

138TH

AES CONVENTION

Sofitel Victoria Hotel
Warsaw, Poland

May 7–10, 2015

CONVENTION REPORT

The Audio Engineering Society visited Warsaw from May 7th to 10th for its first-ever convention in Poland. Held at the Sofitel Victoria Hotel, near to the beautifully reconstructed historical center, the event sported one of the largest technical programs in recent years, along with an exhibition showing over 50 brands of the latest audio technology. Chaired by Bozena Kostek and Umberto Zanghieri, the convention drew visitors from all over the world to meet their colleagues, learn, and present their work.

“The Warsaw convention exceeded our goals in many areas, and I’m extremely grateful to everyone who came and made it happen,” said Bob Moses, AES Executive Director. “Attendance was higher than we dared hope for, considering it was our first international event in Poland, and we were following a very successful show in a thriving city last year. The caliber of research and training sessions was excellent, and it was gratifying to see people in the hallways and lounges discussing the day’s topics late into the night.”



Bob Moses, AES executive director, welcomes delegates to the 138th Convention.



138th opening ceremonies

OPENING CEREMONY IS STANDING ROOM ONLY

Launching a standing-room-only opening ceremony, Bob Moses welcomed delegates to Poland's capital, thanking all the volunteers and staff who had worked so hard to make it happen. He encouraged those present who were not already members to join the AES and become part of the community. Moses was followed onto the stage by Andres Mayo, AES president, who pronounced himself honored to be in his position as the first president from Latin America and thanked all those that had helped him reach this point. As one of the chairs of the convention, Bozena Kostek praised the effort of the Polish AES Section, where the event had its roots, and which had been operating for 25 years. She offered warm thanks to her committee for all that they had done leading up to and during the convention.



Andres Mayo, AES president



Umberto Zanghieri and Bozena Kostek, convention co-chairs

AWARDS FOR WORTHY RECIPIENTS

Frank Wells announced awards for a number of deserving recipients. He introduced Josh Reiss and Ville Pulkki, the convention's papers chairs, who presented certificates for the best student paper, Florian Klein (and coauthor Stephan Werner), for "Auditory Adaptation in Spatial Listening Tasks." The best peer-reviewed paper award was presented to Frank Schultz, Florian Straube, and Sascha Spors for "Discussion of the Wavefront Sculpture Technology Criteria for Straight Line Arrays." Board of Governors Awards are normally offered to those that have chaired recent international conferences and conventions. On this occasion Andres Mayo presented awards to Lauri Savioja, for chairing the 55th Conference, and to Sascha Spors and Umberto Zanghieri for chairing the 136th Convention.



Frank Wells, awards chair

KEYNOTE IN CAMERER

Relaxing in an armchair under a standard lamp, Florian Camerer, noted audio expert from Austrian Television (ORF), delighted the audience with his insightful and entertaining keynote address, "Zen and the Art of Listening." He asked at the outset, "What is the first sound you remember hearing?" Hearing is a sense that gets pushed back in the subconscious once the visual sense takes over, he suggested. Seeing, though, is always selective, and one can decide to stop seeing very easily. Hearing is much harder to turn off, however, and we generally

From left, Florian Klein (best student paper winner), Ville Pulkki, Bozena Kostek and Josh Reiss



From left, Sascha Spors and Frank Schutz (best peer-reviewed paper authors), Ville Pulkki, Bozena Kostek, and Josh Reiss



Board of Governors Awards:clockwise from top left: Sascha Spors, Lauri Savioja, and Umberto Zanghieri receiving certificates from Andres Mayo.

AWARDS PRESENTATION



Florian Camerer gets his guitar out during the opening keynote.

hear things from all around us without having to turn our attention to the source.

Camerer referred to Zen Buddhism when discussing the need for simplicity, constraint, naturalness, composition, beauty, and harmony in sound. He then moved on from the idea of hearing to that of listening. Pulling out a guitar, Florian entertained the audience with various songs from his musical history, including a bit of Pink Floyd, pointing to the role of music as the essence of good storytelling in media productions. He concluded with a showing of a short and previously lost Polish film from 1968 by Jerzy Surder, *The Retreat*, to demonstrate the narrative power of sound. There was no dialog, just music and sound effects. "The essence of communication is making someone care," said Florian. "Tell a story and someone will listen."

SPONSORS AND EXHIBITORS UPBEAT

The exhibition area in the Sofitel was busy from Thursday to Saturday with a throng of visitors to the stands of the many audio companies that supported the convention. A number of companies had offered special sponsorship for the 138th, including Auro Technologies, Genelec, Prism Media Products, and TC Electronic. "The exhibition was the largest we've had in Europe in years," said Executive Director, Bob Moses, "and the response from businesses was overwhelmingly positive, with many asking how they can sign up for 2016 and get more deeply involved in AES activities."

PROJECT STUDIO EXPO TRAINS USERS

"For all its power and accessibility, the technology used today is broader than it has ever been and this puts particular demands on operators. Successful audio engineers and producers combine microphone skills with DAW and plug-in aptitude, an in-depth knowledge of analog gear, and an understanding of monitoring and acoustic issues. Applying this knowledge to fashion a workflow that makes creative sense is every sound engineer's goal." This was explained in the introduction to the free two-day Project Studio Expo held at the 138th.

"The Project Studio Expo is a unique opportunity for budding and established audio engineers attending the AES convention in Warsaw to bring themselves up to date with work methods that will

add significant benefits to their productions," said PSE program organizer, Zenon Schoepe, executive editor of *Resolution* magazine. *Resolution* had prepared an informative and entertaining two-day schedule with presentations by professionals and experts that

focused on four key production stages. The aim had been to give an essential insight into using technology creatively, and sessions included "Using Hardware with your DAW," presented by Marek Walaszek, and "Mixing Out of the Box," with Jacek Gawłowski.

PAPERS SESSIONS SHOWCASE RESEARCH

Ville Pulkki and Josh Reiss, as papers chairs, had selected a compelling series of presentations for those attending the technical program at the 138th. Strong among the themes for sessions were spatial audio, perception, transducers, and signal processing. Education, room acoustics, semantic audio, recording, production, and applications also featured prominently in the events line-up. Delegates had the opportunity to hear from the presenters directly both in lecture sessions and also in the poster sessions that were held in a convenient foyer outside one of the lecture rooms.

Christof Faller and his colleagues presented an interesting paper on novel forms of head tracking. The goal, said Faller, was to make head tracking more usable for mobile applications, where the sound image does not need to have an absolute position in space. In such a case relative head tracking can be employed, using only a gyrometer, or an even more economical approach is to use what he called "pseudo head tracking," which generates small head movements

using a random process without input from a gyroscope. Both processes appeared to help with the perception of spaciousness and front/back differentiation.

The winning student paper by Florian Klein and Stephan Werner, on auditory adaptation in spatial listening tasks, looked into how listeners can get used to artificial binaural signals that are different from their own. In an audiovisual training task, nine out of eleven listeners were found to have increased their elevation perception significantly, and two listeners performed better once trained with an artificial response than they did with their own measurements.



Exhibitors enjoy demonstrating the latest gear to convention visitors.



Donato Maschi explains how to address acoustic problems in the PSE.



Among the authors presenting papers at the 138th Convention were, clockwise from top left, Mariana Lopez, Jon Francombe, and Christof Faller

PAPER PRESENTERS

ENGINEERING BRIEFS EMPHASIZE PRACTICAL RELEVANCE

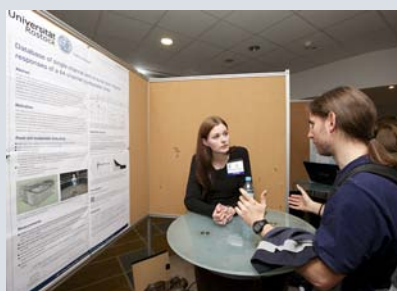
Engineering briefs have become a popular way for authors to present work without the need for as formal a review process as for papers. These can be vehicles for informing people about practical recording and engineering topics, and we heard an interesting presentation of this type from Will

Howie and Richard King of McGill University on exploratory microphone techniques for three-dimensional classical recording. Here they had augmented conventional stereo techniques with additional microphones to yield a 14-channel surround recording with seven discrete height channels. Microphone placement was designed to prioritize listener envelopment and preliminary results were encouraging.

Nuno Fonseca contributed an interesting exposition of his ideas on immersive sound design using particle systems, in which techniques from computer graphics are applied to sound element manipulation. An advanced processing system has been developed that can handle several million separate sound sources, and is currently being tested by several Hollywood studios for immersive audio production applications.

WORKSHOPS AND TUTORIALS EDUCATE

Thanks to the coordinating efforts of Natanya Ford, there was an excellent line-up of workshops and tutorials for delegates to attend.



Vera Erbes with an enthusiastic questioner during her Ebrief poster presentation.



Mixing Meets Mastering panel: from left Mandy Parnell, Ronald Prent, Darcy Proper, George Massenburg, and Rob Toulson.



From left, Helmut Wittek, Jürgen Breitlow, David Josephson, and Eddy Brixen discuss whether you can hear the specifications of microphones.



Nadja Wallaszkovits explains aspects of audio restoration.

Eddy Brixen offered an interesting introduction to audio forensics, together with Gordon Reid and others, showing that the most important everyday work of the audio forensic engineer is the cleaning and transcription of recordings. The basic concepts of listening tests were introduced by Jan Berg, while Justin Paterson and Rob Toulson explained the basics of interactive music. The important and current topic of object-based broadcasting was tackled by Chris Baume of BBC R&D, during which he outlined a number of public trials of the technology designed to demonstrate its potential for the future of broadcasting.

In an interesting workshop chaired by Grzegorz Sikora of Bang & Olufsen, the automotive audio community looked at the making of OEM car sound systems, from idea to finished product. Experts discussed things like car cabin acoustics, loudspeaker selection and placement, and system tuning. On the Friday, Rob Toulson chaired a panel of well-known sound mixers and mastering engineers to discuss the increasingly blurred boundary between mixing and mastering in today's production chain. In some scenarios the two practices are being merged into one, or mastering engineers are finding themselves involved at earlier stages in the production process than they were before. The challenges of these and other issues were keenly debated. We also heard from Thomas Lund about hearing loss and sound exposure from mobile devices, a topic that is now the subject of European legislation and is expected to have a big influence on audio delivery to mobile platforms.

SPATIAL AUDIO DEMOS

Room Saski had been given over to a series of spatial audio demonstrations for the duration of the convention. This gave delegates the opportunity to book a session to listen to some of the latest developments in the field, when they were not busy doing other things. Among the offerings here were a number of presentations from Tom Ammermann on 3D audio production tools for games and other applications, including headphone listening. The team from Fraunhofer showed visitors the main features of the recently introduced MPEG-H standard for spatial audio coding, and Morten Lindberg with Daniel Shores played examples of their 9.1-channel immersive music recordings. Lasse Nipkow showed how 3D 9.1 can be used to



The audience wears headphones to experience some of the spatial audio demos in Room Saski.

create in impressive movie sound, while Hyun Kook Lee introduced the psychoacoustic principles of 3D recording. Finally, Malgorzata Albinska-Frank described the making of 3D recordings for classical music, considering both the technical and aesthetic aspects.

KEY TECHNOLOGY BRIEFINGS

A series of technology briefings, offered by industry representatives on the PSE Stage, included a session on the use of fabrics and membrane absorbers to enable flexible acoustics in multipurpose venues, offered by Jonas Schira of Gerriets. There was also an informative talk by Roger Heiniger of Studer on challenges and solutions in audio networking, as well as an explanation of the Polish National Radio Symphony Orchestra's new concert hall in Katowice, from Piotr Kozłowski. Talks from Prism Sound and Roland, and a presentation on sound quality in audio interfaces, completed the picture.



Jonas Schira of Gerriets explains flexible acoustics in his key technology briefing.

TECHNICAL TOURS

Tadesz Fidecki and Andrew Lipinski had worked hard to arrange a program of technical tours covering a wide range of themes in and around Warsaw. The majority of these were on Saturday and Sunday, including one to Teatr Wielki, the National Opera House of Poland. The theater has one of Europe's largest stages, and this gave rise to a number of problems with loudness and communication, addressed by the installation of a Yamaha Active Field Control system in 2014. A tour of Polish National Radio took visitors around the brand new facilities of this national broadcaster, led by the acoustic designer Radosław Smolinski, while a visit to Dream-sound enabled visitors to see one of the leading film sound post-production facilities in Poland. On Friday, delegates had been able to visit Telewizja Polska, the Polish National Television company, and on Sunday the World Hearing Center played host to a party from the convention, the center having a major hearing implant program involving some 18,000 surgical procedures per year.

SPECIAL EVENTS

An interesting highlight of Thursday evening was a special workshop presented by Andrew Lipinski and moderated by Wies-

law Woszczyk, in which a live performance of Chopin songs was compared with an immersive audiovisual recording made of the same material in Paris a few years ago. The Paris session had been filmed in HD and published on Blu-ray disc using 96 kHz, 24-bit, 8.0-channel surround, including three height channels. One of the ideas of the workshop was to stimulate discussion about whether a live performance should be the reference for creating a sonic illusion in recording, and although a conclusive answer might not have been reached during the session it was certainly interesting to hear an excellent performance of relatively rarely heard repertoire by top international artists, Ewa Izykowska and Wojciech Switala.

Moving into a different type of acoustic environment entirely, Friday's organ concert by Francis Rumsey took place in the Field Cathedral of the Polish Army, opposite the Heroes of the Warsaw Uprising Monument on Długa Street. The organ had recently been rebuilt with modern tracker action and a comprehensive stop sequencer, making it a much sought after performance instrument. Francis took the organ through its paces in a rendition of Bach's "St Anne" Prelude and Fugue, as well as music by Buxtehude, a Mendelssohn Sonata, and Duruflé's haunting Méditation. A large and appreciative audience showed their enthusiasm.

Saturday evening welcomed Ilpo Martikainen as the Heyser



Ewa Izykowska (soprano) and Wojciech Switala (piano) perform Chopin songs during a special event to discuss whether live performance should be the reference for recordings.



Francis Rumsey at the organ of the Polish Army Cathedral



Ilpo Martikainen during his Heyser Lecture, with a backdrop of monitor loudspeakers through the ages.

Memorial Lecturer, hosted by the Technical Council. Ilpo, chairman and founder of Genelec loudspeakers in Finland, talked to the large audience about the history and development of monitoring loudspeakers, asking “can they be truthful quality control tools?” Over the decades, he said, this challenge has been approached with a variety of different means, and he illustrated his talk with a fascinating archive of pictures of monitor loudspeakers of the past century.

STUDENT EVENTS

Poland is home to a number of courses specializing in aspects of audio, and the student events in Warsaw, organized by Magdalena Plewa, were popular and well attended. The Student Delegate Assembly had a booth throughout the convention, where people could go to find out about stu-



George Massenburg appreciates the design project of University of York students Jack Hallybone, left, and Nick Upton, right.



A buzzing Education and Careers Fair draws students.

dent chapters around the world, as well as see postings about finalists in the recording and design competitions. On the Thursday evening a student party was held in Klub Harenda, down the road from the convention venue, which included live performances from David Miles Huber, MLDV, Marek Walaszek, and students from Berklee Valencia.

On a number of occasions during the convention Ian Corbett from Kansas City Kansas Community College moderated recording critique sessions, during which students could get feedback on their work from experienced industry professionals. There were also a number of recording competition classes judged by a panel of pros, including Morten Lindberg, Florian Camerer, Mandy Parnell, Darcy Proper, and Ronald Prent, with prizes offered by a large number of industry sponsors. Top winners of the classes were William Dahl and Synne Stenersen (traditional acoustic recording), Sondre Forseiv (traditional studio recording), Fei Yu (modern studio recording and electronic music), and Anna Przegendza (sound for visual media). For all the student competitions, Theresa Leonard did an excellent job of coordinating the judges.

There was also a student design exhibition, at which participants could show off their work to an audience of students, educators, and professionals. This included a competition, the Gold prize of which was won appropriately by a Polish student, Tomasz Nowak, of Wroclaw University of Technology. The education and career fair subsequently proved a popular place for students to meet representatives from audio schools, colleges and universities, and companies searching for new talent. Then at the final Student Delegate Assembly meeting the body elected a new vice chair for the Europe and International Regions: Dave Moffat from Queen Mary University of London.

TECHNICAL COUNCIL AND STANDARDS COMMITTEE MEETINGS

Meetings of the Technical Committees took place on all four days of the convention, culminating in the plenary meeting at lunchtime on the final day. Members of a number of these committees had been active in planning international conferences, including recent ones on “The Future of Audio Entertainment Technology – Cinema, Television and the Internet” (Sound for Digital Cinema and TV), and audio for games. The most recent conferences on Music Induced Hearing Disorders, and Sound Reinforcement Engineering and Technology, had also been the subject of considerable input from two of the Society’s Technical Committees—Hearing and Hearing Loss Prevention, and Acoustics and Sound Reinforcement.

The AES Standards Committee is the organization responsible



From left, Theresa Leonard, Mandy Parnell, three winners in the traditional studio recording competition, Tristan Kuehn and Sondre Forsely and Johannes von Barsewisch, Magda Plewa, and Richard King

for the AES Standards Program. It publishes a number of technical standards, information documents, and technical reports and has over 65 working groups and task groups with members from all over the world. During the 138th Convention a number of these groups met to move their work forward in areas such as audio networking, file transfer and measurement, as well as electroacoustics, audio connectors and metadata.

AES MEETINGS

The Regions and Sections Forum provides a chance for AES section officers attending the convention to meet with regional vice presidents and the chair of the Regions and Sections Committee to share experiences of good practice and hear about the innovative ways that worldwide sections are running their operations. Led by Peter Cook, this dynamic event showed just how much good work is being undertaken by volunteer committees in different parts of the world, to educate and inform local members about the latest in audio engineering.

A number of other standing committee meetings also took place during the Warsaw convention, including an informal gathering of the Board of Governors after the close of the convention on Sunday.

AND FINALLY...

The Society's first convention in Poland was a great success, much enjoyed by the many audio engineers that took part. It provided an opportunity to renew old friendships, to network with fellow professionals, catch up on the latest news, and above all to learn. The AES is strongly dependent on the enthusiasm and willingness of its many dedicated members, as well as that of many supportive professionals, who give up their time and energy to make these events a success. The Society thanks them and looks forward to their support for many years to come. Particular thanks are due to those on the convention committee, not yet mentioned above, including the following: Roger Furness, who coordinated the program; Marek Walaszek and Nadja Wallaszkovits, who supported the facilities; Brian McCarty, Sound for Pictures Chair; Florian Camerer, Broadcast Chair; Kuba Lopatka and Karolina Marciniuk, who coordinated the student volunteers.



A busy standards meeting with Mark Yonge (right), Standards Manager



The Technical Council meets with Francis Rumsey (second from right) in the chair.



Publications Policy Committee with Bozena Kostek, editor (left) and Ville Pulkki, chair (second from left)



Peter Cook explains the AES online member profile to the Regions and Sections Forum.

AES MEETINGS

CONVENTION COMMITTEE AND BOARD OF GOVERNORS



Members of the AES Board of Governors and committee chairs after the final session of the 138th Convention.



Bozena Kostek and Umberto Zanghieri,
convention cochairs



Tadeusz Fidecki and Andrew Lipinski,
technical tours cochairs



Nadja Wallaszkovits and Marek Walaszek,
facilities cochairs



Magdalena Plewa, student events chair



Roger Furness, program
coordinator, with
Nadja Wallaszkovits



Theresa Leonard,
judge coordinator



Natanya Ford, tutorials
and workshops chair



Josh Reiss and Ville Pulkki,
papers cochairs



Kuba Lopatka and
Karolina Marciniuk,
student volunteers
coordinators

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