

CONVENTION REPORT

139TH

AES CONVENTION

Javits Convention Center
New York, USA

October 29 – November 1, 2015

New York, and the well-known Javits Convention Center, was the venue for the U.S. convention of the AES at the end of October. Competing for space in the city with Halloween revelers and the New York Marathon, the convention brought together audio engineers from all over the world for their premiere meeting of the year. From October 29 through November 1, visitors poured through the doors of the Javits Center, with registration nearing 18,500. The exhibit floor, panels, and technical sessions were packed all four days, and highlights included the Project Studio Expo, Live Sound Expo, GRAMMY Sound-Tables panel, and the lighting of the Empire State Building in blue and white in AES's honor.

"The 139th AES Convention was a success by every measure," said Bob Moses, executive director. "From the amazing content and packed audiences of the technical and special events program, to an exhibits floor that was crowded with attendees, to the exhibitors and sponsors that participated, energy and excitement were everywhere. And the Empire State Building being lit in our colors—how awesome is that? The AES HQ staff and legions of volunteers, including leading professionals, poured their hearts into the Convention. Attendees of all types went home satisfied, and the AES itself benefits from their participation, ensuring the Society's continued good health."



The AES 139th Convention also saw a boom in social media involvement. A core team of five web-active AES members worked with three video crews and convention volunteers to ensure consistent posting on multiple platforms from all areas of the conference. Results included increased engagement including more than 10 million impressions on Twitter utilizing #AES139 and a large number of added followers on Facebook and Twitter.

Convention Committee cochair Jim Anderson and his team created a highly ambitious and comprehensive schedule of workshops, panels, and technical programs with a staggering 400 sessions. Cochair Paul Gallo worked closely with the AES marketing team to drive traffic on the convention floor, resulting in a wide representation of attendees from various sectors in the audio industry, including recording and production, broadcast and streaming, game audio, live sound, networked audio, post production, system integration, and more.



AES president Andres Mayo, second from left, and incoming president John Krivit, third from left, welcome a group of international delegates to the convention.

OPENING CEREMONY AND AWARDS

Greeting a standing-room-only hall of eager convention visitors at the opening ceremony, Bob Moses voiced his enthusiasm for the four days to come, citing volunteers as being at the heart of everything they would see and hear. So many people had dedicated time and energy into the preparation of the event, out of their love for the industry and their willingness to participate in the education of its members. Moses particularly thanked Jim Anderson and Paul Gallo for their immense efforts in heading up the convention. He then introduced Andres Mayo, AES president, who would soon be completing his term in office.

Mayo reiterated the welcome to New York, and said a little about his extremely intense year as president of the Society. While juggling the demands of continuing to work as an award-winning mastering engineer, Mayo had worked tirelessly for the AES, often in the early hours of the morning. Encouraging others to work equally hard for the Society, he said “now in 2015, if we want this beloved AES to become bigger and stronger, we need to become involved. We need to participate, whether in a local section or in main events such as our international conferences and conventions.” He spoke of achievements during his time as president, including the setting up of a new financial planning committee and the publication of a recommendation on streaming loudness. He also introduced John Krivit, the incoming president, who would take over from him in a few days’ time.

Paul Gallo, convention cochair, offered his particular thanks to his colleague, Jim Anderson, and all of the hard-working convention committee. At this convention, he said, there had been a 30% increase in exhibition space taken up, which was a major achievement. “AES,” he said, “is all about you and your efforts.” Hot on Gallo’s heels came cochair Jim Anderson, complete with an entertaining slide show to illustrate his opening introduction. He made particular note of the upcoming lighting of the Empire State Building in blue and white, the AES colors, to mark a special event taking place during the convention (described further below).

The awards presentation that followed was introduced by Frank Wells, chair of the Awards Committee who was proud to be able to present a large number of deserving individuals with honors ranging from Citations, through Board of Governors Awards, to Fellowships and Medals. A full summary of awardees can be found in the sidebar and pictures on this page, but particular note



Bob Moses



Andres Mayo



Paul Gallo



Jim Anderson



Frank Wells

AES AWARDS AT THE 139TH

GOLD MEDAL

BOB LUDWIG in recognition of years of excellence in audio mastering, audio education, and service to the AES

FELLOWSHIP AWARD

WILLIAM (BILL) F. HANLEY, JR. for his contributions as a pioneering live sound visionary

DAVID MOULTON for outstanding contributions to the fields of audio education and loudspeaker design

AGNIESZKA ROGINSKA in recognition of excellence in audio research and service to the Audio Engineering Society

ULRIKE K. SCHWARZ for creative contributions to the recording of acoustic music

BOARD OF GOVERNORS AWARD

MICHAEL KELLY in recognition of his chairing the 56th International Conference in London, UK, in February, 2015

BOZENA KOSTEK in recognition of her cochairing the 138th AES Convention in Warsaw, Poland, in May 2015

PETER MAPP in recognition of his cochairing the 59th International Conference in Montreal, Quebec, Canada, in July, 2015

VALERIA PALOMINO in recognition of her cochairing the AES Latin America Conference 2015 in Mexico City, Mexico in April, 2015

JEFF M. SMITH in recognition of his chairing the 54th International Conference in London, UK, in June, 2014

JORGE URBANO in recognition of his cochairing the AES Latin America Conference 2015 in Mexico City, Mexico in April, 2015

WIESLAW WOSZCZYK in recognition of his cochairing the 59th International Conference in Montreal, Quebec, Canada, in July, 2015

UMBERTO ZANGHERI in recognition of his cochairing the 138th AES Convention in Warsaw, Poland, in May 2015

CITATION AWARD

LINDA GEDEMER in recognition of her substantial contributions as student volunteer coordinator for the 57th AES Conference in Los Angeles, CA, USA, in March, 2015

CESAR LAMSCHEIN for outstanding commitment to audio education in Latin America

HOWARD SHERMAN for his many years of work with the Audio Engineering Society as a partner in public outreach and communication

PAPER AWARDS

NIELS ELKJAER IVERSEN, Student Paper Award for “Low Impedance Voice Coils for Improved Loudspeaker Efficiency” (paper 9389)

BJØRN KOLBREK, Best Peer-Reviewed Paper Award for “Horns Near Reflecting Boundaries” (paper 9412)

should be made of the Gold Medal Award offered to Bob Ludwig in recognition of years of excellence in audio mastering, audio education, and service to the AES. Accepting his award, Ludwig said that he had been a member of the Society since 1968 and had attended conventions ever since. These amazing events, he said, had served his career very well indeed. “God bless the AES,” he concluded warmly.



Andres Mayo presents the Gold Medal Award to Bob Ludwig.



Andres Mayo presents Fellowship Awards to, L-R: Bill Hanley, David Moulton, and Agnieszka Roginska



Fellowship Award is presented to Ulrike Schwarz



Citation Awards are presented to, L-R to: Linda Gedemer, Cesar Lamschtein, and Howard Sherman



Board of Governors Awards are presented to, L-R: Michael Kelly, Bozena Kostek, Peter Mapp, and Valeria Palomino



Board of Governors Awards are presented to, L-R: Jeff Smith, Jorge Urbano, Wieslaw Woszczyk, and Umberto Zanghieri



Niels Elkjaer Iversen (L) and Bjørn Kolbrek (R) receive papers awards from Braxton Boren, Brett Leonard, and Bozena Kostek



139TH CONVENTION AWARDS PRESENTATION

KEYNOTE

The opening keynote was given by Michael Abrash, chief scientist of Oculus VR, who had ended up taking a nine hour bus ride overnight to get to the convention in time, owing to flight problems. Throwing off his “bus lag,” Abrash enthusiastically described the way in which

virtual reality (VR) is on the cusp of taking off. This brought about the need for new areas of audio research and engineering, he said, but first it was necessary to determine what makes VR unique. Citing a speech by Morpheus in the movie *The Matrix* he delved into the interesting question “what is real?” Electrical signals from the sense organs



An overflow crowd listened to the awards and keynote presentations during the opening ceremonies.



Michael Abrash

limited perceptual data. We are rather sophisticated inference machines, Abrash proposed. Reality is what the perceptual system and the brain say that it is.

There are essentially three elements needed for successful VR audio, he said: synthesis, propagation, and spatialization. Abrash gave a summary of the meanings and needs of each of these, including how to generate high-quality head-related transfer functions for spatialization quickly and cheaply. He kept the

audience captivated over the duration of his talk, providing numerous ideas about areas in which audio engineers could get involved to develop this important field. With enthusiastic applause the audience members thanked Michael for his keynote and went on their way to make the most of all that the convention had to offer.

EXHIBITION

A considerably expanded exhibition brought throngs of visitors to discuss the latest audio products and technology with company representatives from the industry. The companies that took part in the event were particularly keen to demonstrate their positive opinions of the direction in which the show was going. "The 139th AES Convention in New York City has been nothing but a big success, gathering around 20,000 visitors in the three days it's been on," stated Lars-Olof Janflod, Genelec Oy Marketing and PR Director. "This is the biggest pro audio event in the world." Mick Olesh, Waves EVP of Sales & Marketing, commented,

"AES was exceptionally strong this year, with a smooth operation and excellent attendance. It afforded us the opportunity to showcase our new products, and, together with Waves Artist presentations at our booth, to further enhance our relationship with our user base." Steve Strassberg, Dale Pro Audio VP and General Manager, noted, "Our decision to participate and have a booth at the AES show really paid off. Our goals were to

are interpreted by the brain, and we perceive a small subset of the "real world." Our visual data is sparse, for example, but the brain builds for itself the most likely model of the world, based on



Busy visitors figure out where to go next on the exhibition floor.



One of the many product demonstrations taking place during the show

make some great new connections across all of the vertical markets that Dale serves, and to have quality face time with our existing customers." "AES New York was amazing as always, as no other show draws such a diverse crowd of key decision leaders in music, post, broadcast, and live sound," said Phil Wagner, president of Focusrite Novation Inc. "The energy was great, and the crowd was ever present. We appreciate being able to be a part of the AES New York community, and we look forward to a strong presence at AES Los Angeles next year."

Among the highlights of products launched at the show, AMS Neve launched a remake of a classic and sought-after analog console, the BCM10 MK2, in Limited Edition with between 10 and 32 channels. Loudspeaker company, Genelec, introduced its 1236 Smart Active Monitoring main monitor system, having individually calibrated remote amplifiers connected to a flush-mounted loudspeaker system with double 18-inch bass drivers. Thinking of bass, Neumann launched its new active studio subwoofer, the KH805, aimed to be a more affordable solution than the KH810 for stereo applications.

In its dedicated demo room, Yamaha Professional Audio was showing its new flagship digital mixing system for live sound, the Rivage PM10, alongside NEXO GEO M620 loudspeakers, which can be used along or in various types of array. Also in the live sound speaker domain, EAW introduced its Anna line array, intended to complement the larger Anya units. Resolution 2 software is used with these systems to manage the audio processing in such a way to shape and steer the array's radiation pattern.



Danish microphone company, DPA unveiled its new d:screet Slim microphone, designed with the particular needs of the film industry in mind, having an omni capsule in a flat head that enables the microphone to sit flat against a surface rather than sticking out. Novel transducers were very much the thing here in New York, the interest continuing with Shure's KSE1500 system, said to be the world's first sound isolating electrostatic earphone. The system has its own 96 kHz D/A converter and various EQ settings to optimize for different purposes. Continuing the headphone theme, Audio Technica was promoting its flagship professional monitor headphone, the ATH-M70x, with a frequency response from 5 Hz to 40 kHz, using rare earth magnets and made for durability.

In the DAW arena, Avid was launching the Pro Tools | Dock, intended to be a portable and affordable control surface that can be run in conjunction with a free Pro Tools app on an iPad. Meanwhile iZotope released its RX Post Production Suite, including the RX5 Audio Editor that can perform sophisticated noise reduction by painting out elements on a time-frequency display, Final Mix, Loudness Control, and various free sound effects. Waves Audio introduced its Element 2.0 virtual analog synth with a large library of presets and full set of controllable parameters laid out on a look-alike synth control panel.

PROJECT STUDIO EXPO AND RECORDING/MASTERING TRACK

AES has a long history serving the recording community, from the early days of monophonic vinyl to today's modern multichannel digital audio formats. The Project Studio Expo (PSE), in association with Sound On Sound and Prism Sound, brought the latest techniques, tools, and experts together for professional training on topics ranging from acoustics in small spaces to microphone placement, mixing, and mastering. Located on the show floor, right next to the exhibits, the PSE ran from Friday to Sunday, with substantial contributions from noted industry tutors such as Mike Senior, Paul White, and Craig Anderson. Sunday was given over entirely to Prism's Mic to Monitor event. Here it was possible to discover tips, techniques, ideas, and solutions that you could start using right away. The Mic to Monitor seminars covered practical aspects of room treatment, loudspeaker placement, loudspeaker technology, microphone technology and microphone selection and positioning, A/D and D/A converters, clocking strategies, and some fascinating insights into psychoacoustics.

AES has always been at the center of the audio recording and mastering communities, bringing the top engineers together to

share techniques and promote new ideas. From drum programming to mixing tricks to listening rooms, the Recording and Mastering track complemented the PSE, for those registered with All Access badges. Organized by Alan Silverman, in conjunction with the Technical Committee on Recording Technology and Practices, four whole days of events were staged to educate and enthral the delegates at the 139th.

LIVE SOUND EXPO AND TRACK



The Live Studio Expo draws a crowd.

With the Live Sound Expo (LSE), the 139th Convention offered expert advice for the broad spectrum of live sound engineers (some 25% of convention attendees) with an emphasis on the practical. It brought professionals with decades of experience to the stage

to inspire and educate attendees. AES conventions have been incubators for live sound technology. From early loudspeaker design to line array theory, from performance measurement standards to networked audio interoperability, AES has brought together professionals on the leading edge of theory and application since the Society's inception. That tradition continued here, with content available to all attendees. The Live Sound Expo was also located on the show floor next to the exhibits, running from Friday to Sunday, and including sessions on topics from theater miking through theater console automation to the future of wireless. Complementing the LSE, for those registered with All Access badges, there were four packed days of Live Sound seminars, research paper presentations, tutorials, and workshops organized by Henry Cohen and Mac Kerr.

A TRACK FOR EVERYONE

In addition to the recording/mastering and live sound themes mentioned in the previous section, there were special convention tracks on a number of important topics, each with its program of events throughout the four days. Rebecca Feynberg coordinated the archiving and restoration track, which included the amusingly named workshop "Magnetic Tape and Tomatoes: One Decays Forever, One Is Forever Recoverable" presented by Marty Atias and Charles Richardson. David Bialik led the broadcast and streaming track, in its third decade as the best forum for the latest advances in radio, TV, and Internet streaming. Game audio cochairs Steve Martz and Michael Kelly put together a compelling series of events, including strong coverage of the rapidly growing area of VR in games.

The traditional paradigm of transmitting audio and video media



The Project Studio Expo in full swing



Glenn Lorbecki (L) during a masterclass with producer/engineer Val Garay



Steve Horowitz (L) chairs a panel of specialists on game audio education



Network audio specialists keep the audience up to date with developments

content over point-to-point dedicated cabling is being supplanted by methods of moving media content over networks, in particular Ethernet, LANs, and IP-based WANs. The networked audio track, supported by the AES Technical Committee on Networked Audio Systems and chaired by Tim Shuttleworth, explored the latest developments in methods, protocols, and applications of all things networked audio. From low-latency media distribution to command and control of networked audio devices. From audio over IP to coding and error correction. The product development track, led by Scott Leslie, gave design professionals insight into the latest techniques for audio hardware and software development, with events very practical in nature. Most audio produced today is associated with pictures—television, cinema, Internet, streaming broadcasts, and mobile. The sound for picture track explored emerging trends in 3D, large room reproduction systems and acoustics, and techniques employed by some of Hollywood's top sound mixers and designers.

HEYSER LECTURE

The Technical Council's Heyser Lecturer at the 139th was former FBI agent and forensic consultant Bruce Koenig, who illuminated the mysteries of acoustic gunshot analysis that first drew public attention with the examinations of a police department recording made during President John F. Kennedy's assassination in Dallas, Texas, in 1963. Koenig explained the audio tests performed in those examinations and shed light on controversial cases such as recent police shootings. He offered insights on the use of critical listening, high-resolution waveform, spectrographic, narrow-band

spectrum, energy contour, and statistical analyses, as well as giving his views on the latest developments in the field. He concluded with a look at the research needed to move acoustic gunshot analysis forward in coming years.



Technical Council officers present certificate and Heyser anthology to Bruce Koenig, 2nd from right

LUNCHTIME KEYNOTE

A fascinating lunchtime keynote was given on the Friday by Ed Greene. The classic American game show, "The Price Is Right" (TPIR), just started its 44th season on CBS. While the core of TPIR's success—it's host, contestants, audiences, and games—remains the

same, the producers are now using recent technology to enhance the show's appeal. A description with demonstrations of these techniques revealed why listeners and studio audiences can't wait to "come on down." The UK production team of the improvised comedy show, "Whose Line Is it Anyway?" came to America in the late 90s to produce this very successful show for American audiences on ABC. The same producers have now returned to record new shows, and with continued success, have just completed production for its third new season. Ed Greene, who mixes both shows, offered detailed insights into both shows' audio anatomy.

WORKSHOPS AND TUTORIALS FOR ALL

Coordinated ably, after a number of years of experience in the role, by Natanya Ford, the tutorials and workshops offered at the New York convention held something for everyone, spanning the full range of topics having importance in the audio world today. Complementing the forensics theme of the Heyser lecture, the Technical Committee on Audio Forensics had put together a mini track of its own on the Friday of the convention, consisting of a couple of overview tutorials, one chaired by Eddy Brixen and the other by Jeff Smith. There was also a valuable workshop on audio enhancement chaired by Daniel Rappaport, with Eddy Brixen and Gordon Reid on the panel. Incoming AES President and current Education Committee chair, John Krivit, gave an inspiring tutorial, sharing tried and true methods for gaining a foothold in the audio industry. From industry trends that might alter a career trajectory to small gestures that can help shape how a person is perceived, he explained how his students find work and launch successful careers.

Among the workshops on offer was one for those who find themselves with an analog tape machine they don't know anything about. "Help, I Have a Tape Machine" was chaired by Noah Simon of New York University and explained the evaluation, maintenance, repair, and every-day practices to keep this technology functioning to its fullest potential. Lawyer Andrea Yankovsky gave a timely session



Rob Toulson speaks on interactive music.



Alex Case, president elect, holds forth on vocal recording.



David Scheirman discusses control systems and electroacoustics for live sound.

on intellectual property for audio professionals, explaining copyright, trademark, patents, trade secrets and other related topics. There was also an interesting workshop on immersive audio signal processing and effects, chaired by Christof Faller, during which experts in



Convention cochairs,
Jim Anderson and Paul Gallo



Papers cochairs, Brett Leonard
and Braxton Boren



Workshops and tutorials chair,
Natanya Ford with Hyun Kook Lee,
left, and Daniel Shores



Student and careers chair,
Magdalena Plewa, left, with
editor Bozena Kostek



Facilities chair Michael
McCoy, right, with his
assistant, Reuben Ramen



Game audio cochairs,
Michael Kelly and
Steve Martz



Broadcast and
streaming chair,
David Bialik



Networked audio
chair, Tim Shuttleworth



Archiving and
restoration chair,
Rebecca Feynberg



Recording and
production chair,
Alan Silverman



Product
development chair,
Scott Leslie



Roger Furness,
program
coordination



Live sound cochair,
Mac Kerr

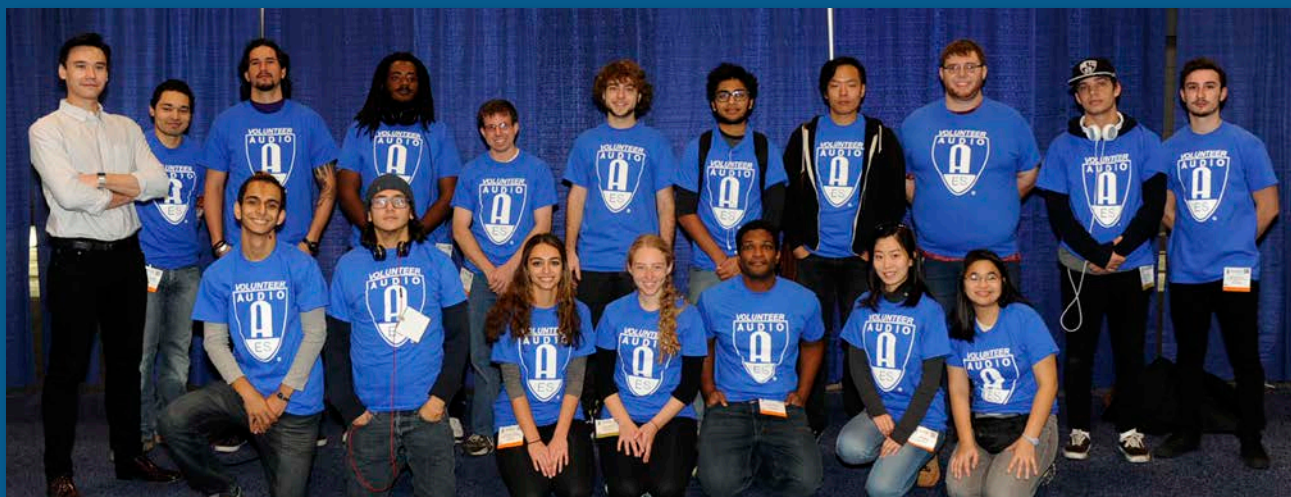


Live sound cochair,
Henry Cohen



Technical tours chair,
David Merrill

AES THANKS THE 139TH CONVENTION COMMITTEE



Adrian Tregonning with his able band of volunteers

the field discussed rendering of objects in 3D, generation of height channels, reverberators for immersive audio, among other things. Darcy Proper, together with a panel of leading engineers and producers, looked into the “X Factor” in audio, and what it takes for an engineer to get to the top of his or her profession. No Simon Cowell here, but plenty of tips about what is the “magic” that makes a session special, and what elements combine to make a live concert something never to forget.

TECHNICAL PAPERS, POSTERS, AND EBRIEFS



Pascal Brunet speaks on the time-frequency analysis of loudspeakers.



Nick Zacharov describes a lexicon for spatial sound attributes.



Pat Dennis talks about vehicle sound quality.



Delegates gather around an interesting poster.

Among the 23 paper and poster sessions coordinated by papers cochair Braxton Boren and Brett Leonard were three on perception, and also three on transducers. Headphone equalization seemed to be quite a hot topic here, including a paper by Christopher Struck on target equalization, trade-offs, and limitations during which he looked at typical target curves and compared them with response data from commercially available headphones. A group of Japanese authors with Naotaka Tsunoda as first author described a headphone measurement system using a head and torso simulator and a 1/8" microphone for results up to 140 kHz. In one of the perception sessions, Sean Olive and Todd Welti discussed factors that influence listeners' preferred bass and treble levels in headphones, finding that younger and less experienced listeners preferred more bass and treble than older, more experienced listeners. Generally headphone listening seemed to require bass levels elevated above the response that would be obtained from a reference loudspeaker in a listening room.

There were also three parts to the spatial audio paper sessions, during which authors covered topics including one from Tomás Henriques on new techniques for sound and motion display in a 52.1 surround sound hall. Various authors considered the implications of with-height recording and reproduction, both for classical and popular music mixing, with papers ranging from the highly mathematical (Lebedev grids for ambisonics) to the highly practical (recording techniques in concert halls and studios).

Five sessions of engineering briefs carried shorter presentations, sometimes of a less theoretical nature, and only lightly reviewed, covering topics that included listening, hearing, and production, as well as acoustics, spatial audio, and transducers.

SPECIAL EVENTS TO STEAL THE SHOW

The Special Events program, chaired by Jim Anderson himself, was particularly full of attractive goodies at the convention in New York. These were open to anyone registered on an Exhibits Plus badge, as well as All Access attendees, so they were packed most of the time, and one could have spent the majority of the convention simply attending this track of happenings.

Following the opening ceremonies, Andres Mayo brought together a panel of Latin producers and engineers for the first in the series of “Platinum” panels regularly staged at U.S. conventions. Multiple Grammy-winning professionals discussed the current state of the industry and offered the chance for the audience to ask questions. Also in the Platinum series, the panel “Bad Vibrations” chaired by Errol Kolisine looked into the worst distractions, impediments, and “energy vampires” encountered in the recording studio. Not just this, but how to combat them and come out on top. The Platinum Engineers panel was hosted by Justin Colletti of SonicScoop, with panellists Joe Chiccarelli, John Congleton, Chris Godbey, and Chris Zane, during which they played examples of their work and discussed their approaches to recording in detail. Completing these, the Platinum Mastering panel, chaired by Bob Ludwig, brought together Adam Ayan, Tom Coyne, Stephen Marcussen, and Andrew Mendelson to discuss the creative process behind some of the most famous albums in the world.

A highlight of the convention was the 50th anniversary of the master antenna on the Empire State Building, a special event organized principally by David Bialik, in conjunction with the Society of



Andres Mayo (left) together with the members of the Platinum Latin Producers panel



Bob Moses (left) with members of the GRAMMY Producers and Engineers Wing

Broadcast Engineers, which involved a visit by a limited number of people to the 67th floor conference room at the venue. On December 9, the Alford master FM antenna that rings the 102nd floor observation gallery at the Empire State Building marked its 50th anniversary. When the antenna went into service in 1965, it marked a revolution in FM broadcast technology—for the first time, most of a market's FM signals could share a single antenna, sharing costs and reducing the amount of space needed for FM transmission at the market's tallest broadcast site. The Alford antenna at Empire was the model for master antenna sites in places such as Toronto, St. Louis, Houston, Minneapolis-St. Paul, and eventually back at Empire, where a new master antenna system was commissioned in the 1980s to supplant the original Alford. The original 1965 Alford antenna continues to serve as a backup at Empire, being pressed into service after 9/11 to provide emergency replacement antenna capacity for stations that were displaced from their World Trade Center sites. During this remarkable commemorative event the building was illuminated in blue and white, the AES colors.

Late on Friday afternoon, Howard Massey chaired a fascinating panel to discuss "The Great British Recording Studio." Bill Foster, John Smith, Jules Standen, and Tony Visconti considered how some of the most important and influential recordings of the 60s and 70s were created in British studios, such as Abbey Road, Olympic, Trident, Decca, and AIR. The panel unraveled the origins of the so-called British Sound and celebrated the people, equipment, and recording techniques that came out of those hallowed halls, including rare photos, videos, and recordings.

The DTV Audio Group forum was chaired by Tom Sahara and dealt broadly with the accelerating pace of change in television audio. The impacts of mobile and fixed streaming services, for example, have been greater and more far-reaching than most people predicted. Tom's keynote address reviewed these and related issues for the broadcast engineer. Further discussion topics included wireless spectrum matters, console metadata authoring, and the audio definition modeling (ADM) standards recently introduced by the EBU.

Later on Friday evening, off-site in the Frederick Loewe Theater at New York University, a special joint presentation was given by members of the AES Technical Committee on Network Audio Standards and the Distributed Performance and Sensorial Immersion Lab at York University, Toronto. "From The Ether" was an international concert with performers located in New York, Toronto, Montreal, Stanford, Tromsø, Buenos Aires, and

Belfast. Audio and video were transmitted between them over high-bandwidth Internet links, and the AES audience in New York was treated to a multiple-screen projection of the concert. At each remote location, all global musicians' contributions were mixed locally together. Brief talks preceded the performances, each addressing a particular aspect of distributed performance, including compositional considerations, equipment, techniques, and production affordances and constraints.

Among other compelling events, the Grammy SoundTable on Saturday afternoon was chaired by Will Lee, and it offered an insight into "Mixing for Late Night New York." The music mixers for three late night shows, Josiah Gluck, Harvey Goldberg and Lawrence Manchester, delved

into the logistics, challenges, and technical expertise required to make these groundbreaking shows happen.

SPATIAL AUDIO DEMOS

Room 1A18 had been specially treated and equipped for immersive audio demonstrations, providing a better environment than most convention center rooms for listening in a critical way to new developments in spatial audio. In here were staged a number

of events such as one on object-based immersive production by Tom Ammermann and "Rules to Get Great Multichannel 3D Sound for Synthesizer Music" by Lasse Nipkow. Hyun Kook Lee of the University of Huddersfield in the UK gave a tutorial on the psychoacoustics of 3D sound, including demonstrations of practical recordings using different microphone configurations.

Not in this room, but offsite at NYU, Friday afternoon saw a three-hour session of immersive audio listening demonstrations moderated by Paul Geluso and Agnieszka Roginska, during which listeners could hear music produced specifically for 3D listening environment, as well as binaural and transaural research results.



Bob Ludwig, center, with members of the Platinum Mastering panel



Jonathan Pines (left) with Jack Douglas (right) in a masterclass on recording Aerosmith, Alice Cooper and John Lennon



Hyun Kook Lee explains 3D audio psychoacoustics

STUDENT EVENTS

Responsible for a full slate of events designed to meet the needs of students at the convention, Magdalena Plewa coordinated a program that began with the Student Delegate Assembly meeting on Thursday morning, and ended with the second part of this on Friday lunchtime, during which a new vice chair was elected and the results of the recording and design competitions were presented.

The student and career development events were intended to enable students to learn from the responses of professionals to their work, both in the form of recordings and technical designs. During the recording critiques session on Friday, Ian Corbett of Kansas Community College moderated a panel that gave feedback on stereo and 5.1 recordings of students who were not finalists in the recording competition. The session was generously sponsored by PMC and auditioned through their loudspeakers.

All accepted entries to the AES Student Design Competition were given the opportunity to show off their designs at a poster/table-top exhibition. The session was free and open to all convention attendees and was an opportunity for aspiring student hardware and software engineers to have their projects seen by the AES design community. It was an invaluable career-building event and a great place for companies to identify their next employees.

The combined Education and Career Fair matched job seekers with companies and prospective students with schools. One of the best reasons to attend AES conventions for school representatives was the opportunity to make important connections with fellow educators from around the globe. Academic institutions offering studies in audio (from short courses to graduate degrees) were represented and information on each school's respective programs was made available through displays and academic guidance.

The SPARS event "Speed Counseling with Experts—Mentoring Answers for Your Career" was especially suited for students, recent graduates, young professionals, and those interested in career

advice. Hosted by SPARS in cooperation with the AES Education Committee and G.A.N.G., career related Q&A sessions were offered to participants in a speed group mentoring format. A dozen students interacted with 4–5 working professionals in specific audio engineering fields or categories every 20 minutes. Audio engineering fields included gaming, live sound/live recording, audio manufacturer, mastering, sound for picture, and studio production.



The Education Fair throngs with visitors eager to find out about audio training opportunities.



A happy band of student competition winners with their certificates



A group boards the bus for one of the many interesting tours.

TECHNICAL TOURS OUT IN NEW YORK

Ten technical tours had been coordinated by David Merrill, taking convention visitors out and about to the modern and historical audio venues of New York City. The first of these took off to Brooklynphono on Thursday afternoon. Thomas Bernich's company recycles vinyl and preserves a fading piece of history. In fact, Bernich's workplace in Sunset Park is one of the few of its kind in the United States. When it first opened in 2003, Brooklynphono was making about 2,000 records a month. Now, Brooklynphono has five pressing machines, making more than 10,000 records a month.

Another fascinating tour went to the Steinway Factory to see the entire process of creating a piano, starting with the raw wood and ending with a viewing of multiple Steinway pianos. Tour 7 went to the Rogers and Hammerstein Archives, part of the New York Public Library and one of the richest resources of recorded sound in the world. It contains more than 700,000 recordings from wax cylinders, through

acetates and aluminum disks to cassettes and digital tapes.

Further tours took in the DiMenna Center, Gravesend Halloween, Sear Sound, WNYC Radio and WQXR, the Avery Fisher Hall (now David Geffen Hall), the Thomas Edison Museum, and finally NBC Universal, home of "The Tonight Show starring Jimmy Fallon," and "Late Night with Seth Meyer," complementing the "Mixing for Late Night New York" event during the convention.



A busy standards meeting on network audio systems in progress

TECHNICAL COUNCIL AND STANDARDS MEETINGS

The AES Technical Council has been described as the “CTO of the AES.” Comprised of 21 expert committees overseeing audio disciplines such as Spatial Audio, Audio for Games, and Semantic Audio Analysis, the TCs bring the world’s top experts together to chart a course for the future in each area. Many convention events (workshops, tutorials, etc.) are organized by TCs to stimulate activity and to educate the industry. Most of them held well attended meetings during the convention to discuss activities and to facilitate networking between experts. The TC on Broadcast and Online Delivery was particularly pleased to be launching its recommendation on loudness of audio streaming and network file playback.

The AES Standards Committee (AESSC) is the organization responsible for conducting the AES Standards program. It develops and publishes a number of technical standards, information documents, and technical reports within the field of professional audio technology. Working groups with a fully international membership are engaged in writing standards covering fields that include digital audio, networks and file transfer, acoustics, audio interconnections, and audio metadata. Membership in AES Standards working groups is open to all individuals directly and materially affected by the scope and actions of these bodies. A full program of meetings of these groups took place during the convention, coordinated by Mark Yonge, Standards manager, and Bruce Olson, Standards Committee chair.

AES COMMITTEES

In the background, and unseen by the majority of delegates to a convention, much of the business of the Society takes place in committee rooms where future conferences, publications, and strategy of the organization are planned. The annual business meeting at the outset of the convention confirmed that AES membership is remaining high, and has risen slightly in recent years, standing now at over 13,000. During the Regions and Sections meeting representatives of AES sections from around the world met with the Society’s vice presidents to share examples of stimulating local events and membership initiatives. The Board of Governors met on the evening of the last day of the convention, during which the society’s future policy and direction was discussed.

BEHIND THE SCENES

Conventions such as this one would not be possible at all without



Technical Council chair, Francis Rumsey (center), with vice-chairs, Michael Kelly (left) and Jürgen Herre (right) at the plenary meeting.



Ville Pulkki (left), Publications Policy Committee chair, and Bozena Kostek (right) AES Journal editor, during the PPC meeting.



The AES Board of Governors met on the last day of the 139th Convention.

the diligence and hard work of the people that make sure everything works smoothly. Facilities chair Michael McCoy and his assistant Reuben Ramen did a spectacular job of pulling all this together, despite a few problems with the on-site audio-visual facilities. Adrian Tregonning and his team of student volunteers worked exceptionally hard to make sure that everything was in order and various important doors were manned. The headquarters staff had gone beyond the call of duty to ensure that all the back-office work needed to facilitate a successful convention was done in time and to a high standard.

All in all the 139th Convention was an outstanding event, among the biggest in history, and certainly the one with the fattest program booklet, of which everyone involved can be proud.