

AES 118TH Convention

2005 May 28–31
Barcelona, Spain



Sunny Spain played host for the first time to the Society's European convention, the AES 118th, held in Barcelona from May 28 to 31, bringing audio engineers from around the globe to this magnificent city of bustling activity and Gaudi architecture. AES President, Theresa Leonard, pointed out in her greeting that Barcelona is ranked in the top five of Europe's most desirable destinations and its brand-new CCIB convention center provided ample accommodation for such a large-scale international event. Under the energetic leadership of cochairs Eloi Batlle and Luis Ortiz Berenguer, the 118th convention committee assembled a program offering something for all comers, in particular pioneering a series of live sound seminars that ran throughout the convention. This was particularly appropriate as Spain is well known for its ambitious outdoor

music events, borne witness to throughout the weekend by the beat of a nearby techno music festival.

OPENING CEREMONY AND AWARDS

Launching the convention at the opening ceremony on Saturday, Roger Furness, executive director, welcomed delegates to Barcelona—it was the furthest south the AES had ever come in Europe, he explained, and a new convention center provided the ideal venue for the coming four days. Adding her own welcome, Theresa Leonard emphasized in particular the growing importance of the student and tutorial programs at this convention. In thanking his organizing committee, Eloi Batlle paid tribute to papers cochairs, Ben Bernfeld, Basilio Pueo, and Enrique Alexandre; workshops cochairs, Alberto Gonzalez and Javier Lopez; tutorial cochairs, Pep Agulló and José Ramón Beltrán; education events cochairs, Enric Guaus and Ulrike Schwarz; facilities chair, Suso Ramallo; technical tours chair, Xavier Serra; and program coordinator, Han Tendeloo.

The awards ceremony at AES conventions is an opportunity for the Society to honor those members who have



Opening Ceremonies and Awards



Roger Furness,
AES executive
director



Theresa Leonard,
AES president



Eloi Battle,
convention cochair



Luis Ortiz Berenguer,
convention cochair



Ray Gillon, keynote speaker



Kees Immink, AES
Awards Committee chair



Theresa Leonard presenting Board of
Governors Awards to Jan Adamczyk, top, and
Reinhard Sahr.



Standing-room-only crowd at opening ceremonies

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John Nunn receiving Distinguished Service Medal



Fellowships Award recipients: clockwise from top right, Jan Romijn, Kimio Hamasaki, Christopher Struck, Jürgen Wahl, Marianna Sankiewicz, Steve Sohma accepting for Akira Asakura, and Irina Aldoshina.

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Among the 96 authors presenting technical papers in lecture sessions were: clockwise from above, Christof Faller, Natanya Ford, and Ville Pulkki.



made distinctive contributions to the field of audio engineering or to the Society's activities. Kees Immink, Awards Committee chair, announced the recipients. Receiving Board of Governors' Awards were Jan Adamczyk for dedicated service to the Polish Section and Reinhard Sahr for chairing the AES 116th Convention in Berlin last year. Fellowships were awarded to Irina Aldoshina for outstanding dedication to audio education in Russia and for her pioneering work in the establishment of the AES sections in St. Petersburg and Moscow, Akira Asakura for significant contributions to phonograph cartridge technology and standards, Kimio Hamasaki for contributions to multichannel audio systems with natural spatial impression, Jan Romijn for contributions to building acoustics and service to the AES Netherlands Section, Marianna Sankiewicz for outstanding contributions to audio education and to the AES, Christopher Struck for valuable contributions to transducer test and measurement in the audio and hearing industries, and to Jürgen Wahl for significant educational presentations at AES conventions and to many student sections throughout the Society.



One of the 32 exhibitor seminars at the 118th, Panasonic had a panel on the ELS surround car audio system with, from left, ELS creator Elliot Scheiner, Jerry Harrison, Luis Resto, and Mark Ziemba.

The Distinguished Service Medal is given in recognition of outstanding service to the Society and was awarded on this occasion to John Nunn, longstanding chair until recently of the AES Standards Committee. John contributed significantly to raising the quality of AES standards in the audio industry. Upon receiving his award he said that it was a humbling experience to be among the illustrious company of those who received the medal. "Why do I do this?" he asked himself. Most importantly, it was the friends he had made, some no longer with us, notably Patricia Macdonald, formerly executive editor of the *Journal*, and Dan Queen, formerly standards manager. John wryly noted his reputation for plain speaking in Society forums and encouraged the AES to be bold in the future.



Takuya Yoshioka was just one of 100 authors presenting technical papers in poster sessions. The posters were located around the perimeter of the central area for all technical sessions, providing easy access to attendees.

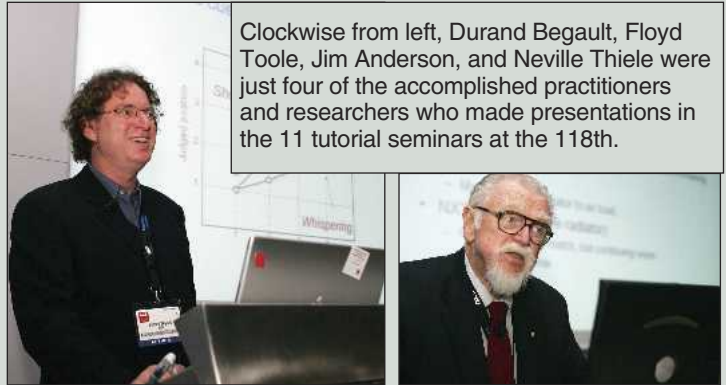
Following the awards presentations keynote speaker Ray Gillon entertained the audience with his talk entitled "Hollywood's Foreign Language Dubbing, the Technologies, Talents and Trivia." Gillon's command of snippets of myr-



The Live Sound events room, sponsored by Neumann & Muller, drew large crowds throughout the convention.

Special Thanks to the following companies for their generous support of the AES 118th Convention:

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EVI
Neumann & Mueller
Panasonic
PMC
Sennheiser Electronic
Yamaha



Clockwise from left, Durand Begault, Floyd Toole, Jim Anderson, and Neville Thiele were just four of the accomplished practitioners and researchers who made presentations in the 11 tutorial seminars at the 118th.

Had other languages had been “picked up like some people do colds” during his extended periods away from home working on films. He put these to good use here with humorous examples of foreign language translations of Hollywood English; his wit touched on the linguistic peculiarities (to English speakers, of course) of numerous European languages. The cinema business in Europe is growing, he pointed out, with people in Madrid taking in an average four films per capita per year now as opposed to 1.7 ten years ago. Foreign language overdubs are big business. *The Lion King* for example was dubbed into more languages than any other, including *Zulu*, and *Harry Potter 2* was released in 37 versions. This often meant a lot more than simply overdubbing dialogue, as musical content often had choruses and lyrics that needed to be rerecorded.

EXHIBITION

The thriving exhibition hall at the CCIB convention center hosted an increased number of companies showing the latest



A guided tour of exhibitors with products and services related to audio archiving, given by Stefani Renner (left), proved to be a hit with attendees.



The panel for the workshop (one of 16 at the 118th) *Academia meets the Industry: The Future of Audio and Music Research* was comprised of, from top left, Peter Eastty, Jens Blauert, John Strawn, Karlheinz Brandenburg, Morton Lave; bottom, Jyri Huopaniemi, William Martens, Karsten Nielsen, Nicola Bernardini, and Xavier Amatriain.



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Luis Ortiz Berenguer (left) and Eloi Batlle, convention cochairs



From left, Basilio Pueo Ortega, Ben Bernfeld, and Enrique Alexandre, papers cochairs



Xavier Serra, technical tours chair



Han Tendeloo, program coordinator



Thierry Bergmans (left), exhibit organization, and Martin Wöhr, exhibitor seminars and Live Sound events



José Ramón Beltrán, tutorial cochair

in audio technology. Digidesign made the European launch of ICON D-Command medium format console system. Based on the design principles of the successful ICON console, the D-Command is smaller and complements ProTools software, which also received a face-lift in the form of its version 6.9 release having new postproduction and advanced mixing functionality. A range of new ProTools plug-ins was also available from different companies, including CEDAR's Retouch graphical restoration and audio processing tool, which is now available for the first time on this platform.

Attracting considerable attention on the exhibition floor was Fairlight's Dream Constellation XT large-format mixing console. This new mixer, powered by a 240-channel QDC engine with six-band parametric EQ, dynamics, and 12 aux sends per channel has its processing housed in a single 8U rackmount box. Organic LEDs are used to provide high-resolution display of control positions on each assignable channel strip, and the console can handle surround mixing up to the 7.1-channel format. A wide range of interfacing options are available including analog, AES, and MADI.

Mandozzi Electronics from Switzerland introduced delegates to its SERIX digital mixer, a component in the company's digital radio house line-up, designed for on-air and production applications. The SERIX is intended to ease the transition between analog and digital technology and conse-

quently adopts similar user controls to its GMIX products, also being controllable externally via a network interface from a PC. Addressing the interface between console control surface and digital audio workstation, Euphonix made the European debut of its System 5MC integrated DAW controller. This innovative control surface is capable of controlling EuCon protocol applications such as Nuendo and Pyramix as well as HUI protocol systems such as ProTools and Logic Pro.

Plenty of high-quality transducers were in evidence around the convention, with PMC providing the monitoring for surround sound workshops and launching its latest Iconic Blue versions of the digitally amplified active nearfield monitors, DB1S-A and TB2S-A. Furthermore, an AES regular from Finland, Genelec, was promoting its 8000 series loudspeakers and, in particular, the newest 8020A with 4-inch drivers and bi-amplification complemented by the 7050B LSE subwoofer to extend the bass response down to 25 Hz. Soundfield's latest offering, the ST350 Portable, is a surround microphone that can be powered either by battery or mains for mobile applications. The company also showed its Surround Zone plug-in, which brings the spatial processing of the microphone into the ProTools, Nuendo, and SADiE digital audio workstations.

Celebrating its 40th year in business, Dolby Labs was introducing a range of solutions for high-definition audio

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From left, Alberto Gonzalez and Javier Lopez, workshops cochairs, and Suso Ramallo, facilities chair



Ulrike Schwarz (left) and Enric Guaus, education events cochairs



Stefani Renner (left), press relations and Gisèle Clark, promotion



Pep Agulló, tutorial cochair

We Thank...

Luis Ortiz Berenguer and Eloi Batlle
cochairs

**Basilio Pueo Ortega, Ben Bernfeld,
and Enrique Alexandre**
papers cochairs

Alberto Gonzalez and Javier Lopez
workshops cochairs

José Ramón Beltrán and Pep Agulló
tutorial cochairs

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program coordinator



and video media, including HD-DVD and Blu-Ray disc. The DualDisc format was also emphasized, enabling a hybrid CD/DVD structure that can contain high-resolution MLP lossless surround audio on the DVD-Audio layer.

Audio codec specialist, DTS, announced a strategic partnership with C-Media Electronics that will enable DTS Connect to be implemented on a range of PC sound cards and USB modules. DTS Connect provides an SPDIF output to a digital surround sound decoder as well as Neo:PC, which is a matrix surround decoder designed to upmix stereo content to 7.1 surround. The company also introduced its Pro Series Network Encoder, designed to offer the full range of DTS encoding options on a network server for multi-user applications.

A full program of 31 exhibitor seminars during the four days of the convention enabled delegates to gain a more in-depth view of the latest technology from companies such as Yamaha, Bridgeco, Texas Instruments, Panasonic, Mayah Communications, 2+2+2 Surround, Audio Precision, Brüel and Kjær, Merging Technologies, Holophone, Mandozzi Elettronica, D.A.V.I.D., and Wavefront.

LIVE SOUND SEMINARS

Throughout the convention Room 111 was dedicated to a live sound theme, with packed seminars on topics including

DJ Mixing, Loudspeaker Line Arrays, Digital Mixing in Live Sound, Live Mixing (in-ear and front-of-house monitoring), and Remote-Controlled Amplifiers and Equalization Systems. The aim of the DJ Mixing session, run by David Amo and Julio Navas, was to provide an overview of the technology used for DJ sessions. Pushing forward the theme of sound reinforcement, Sennheiser staged a four-hour demonstration of live mixing and wireless monitoring, using a range of its microphones and monitoring systems. They employed two well-known engineers, Wayne "Heights" Gittens and Oliver Voges to demonstrate and explain monitor and front-of-house mixes.

PAPERS

The scope of paper sessions dedicated to the reporting of the latest audio research and development at AES conventions continues to swell. Here at the 118th there was a strong emphasis on psychoacoustics and listening tests, with two papers sessions and a poster session on the topic, as well as a number of papers on the related topics of spatial perception and processing. Quality-evaluation methods also dominated the session on automotive audio, with three papers from a team of Danish authors on the development of a listening test system for automotive audio, which used binaural simulation with head tracking to enable the comparison of in-car

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From top: 118th Heyser lecturer Stanley Lipshitz during his presentation; Stanley receives certificate from Wieslaw Woszczyk (left), Technical Council chair, and Bob Schulein and Jürgen Herre (right), Technical Council vice chairs; after the lecture the large crowd enjoyed refreshments on convention center outdoor deck.

audio systems. Multichannel sound filled two papers sessions and a poster session with an emphasis on controlling and evaluating the quality of reproduction. There was also considerable interest in the capture and use of spatial impulse responses with convolution techniques to render the acoustics of spaces accurately over any loudspeaker array. Room compensation in wavefield synthesis systems was also featured as were aspects of microphone array design.

An extensive session on analysis and synthesis of sound covered diverse topics including the transformation of vocal solo to unison choir and the extraction of features such as onsets and dynamics from audio signals, as well as the generation of expressive music performances. Numerous posters on the same topic area included subjects such as beat tracking, automated transcription, and chord identification, demonstrating the ways in which high-level content analysis is being related to low-level features of audio signals.

A full listing of papers from the 118th Convention can be found starting on page 661 and in the separate insert mailed with this issue. Papers can also be purchased online at <http://www.aes.org/publications/preprints/>.

WORKSHOPS AND TUTORIALS

A strong tutorial seminar line-up is now a regular feature of AES conventions, providing an excellent opportunity for learning about audio fundamentals and new technology areas. Presented by key academics and industry experts in their respective fields, these included Floyd Toole's extensive guide to the acoustics and psychoacoustics of loudspeakers in small rooms, during which he asked questions such as "To what extent can we eliminate the room?" and "What should we measure in small rooms?" This was well complemented by Dirk Noy and John Storyk's seminar on acoustic issues concerning small-studio environments, in which they addressed some of the unique acoustical problems inherent in the design of real world rooms. Loudspeaker basics, by Juha Backman, Neville Thiele, and David Clark, rounded off the package.

Jeff Levison and Ronald Prent tackled the topical question of surround music mixing and the approaches to perspective, considering the various technical and artistic options open to the audio engineer. Digital audio experts Karlheinz Brandenburg and Marina Bosi presented a whistlestop tour of the principles of perceptual audio coding, taking listeners through the principles of the various MPEG standards and AC-3. There were also engaging sessions on subjective microphone evaluation, design and

use of microphone preamplifiers, the art of jazz recording, distance and depth perception, surround sound for documentary films, and Linux for audio.

In the workshops a strong interdisciplinary theme was in evidence, with two sessions on aspects of semantic audio analysis, which concerns the extraction of meaningful information from audio signals. In an interactive session on *Hearing Meaning in Machine Listening*, the panel consisted of Jens Blauert, well-known professor of communication acoustics, Ute Jekosch, whose background is in semiotics and linguistics, James Ballas, a psychologist from the Naval Research Institute in the U.S., and Jan Berg, with a background in recording engineering and psychoacoustics. These panelists debated with the audience about links between linguistic meaning structures, the sound objects we recognize as listeners, and the challenge that is presented to machine listening systems if they are to address the higher level cognitive functions of human listening, in order to take account of the more abstract meanings of sounds. *Making Music Smarter*, chaired by Mark Sandler, covered semantic audio research projects taking place in Europe, providing a good overview of the current state of this exciting field. Furthering the interdisciplinary theme, *What's Shakin' You* was ➔

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A large group of attendees ventured to the Harbor View Restaurant on Sunday evening for a superb banquet. They included a large group of AES 118th Committee members, left photo, from left, Luiz Ortiz Berenguer, Eloi Batlle, Javier Lopez, Enrique Alexandre, and Basilio Pueo Ortega. Another table at the banquet (below), included, from left, Trudy Woszczyk, John and Judy Vanderkooy, Jürgen Herre, Stanley Lipshitz, and Theresa Leonard.

the subtitle of a session on audio haptic interaction, led by William Martens of McGill University. Haptics is the study of kinaesthetic or tactile stimulation of skin or body, and researchers have been studying the ways in which vibratory or motion feedback can be incorporated with sound reproduction, determining the effects of such signals on the listener. Results show that the optimum synchronization between haptic stimulation and auditory signal depends quite strongly on the nature of the signal, and that vibration often needs to precede sound by a small amount.

Broadcasters got together to consider the problems of implementing 5.1 surround sound, including issues related to down-mixing (chaired by Günther Theile) and practical issues relating to the transition to surround (chaired by Kimio Hamasaki). George Massenburg was keen to insist on the importance of artistically excellent 2-channel mixes, undertaken separately to surround mixes, and other panelists agreed that this was an ideal to strive for. However, they felt that there were occasions on which this ideal might not be realized in practice and proposed some alternative semi-automatic approaches to down-mixing that might be aesthetically satisfactory when presented with the need to create a two-channel mix out of a five-channel master.

SPECIAL EVENTS

Convention social events provided an opportunity to meet old friends and make new ones at the end of a day's hard work. The mixer party on the first night was an informal gathering, allowing delegates to enjoy the Barcelona evening on the convention center's terrace, while the banquet at the Harbor View Restaurant was set next to the Old Port of the city, enabling diners to enjoy specialties of the region and Spanish musical entertainment.

Graham Blyth did the Society proud once again with an organ recital on the remarkable instrument at La Seu Cathedral, completed in 1994 by Gabriel Blancafort, intended to recreate the original organ from 1540. The subtle flutes and



expressive reeds of the organ were shown off to great advantage in works such as "Les Fifres" (The Fifes) by Dandrieu and Bach's "Partita O Gott, du frommer Gott."

Stanley Lipshitz, whose reputation for accurate and straightforward speaking about the principles of digital audio is well known, was the proud presenter of the Heyser Memorial Lecture entitled "Digital Audio: The Good, the Bad, and the Ugly." During his talk, Lipshitz explained how the principles of digital audio had long been shown to be theoretically sound, that converters could easily be made linear, and that the process of A/D conversion and D/A conversion did not perform fundamentally flawed operations on audio signals. He did nonetheless play some howlingly awful examples of how not to do it, culled from a selection of commercial releases that he has collected over the years, containing unpleasant distortions of various kinds. Thankfully, those days are all but over, he said. He asked whether there were really any problems left to be solved in digital audio and concluded that the last hurdle was to understand the effects of filters, since it was these that band-limit the signal and someone needs to determine what can really be heard and what cannot. Only then will the debates over bandwidth requirements be laid to rest.

TECHNICAL TOURS

Barcelona and its environs offered a wide range of venues for those who could spend a few hours away from the CCIB and see some of the many studios and cultural centers. The region's public television broadcaster, Televisió de Catalunya, played host to a visit on the Sunday afternoon. On Monday

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visitors could choose to visit the Gran Teatre del Liceu (Barcelona's opera house) and the Auditori de Barcelona (a new cultural complex) with the Escola Superior de Música de Catalunya (the city's music conservatory). Tuesday saw visits to the Music Technology Group of the Universitat Pompeu Fabra, a research group under the direction of Xavier Serra that published widely at AES conventions; and MEDIAPRO, one of Europe's leading audiovisual groups. The convention was rounded off with a visit to Sonoblok, a dubbing and post-production studio for film and video consisting of six dialogue recording rooms, two video sound mixing rooms, three film sound mixing rooms, and ten edit and control rooms.

STUDENT ACTIVITIES

A vibrant program of student activities made the Barcelona convention one of the most active yet. Chair of the Student Delegate Assembly, Martin Berggren, led the opening session during which student section activities were discussed and new officers for the SDA were nominated. A student dinner and beach party were held on the Saturday evening to enable visitors to get to know each other. The following day saw the Education Fair and an opportunity for one-on-

AES MEETINGS



Regions and Sections: Roy Pritts, left, and Subir Pramanik, committee cochairs

Strategic Advisory Group: from left, Frank Wells, Bob Moses, Nick Zacharov, group leader, and Garry Margolis



Technical Council: from left, Jürgen Herre, vice chair, Wieslaw Woszczyk, chair; and Bob Schulein, vice chair



Publications Policy: from left, Marshall Buck, Rhonda Wilson, Louis Fielder, and Richard Small, chair

Historical: Willy Aubert, Irv Joel, vice chair, Ivan Stamac, Jerry Bruck, and Sean Davies

Standards: SC-02-01 working group on digital audio measurement, from left, Mark Yonge, standards manager, Thomas Holm Hansen, Yoshizo Sohma, Junichi Yoshio, Chris Gaunt, Masamichi Furukawa, and Kenji Kurakata.



Conference Policy: Søren Bech, chair



Education: Enric Guaus, Neil Gilchrist, Roy Pritts, Frank Wells, Theresa Leonard, Felice Santos-Martin, Ulrike Schwarz, and Jason Corey, chair

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From left, Martin Berggren, SDA chair Europe, Ulrike Schwarz, 118th education cochair, Felice Santos-Martin, SDA chair North/Latin America, Daniel Orejuela, SDA vice chair Europe, Jason Corey, Education Committee chair, and Ainslie Harris, newly elected SDA vice chair Europe



Jason Corey (front), Education Committee chair, listens to the discussion during the Education Forum.



Ecola Superiorde Musica de Catalunya, above, was among the many educational institutions from around the world who were at the Education Fair, left, offering information on their programs.

one mentoring with distinguished audio industry professionals including Jim Anderson, Ray Gillon, Miles Roberts, Xavier Serra, Thomas Sporer, and Günther Theile. A number of students snagged summer internships during the mentoring sessions.

The student recording competition was divided into three classes this time—classical (judged by Kimio Hamasaki, Wolfram Graul, and Jonathan Stokes), jazz/folk (judged by Jim Anderson and Lars Palsig) and rock/pop (judged by Jordi Mora, Suso Ramallo, and Jordi Soler). There was a chance to submit items both in 2-channel stereo as well as in surround, enabling students to experiment with the both formats and to obtain feedback from those who make a living out of audio mixing and production. DTS, Magix, Neumann, PMC, and Sennheiser donated prizes for the winners.

AES FORGES FORWARD

Behind the scenes the many committees of the Society worked to plan the future business of the AES. The Techni-

cal Council now has a record 21 Technical Committees to plan and coordinate work in subjects ranging from acoustics and sound reinforcement to two new committees on human factors and audio forensics. Standards activities, under the guidance of Richard Chalmers, Standards Committee chair, and Mark Yonge, standards manager, covered a full program throughout the convention, with 16 different meetings of the various working groups. At the Board of Governors meeting (see next page), under the leadership of AES President Theresa Leonard, the society's business plans and future development were debated. The increasing international presence of the AES, arising from a record number of over 14,000 members, gives rise to a large board of governors with representatives from regions as far flung as South America, Australia, Japan, Europe, Russia, and the United States. This reinforces the AES's position as the principal international learned body for audio engineering at a time when audio technology and features can be found in a more diverse range of applications than ever before. ➔

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Board of Governors Meets

The AES Board of Governors met on June 1 to hear reports from AES officials and standing committees:



1 Garry Margolis, governor; Roger Furness, executive director

2 Mercedes Onorato, Latin American Region vice president; Richard Chalmers, Standards Committee chair; Neil Gilchrist, president-elect

3 Søren Bech, Europe Northern Region vice president and Conference Policy Committee chair; Nick Zacharov, Strategic Advisory Group chair

4 Marshall Buck, treasurer, Convention Policy Committee chair, and Finance Committee chair; Louis Fielder, treasurer-elect; Kees Immink, governor and Awards Committee chair

5 Jason Corey, Education Committee chair; Ulrike Schwarz, governor; Subir Pramanik, Regions and Sections Committee cochair



6 Jim Anderson, USA/Canada Eastern Region vice president; Bob Moses, USA/Canada Western Region vice president; Ron Streicher, past president and Nominations Committee chair

7 Richard Small, governor and Publications Policy Committee chair; Peter Swarte, governor

8 Felice Santos-Martin, student representative; Martin Berggren, student representative; Daniel Orejuela, student representative



9 Wieslaw Woszczyk, Technical Council chair; Irv Joel, Historical Committee vice chair; Neville Thiele, International Region vice president

10 Han Tendeloo, secretary; Theresa Leonard, president and Future Directions Committee chair

11 Jerry Bruck, governor; Luis Ortiz, AES 118th Convention cochair



12 Ronald Aarts, governor; Roy Pritts, governor and Regions and Sections Committee cochair; Frank Wells, USA/Canada Central Region vice president

13 Bozena Kostek, Europe Central Region vice president; Eloi Batlle, AES 118th Convention cochair; Ivan Stamac, Europe Southern Region vice president

14 Jay Fouts, legal counsel; John Vanderkooy, governor and editor; Francis Rumsey, Membership Committee chair