to Digital," guided the audience on a short tour starting in the early days of pulse code modulation, which began in 1937 with the work of Alec H. Reeves but only recently came to full fruition. Over that time, and particularly in recent years with the consumer boom in digital audio, there has been a paradigm shift, Immink suggested, from tangible, physical media to today's "any song, any time, anywhere" yearnings. "In retrospect," said Immink, "one may say that the digital audio revolution is an immense success as everybody is satisfied with the outcome... There are a few nostalgic exceptions who cry out in longing to return to the fleshpots of radio hiss, the warm



Graham Blyth, left, received special recognition from Reinhard Sahr for his organ concert performances at AES conventions.

Magician Igor Jedlin shows Jörg Knothe how to levitate a napkin.



The Pique Dame Quintet provided the musical entertainment at the 116th banquet in the historic Telegraph Exchange Hall at Deutsche Telekom's Berlin headquarters.

distortion of electron tubes, the scratchy sound of the gramophone, and, not to forget, the greener grass."

Following a presentation to the speaker in memory of Richard Heyser, the Technical Council, led by Wieslaw Woszczyk, hosted a reception, enhanced by refreshments and live music, for the audience and the speaker.

TECHNICAL TOURS

For those wishing to visit Berlin's famous audio venues, Jörg Knothe, the convention's tours chair, organized a program of eleven stimulating technical tours. These included visits to the Konzerthaus Berlin (Concert House Berlin) and the famous Berlin Philharmonic Hall and its Kammermusiksaal, where visitors were able to appreciate an orchestral rehearsal from different seating locations. In addition to this, delegates could visit the Film City Babelsberg, various broadcasting sites, studio complexes, and live sound installations. For those with more diverse engineering interests, extending to the need for speed, a trip to the BMW motorcycle plant was a must.

In addition to the normal technical tours, three special local studio tours had been arranged, sponsored by Radio Berlin Brandenburg, two of them held at the organization's studios throughout the convention. The first two involved

seminars on microphone recording, studio production of radio plays, and music recording in stereo and 5.1, providing opportunities for hands-on experience in live situations for the enthusiastic delegates that signed up for these tours. There was also a daily studio tour to Blackbird Studios where the latest TV and film production and postproduction could be observed.

SOCIAL EVENTS

A mixer party held on the first evening of the convention enabled everyone to get together informally in the huge atrium of the Messe Berlin entrance hall, to the accompaniment of live music. The convention banquet was held on Monday evening at the Old Telephone Exchange Room of the Berlin headquarters of Deutsche Telekom. Food and wine were both excellent, providing examples of Berlin specialities. The musical entertainment was provided by the Pique Dame Quintet, and magician Igor Jedlin showed the guests what he had up his sleeve.

MUSICAL ENJOYMENT

Audio engineers are renowned for their interest in music, and they were not disappointed at the Berlin convention. ➔

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Education Committee chair Theresa Leonard is flanked by student officers: from left, Martin Berggren and Natalia Teplova of Europe and Marie Desmarteau and Felice Santos-Martin of the Americas.

Those who could spare half a day could take part in a Sing-Along Mozart event at the Haus de Rundfunks during which a rehearsal of the Mozart Requiem was undertaken by the Sinfonieorchester Berlin and the Rundfunkchor Berlin. Later in the convention, Graham Blyth delivered an inspired organ recital at the St. Matthias Cathedral in Berlin, performing Bach's great Passacaglia and Fugue in C minor and Guil-mant's First Sonata, among other works. The fine acoustics of the building and the spatially distributed organ divisions provided a first-hand experience for the audience of surround sound in a natural environment, free of distortion and with an unassailable frequency response!

STUDENT ACTIVITIES

The number of student members in the Society has been growing at a healthy rate over the past two years, and this is reflected in the increased participation of students at conventions. Martin Litauer and Julia Havenstein, education events chair and vice chair, supported by Education Committee Chair Theresa Leonard, and Natalia Teplova, chair of the Student Delegate Assembly, planned an ambitious schedule of educational events ranging from recording competitions to being involved in a live recording of the organ concert mentioned above. The tutorial seminars that are now such an important part of the convention were also planned with students in mind. Other events included the Education Fair and the Education Forum (see Education News on page 860 for a more complete wrap-up of educational activities at the 116th).

STANDARDS AND TECHNICAL COMMITTEE MEETINGS

Before and throughout the 116th convention the standards committees of the Society, led by Standards Manager, Mark Yonge, and the newly appointed chair of the Standards Committee, Richard Chalmers, conducted a full program of meetings covering fields including digital audio, preservation and restoration, acoustics, interconnections, networks and file transfer (for more information on these meetings see AES Standards Committee News on page 750 and visit <http://www.aes.org/standards>).

There are also a large number of AES technical committees that aim to track the latest trends in audio engineering with a view to planning conferences and convention sessions that educate and inform members, as well as develop-



Theresa Leonard, AES Education Committee chair and president-elect leads the discussion at the Education Forum.



Student recording competition drew large, enthusiastic crowds.



Numerous schools offered information on their audio programs at the Education Fair.

ing occasional advisory documents. In two specially provided rooms close to the technical sessions at the Messe Berlin these committees kept up a lively program of meetings that attracted key figures from the audio industry to discuss topics as diverse as automotive audio, semantic audio analysis, and multichannel sound (for more information visit <http://www.aes.org/technical>).

HISTORICAL PROGRAM

Led enthusiastically by Ernst Völker, historical events chair, the remembrance of audio history was featured prominently in Berlin with a full program of events at a spacious booth on the exhibition floor. The focus was on

116th Convention



Convention Policy Committee meeting: AES President Ron Streicher



Publications Policy Committee meeting: Richard Small (left), chair, and Daniel von Recklinghausen, editor



Education Committee meeting: from left, Mercedes Onorato, Bozena Kostek, and Geoff Martin



Conference Policy Committee meeting: Søren Bech (right), chair, and Garry Margolis

the history of sound and film in Berlin, concentrating on Babelsberg, one of the first centers of film production that used gramophone wax plates in playback mode. This studio also produced "The Blue Angel," starring

Marlene Dietrich, one of the first sound films in Germany. Also on display in the Historical Corner was a collection of vintage equipment such as old microphones and speakers as well as disk-cutting machines. Delegates could attend a series of short presentations given by experts from Germany, such as Udo Zölzer, on effects units and vintage guitar amplifiers.



Above, Richard Chalmers (left) chair, and Mark Yonge, manager, organized and led an ambitious schedule of Standards Committee meetings.

THANKS TO...

AES conventions such as the 116th could not happen without the many days of dedication offered on a voluntary basis by tireless members of the Society. In addition to those mentioned above it is important to note the contributions given by those who arranged the facilities that ensured everything ran smoothly, Werner Schmidt, Gerhard Picklapp, and Ulrike Schwarz, without forgetting the vital job of program coordination undertaken by the Society's secretary, Han Tendeloo.

The historic city of Berlin provided an excellent venue for the 116th. At the crossroads of an expanding European Union, Berlin is uniquely situated, both geographically and culturally, to bring people together from Europe and beyond for the free exchange of ideas, which occurred throughout the AES 116th Convention.

Meet your colleagues again later this year at the AES 117th Convention in San Francisco October 28–31. Next year (May 28–31) for its European convention the AES will be going to Barcelona, a venue that should prove highly attractive for exhibitors and delegates alike. (For details on all upcoming Society activities visit www.aes.org.)



Technical Council meeting filled a large room.



116th Convention





Board of Governors Meets

The AES Board of Governors met on October 14 to hear reports from AES officials and standing committees:

- 1** Jay Fouts, legal counsel; Marshall Buck, treasurer, Convention Policy Committee chair, and Finance Committee chair; Garry Margolis, governor and Awards Committee chair
- 2** Ron Streicher, president and Future Directions Committee chair; Han Tendeloo, secretary
- 3** Subir Pramanik, Regions and Sections Committee cochair
- 4** Ivan Stamac, Europe Southern Region vice president; Richard Small, governor and Publications Policy Committee chair; Neville Thiele, International Region vice president
- 5** Roy Pritts, governor and Regions and Sections Committee cochair; Jerry Bruck, governor; Mercedes Onorato, Latin American Region vice president
- 6** Theresa Leonard, president-elect and Education Committee chair; Jim Anderson, USA/Canada Eastern Region vice president; Bob Moses, USA/Canada Western Region vice president
- 7** Curtis Hoyt, governor
- 8** Natalia Teplova, student representative; Frank Wells, USA/Canada Central Region vice president; Richard Chalmers, Standards Committee chair
- 9** Søren Bech, Europe Northern Region vice president and Conference Policy Committee chair; Bozena Kostek, Europe Central Region vice president; Martin Berggren, student representative
- 10** Peter Swarte, governor
- 11** Daniel von Recklinghausen, editor; Reinhard Sahr, 116th Convention chair
- 12** Kunimaro Tanaka, governor; Kees Immink, past president and Nominations Committee chair; Roger Furness, executive director
- 13** Don Puluse, governor; Wiesław Woszczyk, Technical Council chair

