

AES 111th Convention

November 30–December 3, 2001
Jacob Javits Convention Center
New York[®]

*audio engineering society
convention*



audio engineering society

The AES 111th Convention took place in New York November 30—December 3, postponed from the original September dates due to the tragic events of September 11.

Faced with the decision of carrying on as planned, rescheduling, or canceling the convention, Executive Director Roger Furness, together with the Executive Committee, the headquarters staff, and the 111th Convention Committee came to the conclusion that postponement was by far the best option.

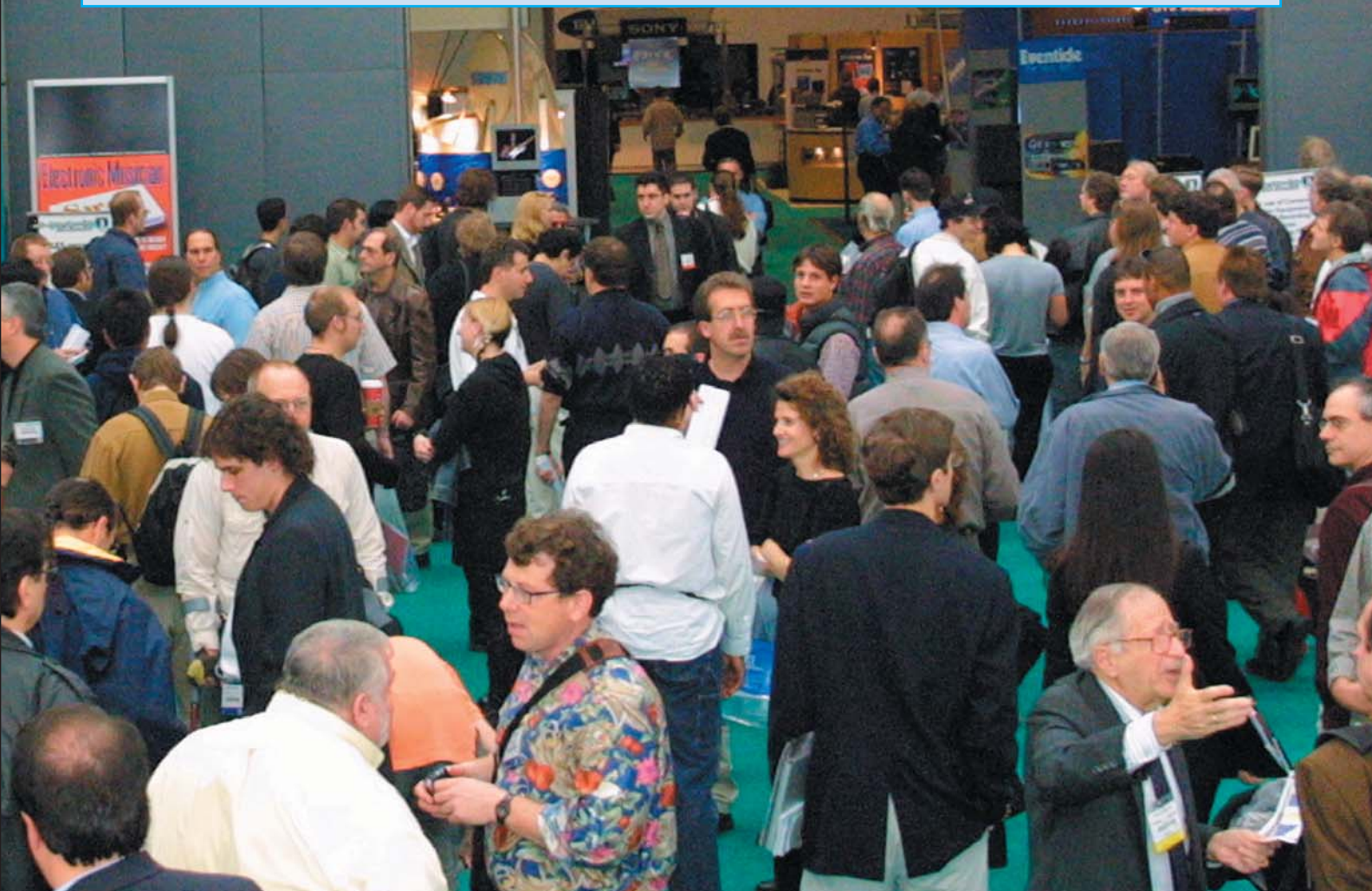
Of course, there was a huge amount of work involved in the rescheduling. Convention Chair Bill Allen and his committee put in an outstanding effort during those two and a half months to hold the program together. The headquarters staff supported and fortified the efforts of the convention committee. But no one was sure what would come of these efforts. Would the exhibitors, the papers authors, and workshops and special events participants be able to keep their original commitments to participate?

The audio industry came together to show its commitment to the AES and its support for New York. The AES 111th Convention was a resounding success. Although the exhibit was somewhat smaller, the technical sessions were virtually the same as originally planned. Many thought it was as successful as previous conventions, with added enthusiasm and friendliness. Exhibitors were glad they participated and

pleased to see so many eager, business-oriented visitors. Even the weather cooperated, with warm temperatures more like New York in early fall.

OPENING CEREMONY AND AWARDS

Opening the 111th Convention, Executive Director Roger Furness welcomed delegates to New York. The reschedul- ➔



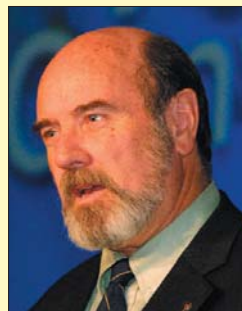
OPENING CEREMONIES AND AWARDS



Bill Allen, 111th
Convention chair



Roger Furness, AES
executive director



Roy Pritts,
AES president



Floyd Toole, 111th
keynote speaker



Pat Macdonald, executive editor of the *AES Journal*,
receives honorary membership from Roy Pritts.



David Robinson
announces award
winners in place of
Awards Committee
Chair Marina Bosi,
who was unable to
attend.



Citation Award recipients: clockwise
from top right, Elizabeth Cohen, Jeremy
Cooperstock, Zach Settler, Wieslaw
Woszczyk, and Aoxiang Xu





Doug Cook (left) and Bob Moses receiving Board of Governors Awards



Fellowship Awards recipients: clockwise from top left, Martin Dietz, Wesley Dooley, Subir Pramanik, and Junichi Yoshio



ing had been a huge challenge for all, he said. AES President, Roy Pritts noted the health of the Society worldwide and reported an excellent and active year including the 50th anniversary of the Japan section and three international conferences—the 18th, *Audio for Information Appliances*; the 19th, *Surround Sound: Techniques, Technology, and Perception*; and the 20th, *Archiving, Restoration, and New Methods of Recording*. Convention Chair Bill Allen extended his warmest thanks to the convention committee for their extended commitment to the event. He said it was a tribute to their dedication and energy that the convention was so complete. Allen also offered particular praise to the AES Headquarters staff for their sterling work.

Standing in for Awards Committee Chair Marina Bosi, David Robinson had the pleasure and privilege of announcing an Honorary Membership for Patricia M. Macdonald, executive editor of the *AES Journal*. Honorary Membership is a membership grade to which only a very few members are elected and is reserved for those of outstanding reputation and eminence in the science of audio engineering or its allied arts. Pat Macdonald has been associated with the *AES Journal* since 1969, becoming associate editor in 1974, managing editor in 1976, senior editor in 1989, and executive editor in 1992. Her careful guidance and wisdom have been appreciated by numerous members of the Society. Accepting her award with gratitude, she paid tribute to her years of association with the Society and those with whom she had the pleasure of working.

Fellowships are the second highest grade of membership in the Society after Honorary Member. They are awarded to members who have rendered conspicuous service or are recognized to have made a valuable contribution to the advancement in or the dissemination of knowledge of audio engineering or in the promotion of its application in practice. Fellowships were awarded to Martin Dietz for outstanding work in the advancement of audio coding; Wesley Dooley for significant contributions to recording technology; Subir Pramanik for significant contributions to the AES over a number of years; and Junichi Yoshio for significant contributions

to development and standardization of DVD technology.

Citations were presented to a group who pioneered the technology enabling collaborative multichannel performance over the broadband Internet: Elizabeth Cohen, Jeremy Cooperstock, Zack Settel, Stephen Spackman, Wieslaw Woszczyk, and Aoxiang Zu.

Board of Governors Awards, for outstanding contributions to the Audio Engineering Society, were presented to Doug Cook for cochairing the AES 107th Convention in New York and Bob Moses for chairing the AES 18th International Conference in San Francisco.

Stepping in on relatively short notice to present the keynote speech at the opening ceremony, Floyd Toole captivated a capacity audience with his talk "Audio Engineering—Science in the Service of Art." In his wide-ranging presentation he related the importance of conveying the artistic intentions of the creator of audio art to the perceptions of the listener, using persuasive parallels with the world of visual art. Art, he asserted, was the reason that many were motivated to get into the audio business in the first place. He compared measurements and listeners' judgments of audio products, particularly loudspeakers, highlighting some suspect products (not named) that received good reviews in the press but not in double-blind listening tests and measurements. He emphasized his point that the word "professional" does not necessarily mean anything when it comes to quality, showing examples of professional monitor responses that were quite horrifying and worse than those of many consumer devices. "We have the science," he concluded, "we need to teach it more widely and apply it more diligently."

Many delegates gathered on the first evening of the convention for the AES Party at the Sony Wonder Technology Lab, where they were able to meet friends, sample the buffet and beverages, and take a short tour around the Wonder Technology Lab. During the tour visitors logged in using a personalized card and could experience the range of techni-



Speaking at annual business meeting of AES: clockwise from above, Ron Streicher, secretary; Chris Freitag, Board of Tellers chair; and Marshall Buck, treasurer



cal wizardry created by Sony for the world of multimedia entertainment and communications.

EXHIBITION

"A quality audience" was how most exhibitors described the steady flow of interested audio professionals at the Javits Center for the convention. Time to spend talking to important clients and lower noise levels than usual resulted in a convivial atmosphere on the show floor, with plenty of innovative products to spark the interest of delegates. The following is a small selection of the many highlights from the exhibition. See page 1210 for the complete list of exhibitors.

Latest in a long line of successful products, Solid State Logic's MT Production (MTP) digital console was unveiled, targeting the broadcasting and mobile-production market segments. Based on SSL's established MT Plus in-line digital console, this compact mixer includes surround capabilities and full-reset automation. Midas debuted its Legend 3000 console, designed as a semi-modular live production system and intended to survive the rigors of a life on the road as well as being easy to service. Digital equalizers from Sony's Oxford mixer were shown in a new plug-in format.

On the microphone front, some old favorites have been revived in modern form. AKG, for example, showed a reworked



Presenters at "The History of Signal Processing," from left, Barry Blesser, Emil Torick, Bishnu Atal, and Ray Dolby



At "Digital Broadcasting in the U.S.," from left, moderator David Bialik, and presenters Mark Kalman, Jeffrey Riedmiller, Ralph Justus, Gregory Forbes, David Layer, and Deepen Sinha



At Sony Wonder party Friday night, clockwise from above: musical group The Waz; guests enjoying buffet; Steve Sohma (left), Yuko Yoshio, and Fellowship Awardee Junichi Yoshi.



Left, 111th technical sessions drew attentive crowds; right, author John Vanderkooy making presentation.

version of its classic C451 model, the C451B, together with the respected CK1 capsule that had been modeled on some of the best examples of CK1 capsules collected from engineers around the world. Modern electronics complement this interpretation of the microphone, leading to improved audio performance while retaining the original acoustic qualities. Audio Technica commemorated the 10th anniversary of its AT4033 cardioid capacitor microphone with a special edition incorporating a reengineered heavy-duty shock mount, dust cover, and wooden case. Continuing the theme of special editions, ADK also celebrated 3 years in business with a commemorative edition Area 51 tube microphone, each containing a hand-selected GE6072A tube. At the other end of the evolutionary spectrum, Neumann was sporting its Solution-D digital microphone with an interface conforming to the newly established AES42-2001 standard for remote control and audio communications with microphones.

Supporting its range of wireless microphone products, Sony showed a new portable diversity receiver, the WRR-861B, designed

with dual-power capability and with rugged characteristics intended for use in the field with broadcast and electronic production applications. Sennheiser, also renowned for its RF microphones, introduced a miniature plug-on transmitter, the SKP30, which can turn any wired microphone into a wireless microphone. Battery powered and capable of being connected directly to the output jack of passive or phantom-powered microphones, this device neatly complements existing Sennheiser wireless receiver installations.

Looking to transducers at the other end of the signal chain, Earthworks revealed its newly developed $\Sigma 6.2$ precision soundfield reproduction system.

This unusually styled loudspeaker has a wide frequency response and precise time response that is said to be important for the playback of 96-kHz recordings. Also of considerable interest was Digigram's Ether-Speaker interface, which is based on Ethernet technology and designed to connect a digital audio source to loudspeakers, with up to 32 channels of 24-bit audio and control information. Loudspeaker manufacturer ATC aroused considerable



111th exhibitors reported a steady flow of serious, business-oriented visitors.



Bill Allen (left), 111th chair, and Markus Erne, editor of new AES tutorial CD-ROM—*Perceptual Audio Coders*



Jim Johnston (left), papers chair, and Wieslaw Woszczyk, Technical Council chair



Doug Cook,
workshops
cochair



Lou Manno, technical tours chair



Irv Joel, volunteers coordinator, also helped organize *When Vinyl Ruled* exhibit.

interest with its new Active 10 Pro model designed for stereo or multichannel applications in small and medium-sized studios. This active loudspeaker is also suitable for near-field monitoring in larger rooms and is designed with a novel, solid body, as well as on-board parametric controls for equalization.

High-resolution audio continues to march on, fueled by the increasing consumer availability of DVD-Audio and SACD equipment. Sony and Philips had a large stand dedicated to the growing range of DSD production and postproduction equipment, including the new Tascam DS-D98 multitrack recorder that can be configured to record either two channels of DSD or a number of channels of conventional PCM between 44.1 and 192 kHz. SADiE, celebrating its 10th anniversary at the convention, also showed new features for its DVD-Audio Direct authoring system.

Driving bit rates in the other direction, Dolby Labs demonstrated its new Advanced Audio Coding (AAC) consumer encoder, intended for licensing in products such as hard-disk jukeboxes, Internet music systems, and portable recorders. AAC, a part of the MPEG-2 and -4 standards, is increasingly incorporated into Internet-based audio systems. For instance, Liquid Audio announced that it would be implementing the technology in its Liquid Player software next year.

PAPERS

With the assistance of members of the AES Technical Council and others during the review process, Papers Chair Jim

Johnston brought together a wide range of important technical papers for presentation at the 111th Convention. The majority of authors or coauthors were present in New York to deliver their papers. They demonstrated the diverse research in audio engineering being undertaken at the present time throughout the world.

Papers sessions covered a typical selection of topics, divided into sessions on loudspeakers, spatial and multichannel audio, mobile and Internet audio, psychoacoustics and audio testing, instrumentation and measurement, microphones, signal processing, high-resolution audio, sound reinforcement, coding, and production and studio issues. A number of poster presentations were also given. A complete summary of papers begins on page 1213 of this issue of the *Journal*.

Of particular interest were a couple of papers on reverberation, aiming to improve understanding of this always interesting topic. Matti Karjalainen and Hanna Järveläinen of Helsinki University of Technology described a perceptual modeling approach to reveal the underlying principles of late reverberation perception, concentrating on the modal density required for high-quality results. In a discursive paper based on similar themes to his recent paper in the *AES Journal*, Barry Blesser gave a number of insights into the difficulties associated with modeling and measuring reverberant characteristics satisfactorily. Time variance and other statistical uncertainties in room behavior made conventional measurements of impulse responses difficult to interpret.



From left, David Bialik, special events chair, Roger Furness, AES executive director, and Jim Anderson, facilities chair



Lisa Roy, Platinum Series chair, with friends, from left, Mr. Bonzai, Elliot Scheiner, and Atsunori Abe



Claudia Koal, music chair

Blessner pointed out the importance of familiarity with signals if small inconsistencies or quality defects were to be detected. Listeners gradually got used to hearing small differences in signals that they were at first unaware of.

Nick Zacharov and colleagues from Finland presented a number of papers based on description and preference mapping of sound stimuli, both in spatial audio and mobile communications, bringing to the audio field ideas about sensory evaluation that have previously been used more commonly in other fields of human science. These papers showed ways in which formal preference mapping could be related to descriptive and physical characteristics required of signals in an attempt to optimize consumer preference. Francis Rumsey presented a paper with Amber Naqvi of the University of Surrey concerned with the design and modeling of an active listening room, designed to simulate alternative acoustic environments for subjective evaluation within a standard ITU-R listening room. The early reflection characteristics of the room are modified by use of active deflector panels based on DML technology, affecting the middle- to high-frequency region while leaving the existing low-frequency characteristics of the room intact.

The session on Internet audio and networking included a number of interesting papers on the evolving protocols for managing content and rights in sound program distribution. Among the topics were papers on copyright protection, MPEG 7, and MPEG 21. MPEG 7 concentrates mainly



Marla Egan, production coordinator



Don Plunkett, convention secretary

We Thank...

In the wake of events of September 11, the 111th Committee deserves special thanks for their extended commitment, which produced an outstanding convention.

Bill Allen
chair

Jim Johnston
papers chair

Doug Cook Barbara Ela
workshops cochairs

David Bialik
special events chair

Lisa Roy
Platinum Series chair

Don Puluse
education events chair

Jim Anderson
facilities chair

Lou Manno
technical tours chair

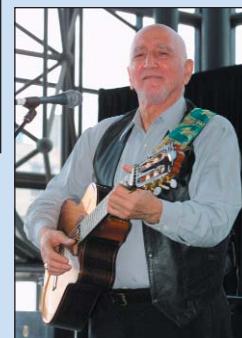
Claudia Koal
music chair

Don Plunkett
convention secretary

Irv Joel
volunteers coordinator



Don Puluse,
Education
Committee
chair



on content description and identification, whereas MPEG 21 is concerned primarily with a multimedia framework for transparent and augmented use of multimedia resources across the wide range of networks and devices used by different communities. As described by staff from Germany's Fraunhofer Institute, it is designed to address aspects such as security, transaction handling, and interoperability that are vital for electronic commerce.

WORKSHOPS

Doug Cook and Barbara Ela worked hard to coordinate an impressive selection of workshops, covering the key topics of concern to audio professionals. Always well attended and educational in nature, these sessions are also available on cassette tapes for those unable to attend. Among the most popular workshops at the 111th was *Myths in Audio*, chaired by Malcolm Hawksford. A panel of experts including James Angus, Stanley Lipshitz, and Derk Reefman addressed some of the more juicy and controversial topics that are commonly surrounded by mystery and myth. These include the issue of bandwidth above 20 kHz and DSD versus conventional PCM formats for coding and delivery of high-quality audio.

Providing nonstop music at 111th, over 30 performers played at Songwriters Showcase, including Emmy-nominated actor Dominic Chianese (bottom, right), who plays Uncle Junior on the *Sopranos*.

Other popular workshops were *Small Room Acoustics* chaired by Jan Voetmann, *Digital Audio Signal Processing—the Good, the Bad, and the Ugly* chaired by Stanley Lipshitz, and *Microphones: What is Vintage?* chaired by Karl Winkler. Most of these successful workshops courted some area of controversy, where the scientific aspects of sound recording and reproduction meet those opinions governed more by trend and fashion. The reconciliation of differing points of view is clearly a major challenge and produced some raucous debates.

A panel of researchers in the field of psychological and physical evaluation of surround sound reproduction surveyed a range of testing methods that could be adopted; they included a review of previous work in concert hall acoustics. With the range of algorithms, techniques, and systems for spatial-reproduction enhancement now in existence, the panel tried to find reliable ways to discover the perceptual factors of importance and the physical variables to which they might relate. User preference mapping was also dis-



Platinum Record Artists and Producers Series: from left, Mike Clink, George Massenburg, Russ Titelman, Howard Massey, Chuck Ainlay, and Tony Visconti

13th Annual Grammy Recording Soundtable: from left, Jimmy Douglass, Elliot Scheiner, and Chuck Ainlay



cussed. Some controversy was aroused by the question of whether experts have a right to impose their own construction of perception on subjects in listening tests, or whether one should allow subjects to choose attributes that are meaningful to them. Furthermore, what is an expert in a listening test—a renowned golden ears or a subject trained in the particular requirements of the test at hand?

The *Metadata* workshop dealt with the thorny issues of what descriptive and logging data should accompany audio program material; it also reviewed standardization initiatives worldwide. The issues of cross-cultural and linguistic difficulties in dealing with this matter were highlighted. Further workshops included *The Changing Role of the Mastering Engineer*, *Automotive Audio*, *Project Studio Maintenance*, *Audio for Information Appliances*, *Perceptual*



From left, Manfred Schroeder, who gave Richard C. Heyser Memorial Lecture at 111th, receives Technical Council citation from Vice Chairs Robert Schulein and Jürgen Herre, and Chair Wieslaw Woszczyk.



At Heyser reception, Manfred Schroeder, second from right, talks with, from left, Kees Immink, Stanley Lipshitz, and John Vanderkooy.

Evaluation of High-Resolution Audio, Guerrilla Acoustics III, Networking for Local- and Wide-Area Production, Audio for Games, Digital Audio Workstations, Watermarks and Fingerprints, and The Role of Digital in Live Sound.

For those interested in venturing further afield, a series of technical tours was arranged by Lou Manno. These included tours of recording and mastering studios such as Clinton, Masterdisk, Sony, Sear Sound, Bennett, and the Hit Factory; research facilities including AT&T Labs and Ralph Glas-



When *Vinyl Ruled* exhibit drew standing-room-only crowds throughout 111th.



111th meetings: 1. Conference Policy Committee meeting: from left, Committee Chair Søren Bech; Theresa Leonard, chair of planned multichannel sound conference in Banff, Canada, in 2003; Francis Rumsey, 19th Conference vice chair; and Ron Streicher, AES secretary; 2. Meeting of Women in Audio Committee attracted large, diverse crowd; 3. Chair Jay McKnight presides at meeting of Historical Committee; 4. Technical Council meeting: from left, Roy Pritts, AES president; Bob Schulein, Technical Council vice chair; Chair Wiesław Woszczyk; and Jürgen Herre, vice chair; 5. John Nunn (left), Standards Committee chair, and Mark Yonge, Standards manager.

gal's Ambiphonics Institute; Edison National Historic Site; Europadisc pressing plant; and broadcasting centers such as Thirteen NY and CBS/Westwood One.

SPECIAL EVENTS

The Distinguished Heyser Memorial lecturer at the 111th Convention was none other than Manfred Schroeder, holder of 45 U.S. patents in speech and signal processing and other fields. Schroeder's lecture "The Unreasonable Effectiveness of Mathematics in Audio" concentrated on the areas of audio in which he had worked that showed extraordinary susceptibility to the application of number theory and other branches of mathematics. In particular he emphasized the use of maximum-length sequences, quadratic residue diffusers, the measurement of reverberation time by reverse integration, and the statistics of reverberant sound fields. In highly entertaining style, Schroeder gave delegates a short history of his impressive career that included time as a professor of physics at Göttingen, a director of research at AT&T Bell Labs, and a founding member of IRCAM in Paris.

The *When Vinyl Ruled* exhibit was organized by John Chester and Irv Joel with help from other members of the AES Historical Committee. This interactive exhibit of vintage studio equipment and tapes brought back to life the early years of stereo recording. Luminaries such as David

Greene, George Massenburg, Eddie Kramer, Bob Ludwig, Walter Sear, Judy Sherman, and Joe Tarsia lent their support with guest presentations. They delivered as advertised in the convention program, "these bits are tangible, you can see them, touch them, even catch a heady whiff of oxide binder and fresh-cut lacquer chip. It will leave you yearning for a studio with soul, from the days when vinyl ruled!"

Throughout the four days of the convention delegates enjoyed the music of the Songwriters Showcase, organized by Claudia Koal and cosponsored by Steinway. Over two dozen international recording artists presented an eclectic range of musical genres.

In contrast to the highly artistic nature of the Songwriters Showcase, proving that the AES has something for everyone, Jim Johnston organized a special event on the history of signal processing. Ray Dolby started by covering audio history from Thomas Edison to the present day. Bishnu Atal dealt with speech and telecommunications, concluding that the telecommunications revolution had only just begun and that the world would change substantially in the coming years in this area. Barry Blesser dealt with digital audio in engaging fashion, and Emil Torick rounded off the proceedings with a summary of the history in broadcasting.

David Bialik chaired a panel of broadcast engineers who addressed the move to digital transmission of television and radio programs, with an emphasis on familiarizing audio



At elections for student officers, from left, Dell Harris, Neil Okonak, Education Committee Chair Don Puluse, Patricia Abdenour, Werner de Bruijn, Blaise Chabanis, and Scott Cannon

STUDENT EVENTS

Led by AES Education Committee Chair Don Puluse, a packed program of events for students and educators was offered in parallel to the other sessions. These included a recording competition; the Student Delegate Assembly led by Matthew Steinmetz and Neil Okonak; a session on mentoring; a student mixer; an educators forum; and the now-traditional Education Fair. An impromptu tutorial on surround sound mixing was also staged by David Griesinger for students and other interested parties. Student membership makes up about 15% of overall AES membership and the provision for their needs at conventions has gradually risen over the years to the thriving level witnessed here at the 111th.



Above, Education Fair

COMMITTEE MEETINGS

During the convention, meetings of the AES Technical Committees took place at appropriate junctures, following relevant papers or workshop sessions. These committees follow trends in audio technology and techniques, providing expertise to the Society in key areas, organizing events such as conferences and workshops, and publishing authoritative technical documents for use by the audio community. The new tutorial CD-ROM, *Perceptual Audio Coders: What to Listen For*, was introduced at the 111th.

engineers with the principles and technologies involved.

Always popular at conventions and no exception this time, the 13th Annual Grammy Recording Soundtable, moderated by Ed Cherney, packed the hall. The National Association of Recording Arts and Sciences presented Jimmy Douglass, Tony Maserati, Elliot Scheiner, Dave Way, and Chuck Ainlay to discuss the most critical, relevant issues and concerns facing the recording community. To the delight of all present they played examples from their discographies and answered numerous questions from the floor.

Chaired by Howard Massey, the Platinum Artists and Producers Series presented a session entitled "The Challenges Ahead," addressing issues such as high-resolution audio, 5.1 surround sound, and the impact of emerging standards and new media. These themes were also echoed in the SPARS Business Panel entitled "Surviving the Technological Upgrade Path—Cases and Repercussions." Both sessions were particularly concerned with how businesses and individuals can and should adapt to changing technology and practices.

Owing to the unfortunate demise of the main blower on the gallery organ at St. Patrick's Cathedral, Graham Blyth was obliged to modify his program on short notice to perform a recital on the smaller chancel organ. As Graham said in his introduction: "no way is it a concert instrument...so I had to delete several items from the original program. St. Patrick's Cathedral is still wonderful." Delegates, and a milling throng of tourists, enjoyed Graham's renditions of works such as Handel's *Arrival of the Queen of Sheba* and Franck's *Chorale No. 3*.

AES standards groups met throughout the convention, under the oversight of the chair of the Standards Committee, John Nunn. AES standards are now under the new administration of Standards Manager Mark Yonge, who takes over after the long-standing service of Daniel Queen. Mark had his first full induction into the job at this convention. In a new initiative designed to make AES standards more widely available, it is now possible to download a single copy of any standard free of charge from www.aes.org, a development welcomed by many.

A full program of AES committee meetings also took place before, during, and after the convention, including the Board of Governors meeting on Tuesday, at which outgoing President Roy Pritts welcomed the incoming president, Garry Margolis, and announced the president-elect, Kees Immink. Earlier this year voting for candidates was possible for the first time by means of the Internet.

During the Society's Annual Business Meeting, Secretary Ron Streicher was pleased to announce that membership had stabilized in the last year and had risen slightly. Marshall Buck, the Society's treasurer, announced that the finances of the AES were in good shape and were sufficiently robust to weather occasional downturns.

Even though it had to be postponed from September to early December, the AES 111th Convention was an unqualified success. All who attended contributed to the continuing success of the society and to the spirit and resiliency of New York City.

The AES 112th Convention will be in Munich, Germany, May 10–13, 2002. For details on all upcoming events visit the AES website at www.aes.org.

Board of Governors Meets

- 1** Karl-Otto Bäder, Europe Central Region vice president and incoming governor
- 2** Chris Freitag, Board of Tellers chair
- 3** Jim Anderson, incoming USA/Canada Eastern Region vice president; Russ Hamm, USA/Canada Eastern Region vice president; Jay McKnight, Historical Committee chair
- 4** Francis Rumsey, Membership/Admissions Committee chair; Søren Bech, Conference Policy Committee chair and incoming Europe Northern Region vice president; Wiesław Woszczyk, Technical Council chair;
- 5** Ron Streicher, secretary; Roy Pritts, president
- 6** David Robinson, past president and Nominations Committee chair; Juergen Wahl, governor; Markus Erne, incoming Europe Central Region vice president
- 7** Bob Moses, governor and incoming USA/Canada Western Region vice president; James Kaiser, USA/Canada Central Region vice president; Mark Yonge, standards manager
- 8** Roger Furness, executive director; Theresa Leonard, governor; Robbin Gheesling, Women in Audio Committee vice chair
- 9** Garry Margolis, president elect, Laws and Resolution Committee chair, and incoming Future Directions Committee chair
- 10** Don Puluse, Education Committee chair; Mercedes Onorato, incoming Latin American Region vice president
- 11** Neil Gilchrist, governor; Bob Sherwood, financial advisor; Jay Fouts, legal counsel; Subir Pramanik, governor and Regions and Sections Committee chair
- 12** Martin Wöhr, 112th Convention chair; Bill Allen, 111th Convention chair
- 13** Irina Aldoshina, governor; Nancy Byers-Teague, USA/Canada Western Region vice president
- 14** Kees Immink, Europe Northern Region vice president and incoming president elect; Richard Small, Publications Policy Committee chair; Daniel von Recklinghausen, editor
- 15** Marshall Buck, treasurer, Convention Policy Committee chair, and Finance Committee chair; John Nunn, Standards Committee chair
- 16** Louis Fielder, Future Directions Committee chair; Nick Zacharov, governor
- 17** Annemarie Staepelaere, incoming governor



