



# EAA Noticias



## TECHNICAL COMMITTEE "ROOM AND BUILDING ACOUSTICS"

Report on the *1st meeting* at the PTB in Braunschweig, November 19, 1999.

The specific theme of the workshop was "Meeting of the 2nd round robin on room acoustical computer simulations". It was intended for discussion of the results, for formulation of criticism and for planning of the activities in future. The invitation was addressed to participants of the round robin, to users of simulation software and, of course, to everybody interested in this field.

The workshop was held with 53 participants and 14 oral presentations, some of them including audio and video demonstrations. Selected papers will be published in a special issue of *ACUSTICA* united with *acta acustica*. The speakers were:

- R. Pellegrini (Bochum): Comparison of auditory virtual environments based on measured or modelled data.
- J.F. Dindard, E. Merida, C. Semidor (Bordeaux): Comparison between simulation softwares - Applications to two different halls.
- I. Bork (Braunschweig): On the 2nd Round Robin, results and comments.
- O Schmitz (Aachen): Influence of limitations in the physical model and the knowledge of the acoustical properties on the results of room acoustical simulations.
- A. Furjes, E. Arato-Borsi (Budapest): Design, measurement and prediction of sound quality in rooms.
- J.J. Embrechts (Liege): Broad-spectrum diffusion model for ray tracing room acoustics programs.
- L. De Geetere, G. Vermeir (Leuven): Analysis of reverberation time using ray tracing. Application to the refurbishment of the "Paleis voor Schone Kunsten - Palais des Beaux-Arts" in Brussels.
- D. De Vries (Delft): A wave theoretical approach to acoustic modelling.
- A. Farina (Parma): A new definition of the diffusion coefficient which in physically consistent, directly measurable and easily implemented in room acoustics programs.
- T. Köhler (Ilmenau): Measuring by means of sound measuring systems.
- F. Cruz-Barney, O. Warusfel (Paris): Modular implementation of various room acoustics models, presentation and validation.
- R. Torres, M. Kleiner, B.I. Dalenbäck (Göteborg): An initial investigation of the audibility of diffusion in auralization.
- L. Savioja (Helsinki): Creating interactive virtual acoustic environments.
- J.H. Rindel, C. Lyngby (Lyngby): Multi-channel auralization with ODEON 4.0 - Examples using point sources and line sources.

As result of the workshop it can be stated that several problems and fields of activities could be identified as being most urgent for future work. This applies particularly to

- Insufficient input data files (in-situ absorption coefficients, random-incidence scattering coefficients).
- Particular problems with diffraction (receivers in shadow zone).

- Comparison and psychoacoustic evaluation of auralization software and hardware.

It was the wish of all participants that the project "Round Robin" should be continued. Most fortunately, the colleagues at the PTB, Ingolf Bork and Klaus Wogram, are willing to organise the next activities with focuses on auralisation and on another room example. Auralisation will, again, be related to the ELMIA hall in Jönköping, Sweden. Besides this, a new test room might be used for investigating the particular problems of scattering and diffraction. In case of interest, please contact Ingolf. Bork@ptb.de

The next events of the Technical Committee will be:

- 2nd meeting at Technical University Eindhoven, The Netherlands on the occasion of the International Building Physics Conference (CIB).

The group CIB W51 "Acoustics" will jointly meet with the EAA TC on Tuesday, September 19 and Wednesday, September 20, 2000 with focus on the following topics:

1. Practical experiences related to the development of 'the silent building': experiences related to higher air-borne and impact sound insulation, related to improved facade insulation, to lower installation noise, to noise reduction in common spaces,...
2. Sound quality in the context of living environment: classes of acoustical comfort, a realistic approach?
3. The state of the art of building acoustics research in each country: what are the main problems in practice and what are the main research topics?

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Furthermore, very important is the next EAA symposium, since it is related to our work:

- **EAA Symposium on Architectural Acoustics, Madrid, Spain, 16-20 October 2000.**

The symposium will take place in parallel with II Iberoamerican Congress on Acoustics, XXXI Spanish National Meeting - Tecnicaústica 2000, II Iberoamerican Meeting on Ultrasound, II Iberoamerican Congress on Acoustics.

The Symposium is jointly organised by the European Acoustics Association - EAA, the Federacion Iberoamericana de Acústica - FIA, the Sociedad Española de Acústica - SEA, the Sociedade Portuguesa de Acústica - SPA and the Instituto de Acústica, CSIC - IA.

The event will bring together experts and provide an European and Iberoamerican space for the open exchange of the up-to-date scientific and engineering information. In the Program will be included invited and contributed papers presented as lectures and oral presentations. A Technical Exhibition will be organised during the Congress, gathering the main specialised firms in the field.

Interested persons are invited to send a preliminary registration by e-mail to sea@fresno.csic.es.

**Michael Vorländer**