

# MINUTES

## TECHNICAL COMMITTEE ON ARCHITECTURAL ACOUSTICS (TCAA)

159<sup>th</sup> Meeting of the Acoustical Society of America

Thursday 22 April 2010

7:30 PM

Baltimore, MD

Chair: **Brandon Tinianov**

Secretary: **Alex Case**

### I. Welcome and Introductions

The meeting was called to order by Brandon Tinianov at 7:39 with 77 attendees signing in. 22 of these are first time attendees.

**Tony Hoover** reports that about 64 students responded to College of Fellows initiative to solicit undergraduate students from area colleges and universities with no registration fee. Some 34 showed up!

### II. Previous Minutes

The minutes of the previous meeting, held in San Antonio, were approved as revised and distributed.

#### **Tony Hoover**

MOTION to accept minutes as revised

Seconded by a blur of others

FOR – unanimous

AGAINST – none

MOTION CARRIES

### III. Acknowledgements

Thanks to:

- General Chair: **Mardi Hastings**
- Technical Program Chair: **Juan Arvelo**
- TPOM Representatives: **Kenneth W. Good**
- Session Chairs: **Alex Case, David M. Sykes, Ralph T. Muehleisen, William J. Cavanaugh, David Lubman, Peter D'Antonio, Eric L. Reuter, Andrew Miller, Byron Harrison, Robert C. Coffeen, Tony Hoover, Andrew N. Miller, James B. Lee, Norman H. Philipp, Kenneth W. Good**
- All paper presenters

### IV. Congratulations!

- New ASA Fellows: **Frank H. Brittain**
- Gold Medal award to **Jiri Tichy!**

## V. (7:40 PM) Chair's Report

- Technical Council Items –

- ASA website

The new ASA Website will be launched prior to the Cancun meeting, probably in 4 to 6 weeks. Look for minutes, agenda, forms for special sessions, etc. on the web site going forward.

- Discussion on new members to TCAA

The Technical Council has had discussions across the Technical Committees about how one becomes a member of TCs in general. TCAA has had a quite inclusive policy without substantial barriers to joining. This approach has worked well to date and we see no reason to modify it.

- Comments on this meeting

**(Dave Woolworth)** Session on Healthcare got stuck in a small room.

Some rooms were missing requested technical requirements. TPOM rep **Ken Good** reports that confirmations of details were issued as recently as the week before and that all steps were taken to honor these requests. It is not clear what happened, but we should be sure that we do not pay for those technical requests which weren't honored.

Mechanical noise in rooms is substantial in some rooms.

**(Bill Cavanaugh)** On the plus side, this is one of the best hotels ever, with excellent service, food, views. It's all above average in terms of facilities.

## VI. (7:55 PM) ASA Committee Reports

1. Medals and Awards (new rep **Tim Foulkes**)

**Tim Foulkes** is our new medals and awards TCAA rep. Thanks Tim!

Contact Tim or your TCAA Chair if you have any questions about medals and awards or if you have the sense that anyone is deserving of an award. The process is that simple to start.

2. Membership (**Ron Freiheit**)

Anyone can nominate someone for fellowship. It takes a minimum of two fellows to support the application. We are light on AA fellowship nominations, so give it some thought and see Ron.

3. Standards (**George Winzer**)

**(Paul Schomer)** We are pretty far along. Progress in classroom acoustics ANSI S12.60 Part II on modular classrooms is well underway.

Revision of S12.60 Part I just closed for comment. Goes to the International Code Council in May.

Part III is for equipment in classrooms - fish tanks, computers, etc.

Part IV will deal with audio systems in classrooms.

There is always a 45 day comment period which is announced on the ANSI website:

<http://www.ansi.org/>

Standards Committee finished the year with a deficit of 1% (vs. 25% typical).

4. Student Council (**Norm Phillip**)

New Student Orientation and Ice Breaker on Monday were well-attended, as was the student outing at James Joyce Irish Pub - how weird is that?

Student Forum on Wednesday was not only the first such event, but also the best attended ever!

Student Reception (sponsored by NCAC - thanks!) was much appreciated.

In the fall we plan to run a session on applying for grants.

We are maintaining post doc listings at the <http://www.acosoc.org/student/>

Will be running Mentoring Sessions for undergrads.

Will be hosting special session in Seattle on Introduction to TCs at ASA: 10-minute talks on interests and activities for each TC.

5. JASA and JASA-EL editor (**Ning Xiang**)

EL: We received only 2 papers in the last 6 months (one rejected, one accepted) 50% acceptance rate is typical. Rejection here means it goes back for editing, not a final rejection of the paper.

JASA: 46 manuscripts received in the last 6 months! Very much improved from years past. Only 8 accepted, 8 rejected, and the rest are pending. This is higher submission rate than normal, which is a great accomplishment. Quality of papers is clearly up.

6. POMA editor (**Ralph T. Muehleisen**)

Only 3 papers in POMA since we last met. Publishing in POMA is easy – it quite literally can take you no more than a couple hours to take your computer presentation and convert to a POMA-acceptable article. POMA now accepts multimedia files. No one has done that yet so I cannot say how hard or easy it is.

I will be doing it for a San Antonio meeting presentation so I'll get a chance to test it myself this summer. I have a couple examples of simple conversions I can send upon request.

Email me: [muehleisen@iit.edu](mailto:muehleisen@iit.edu)

7. Other (Books+, Public Policy, Tutorials, WIA)

**(Brandon Tinianov)** Theatres book is only active book at this time. See Subcommittee report "Another Two Decades of Drama Theaters" below.

## VII. (8:15 PM) TCAA Subcommittee Reports

1. Newman Student Award Fund Update (**Bill Cavanaugh, Carl Rosenberg**)

**(Bill Cavanaugh)** Advisory committee met this week. A bit of background: Robert Newman is the 'Newman' in Bolt, Beranek, and Newman. Born just after WWII, on faculty at MIT. In 1948, architects for the United Nations building in NYC (loaded with challenges, such as curved domed spaces ) came to Dick Bolt and requested help. Bolt had an office next to Leo Beranek. An 8" thick roll of drawings appeared and substantial work was needed. The firm came to be, and most of us here are descendants of this. Newman passed away too early at 65, at the peak of his career - a superb teacher! His skills attracted many to the field. He had a vision for getting a course in architectural acoustics in every school of architecture in the world. The Newman Student Award Fund was created to honor him.

Medals are awarded to students at a school that teaches a course in AA. Awarded since 1986. 14 medals were awarded in 2009, for a total of about 212 for the history of the award. Faculty teaching the acoustics course selects a notable student (sometimes two) and contacts this committee. Awards include \$300 and a set of books from the ASA bookstore.

2. Concert Hall Research Group Update (**Bill Dohn**)

**(Michelle Vigeant)** - 29 applications have been received, with one week left to apply. This event's applicants include a good number of international students (London, Chalmers, Korea). Applications are being reviewed now.

**(Tim Foulkes)** - There is still some room for professional acousticians and architects. It all begins July 25 in Santa Fe, NM. More information on the program is available at: [chrsummerinstitute.com](http://chrsummerinstitute.com)

3. Classroom Acoustics Update (**David Lubman, Lou Sutherland, Bob Coffeen**)  
(**David Lubman**) - Paul Schomer already mentioned much of the news here - much is going on. One note: The National Academy published a book on green schools. Chap 6 was on acoustics and recommended that all future schools follow S12.60.
  
4. Acoustic Product Safety Group (**Nancy Timmerman**)  
Nothing to report. This subcommittee has been inactive for several years. We shall consider dissolving it in a future TCAA meeting if no activity in product safety is required.
  
5. Acoustic Data Working Group (**Ron Sauro**)  
Ron Sauro is the new chair - not present to report.
  
6. Another Two Decades of Drama Theaters (**David Bradley, Erica Ryherd Michelle Vigeant**)  
(**David Bradley**) We have 129 contributions. It looks fantastic (and I am not the least bit biased)! We are in the final stages before submitting to the publisher. If you are a contributor to the book and hear from the committee soon, please get back quickly as the deadline is upon us. This title will be for sale at ASA Cancun!
  
7. Joint Subcommittee with Noise on Speech Privacy (**Greg Tocci**)  
(**Ken Roy**) - The committee met and reviewed its 3rd draft. There was much discussion of AI. By end of year we hope to have a performance standard for speech privacy in healthcare addressing issues of HIPAA.
  
8. TCAA Student Paper Award – Results from San Antonio (**Alex Case**)  
Congratulations to our student winners:  
  
1st Place:  
James Esplin  
Brigham Young University Acoustics Research Group  
"The Effects of Non-Ideal Microphone Directivity Patterns on Directional Impulse Response Measurements"  
  
2nd Place:  
Ren Gang  
Dept. of Electrical and Computer Engineering, Edmund A. Hajim School of Engineering and Applied Sciences, University of Rochester

"Time-frequency Test Signal Synthesis for Acoustic Measurements During Music Concerts"

Thanks to the many members who served as judges and thoughtfully offered their feedback.

**9. Student Design Competition (Bob Coffeen and Andy Miller)**

**(Andy Miller)** There were more than 25 (!) entries this year. Thanks again to The Robert Bradford Newman Student Award Fund and The National Council of Acoustical Consultants for their sustained support.

The award winners are:

First Honors

Tsinghsua University

**Guo Yu, Liu Yanchang, and Hua Shan**

Commendations (in no particular order):

University of Kansas

**Stephanie Hoeman**

University of Kansas

**Norman Philipp and Rachel Lin**

Chalmers University of Technology

**Charles Labatut, Jens Olsson, and Lukas Nordstrom**

Chalmers University of Technology

**Raul Pagan, Sebastian Jenneteg, and Joel Berge**

We are very much indebted to the judges who gave generously of their time: Richard Boner, Joel Lewitz, Tom McGraw, Neil Shade, Yan Xiang, Aaron Zephir

**10. Subcommittee on Green Building Acoustics (Ralph Muehleisen)**

**(Ralph Muehleisen)** I have been negligent this past 6 months because of a high workload. That will hopefully be changing soon so we can begin to look into what we as a subcommittee can do to bring more visibility to the problems of green building acoustics (public relations and outreach) or consider developing a set of design booklet or an actual standard.

LEED for Healthcare is undergoing a second public comment period. I will send out an email on the list with instructions on how to submit comments.

Join at:

[asa-gba-request@acousticsweb.com](mailto:asa-gba-request@acousticsweb.com)

**Steve Brown** encourages the acoustics experts that make up the TCAA to make comments, critical and positive, to keep acoustics on everyone else's radar - that acoustics is important and worthy of inclusion in the points system.

**11. Proposed sub on building performance research and standards guidance (Ken Roy)**

**Ken Roy** will not have time for this and would like to hand-off subcommittee leadership to a motivated individual. He points out that in the green building culture, they don't develop best practices, they find them. Our leadership is essential.

If this subcommittee leadership position is not filled, TCAA will dissolve this subcommittee. Make your interest known to Ken Roy and your TCAA Chair.

**12. Revised scope document for TCAA (Tony, Jodi, Ning)**

**(Tony Hoover and Ning Xiang)** This subcommittee, after much reflection and hard work, proposes the following:

The purpose of the Technical Committee on Architectural Acoustics encompasses the following areas of interest as applied to sound in and around buildings:

1. Finish treatments and surface shaping
2. Airborne and structure-borne sound isolation
3. Airborne and structure-borne noise control
4. Noise and vibration control of building systems
5. Electroacoustic and media systems
6. Perception and psychoacoustics

NOTE: The old statement of Committee Scope was:

The purpose of the Technical Committee on Architectural Acoustics encompasses the following areas of interest as applied to spaces in and around buildings:

1. Room Acoustics
2. Airborne and impact transmission in building structures
3. Airborne and structure-borne noise control
4. Noise control of building systems
5. Electroacoustics systems
6. Psychophysics and psychoacoustics

Membership discussion on revised scope:

**Steve Brown**

MOTION to accept TCAA Scope as proposed by the subcommittee.

**Bennett Brooks** seconds.

discussion:

**Jason Summers** - where is room acoustics (Eyring and similar)?

**David Bradley** - What about modeling and computational methods?

**Leo Beranek** agrees that these items are important, as does **Angelo Campanella**.

**Steve Brown** and **Bennett Brooks** accept friendly amendment, adding to the list to become (additions in CAPS):

1. ROOM ACOUSTICS
2. Finish treatments and surface shaping
3. Airborne and structureborne sound isolation
4. Airborne and structureborne noise control
5. Noise and vibration control of building systems
6. Electroacoustic and media systems
7. Perception and psychoacoustics
8. MODELING, COMPUTATIONAL AND VERIFICATION METHODS

**Brandon Tinianov** points out that these are methodologies, but other methodologies are not included in this scope.

**Tony Hoover** makes mention of the fact that 'room acoustics' lacks meaning to members of other TCs, and we need a scope that communicates to those not in our field.

**Bill Cavanaugh** suggests opening the scope to the committee for comments.

**David Bradley** supports this approach.

VOTE:

Approve the TCAA Scope, as amended

FOR =22

AGAINST = 25

MOTION FAILS

**Ken Roy**

MOTION: Open the TCAA scope to the TCAA membership for comment by June 1, 2010. The subcommittee will then revise accordingly. The revised version will be sent electronically to the TCAA for an up/down vote,.

**David Bradley** (and others) seconds.

AGAINST = 1

FOR = the rest

MOTION CARRIES



**Tony Hoover** would like to solicit an additional member for this Subcommittee. **Bennett Brooks**, likely distracted by texting on his phone, accidentally nods and is volunteered.

### VIII. (8:45 PM) New Business

Election of new TCAA Chair:

**Alex Case** and **Ken Good** have been selected by the nomination committee as candidates. The election was held and:

**Alex Case** is elected the new TCAA Chair

In his first act as Chair, Alex Case thanks **Brandon Tinianov** for his friendship and leadership, not just for the 3 past years, but - more importantly - for the *next* 3 years.

**Alex Case** appoints **Ken Good** Secretary of TCAA, hoping that in the name of **Wallace Clement Sabine**, he will be able to help keep things moving forward with Tinianov-like momentum. **Ken Good** accepts.

I repeat: **Ken Good** has accepted.

### VIX. (8:50 PM) Planning of Future Meetings

- TPOM Rep:

Fall 2010 CANCUN needs a TPOM rep for June 25 & 26. It appears that flights to Cancun are a reasonable \$325-ish, and they have air conditioning. Being a TPOM rep is a great experience - good for you, good for the TCAA, and good for the soul.

**Phil Robinson**, RPI, accepts the honor and responsibility of being TCAA TPOM rep (Technical Committee on Architectural Acoustics Technical Program Organizing Meeting representative). **Angelo Campanella** points out that he is TPOM rep for TCNoise and will thus be available to offer some experienced assistance.

- Confirmed special sessions are:

- Acoustics of Ancient Sound Instruments, joint with MU and NS (**Dave Lubman, Roberto Velasquez**)
- Acoustics of Pre-Columbian Buildings (**Dave Lubman, Andres Madina**)
- Auralization in Acoustics (**Norman Philip**)
- Mechanical Engineering and Acoustics, joint with NS and EA, (**Scott Pfeiffer**)
- Perception of Binaural Acoustics in Rooms, joint with PP (**Lily Wang**)  
**Ning Xiang** mentions that this should be "Binaural perception of acoustics in rooms" if the call for papers can be changed at this late date. **Brandon**

**Tinianov** points out that we should all fill in our forms carefully so that titles hit the call for papers as intended, without typos or content errors.

- Sound Attenuation Through Ceiling Plenums, joint with NS (**Ken Roy, Sergio Beristain**)
- State of the Art in Measurement Method and Facilities, joint with ASACOS (**Ron Sauro, Ang Campanella**)
- The Dish on Drama Theaters: Acoustic Tips, Tricks, and Trends (**David Bradley, Erica Ryherd, Michelle Vigeant**)
- TPOM Rep: **Phil Robinson** from RPI, under the thoughtful mentorship of **Angelo Campanella**, TPOM for Noise.
  
- NOTE that the following session, previously announced, has been canceled: Classroom Acoustics - International Perspective, joint with Noise, ASACOS (**Dave Lubman and Lou Sutherland**)
  
- 
- Sergio Beristain reports that there is a rare and excellent post-meeting tour:
  - Chichen-Itzá and Uxmal. Departure Saturday, 20 Nov 2010 at 8:00am, returning Sunday, 21 Nov 2010, at 8:00pm.
  - Single: \$365; Double: \$330
  - details at: <http://acustica-cancun.blogspot.com>
  
- **Seattle, WA May 23-27, 2011** Technical Committee Special Session Plans forms for Seattle are due tonight - get 'em in your TCAA Chair's hands by the end of this meeting. As we all envision future special sessions for upcoming meetings looking forward, please note that we finalize these sessions in the TCAA meeting one year ahead. Note also that there are only nine session 'slots' Mon through Fri. Those wishing to avoid Monday morning or Friday morning should recognize that that isn't possible when more than 7 special sessions are proposed.
  1. Developments in Plumbing Noise Control (Joint with Noise) – **David Adams**
  2. Acoustical Products used for Architectural Applications (joint with NS) – **Matt Golden/Ken Good**
  3. Comp methods for auralization in rooms and underwater (joint with UW) – **Jason Summers, Michael Vörlander**
  4. Acoustics Of Healthcare Spaces - The acoustics of healthcare facilities are important relative to health and healing aspects, and speech privacy for the protection of confidential information. - **Ken Roy and Erica Ryherd** (Joint with Noise)

5. Soundscape: Standardization And Implementation - Latest Developments In Soundscape Analysis Standardization And Methodology Measurements - **Bennett Brooks** and **Gary Siebein** (Joint With Noise, ASACOS, Animal Bioacoustics)
6. Memorial session honoring Manfred R. Schoeder - **Ning Xiang** and **G. Sessler** (Joint with Psychological & Physiological, Speech Communication, Signal Processing.)
7. Speech Privacy - The latest developments in speech privacy research, standards, and legislation - **Eric Reuter**
8. Special Session Honoring The 25th Anniversary Of The Newman Fund Awards - The session is a celebration for the 25th anniversary by the Newman Fund Award Fund to both honor past recipients and acknowledge participating university programs - **Michelle Vigeant** and **William Cavanaugh**
9. Towards a Benchmark in Computational Room Acoustics - A number of competing methods exist for the prediction of acoustic parameters that describe the performance of a space. This session moves to define a set of benchmarks against which the methods may be tested for accuracy and efficiency - **Alex Bockman** and **Jason Summers**
10. Hungarian Nobel Laureates Do Concert Halls: Gabor and Wigner - Gabor's holography and Wigner's wave mechanics accurately represent sonic information in auditoria - **James Lee**
11. Quantitative and Qualitative Effects of Diffusion In Rooms - Topics encompass quantitative, measurable, and subjective effects of diffusive and scattering surfaces and forms - **Jonathan Botts** and **Peter D'Antonio**
12. Technical Tour Of Ron Sauro's New Lab In Portland - **Norman Philipp**
13. Acoustics of Green Buildings - This session will continue the previous discussions on noise problems of green buildings. Further focus will be given to acoustical credits, the LEED process for consultants, etc. - **David Sykes** and **Brandon Tinianov** (Joint with Noise)

For your information, the following Noise Sessions are Joint with Architectural Acoustics:

1. Criteria And Mitigation For Outdoor Performance Venues (**Steve Pettyjohn** And **Joe Lewis**)
2. Acoustic Modeling for Complex Environments
3. Repurposing of Buildings (**Norman Philipp**)

- **San Diego** – Proposed sessions
  - Networking In Soundscapes - Establishing A Worldwide Collaboration (**Gary Siebein** and **Bennett Brooks**)
  - Active Acoustics (**Roger Schwenke**)
  - Accuracy Of Acoustical Coefficients (**Peter D'Antonio**)
  - Knudsen Lecture - (**Lubman**)
  - Ear Training Methods For Architectural Acousticians And Consultants (Joint With Education) (**Sebastian Otero**)
  - Acoustical Solutions In Historical Renovations (**David Woolworth**)

#### **IX. (9:05 PM) Technical Initiatives – Reports and Renewals**

There are no formal guidelines for per year or per meeting amounts. The technical council typically approves up to \$65k yet spends no more than \$50k (many TIs are never spent).

- Website Upgrade/Maintenance (**Conor Sheehan**) (preapproved) \$300
- Travel Funds for Invited Speakers (preapproved) \$1500
- Student Paper Awards (preapproved) \$1000
- *Knudsen Lecture* (**Chair**, \$1000 for 2010)
- Support for non-ASA presenter travel and non-ASA co-organizer \$500 - bringing total travel funds to \$2,000. (**David Lubman**)

#### **X. (9:25 PM) Other New Business**

**Pam Harght** - Thank you **Ken Good** and **Tony Hoover** for last night's ASA Jam. This was the best-organized, advertised, attended jam ever!.

**Tony Hoover** - The College of Fellows now funds this event. There is no official timeline for future Jams at future meetings. We are opportunistic: when we find a local representative motivated to organize the jam (local expertise and knowledge of venues and sound systems is essential) then we try to run a Jam at that meeting. Past organizers who will happily share their experience include: **Dave Woolworth**, **Pam Harght**, **Tom LaPage**, and **Ken Good**. Any local Seattle Jam-organizing talent should make themselves known to **Tony Hoover**.

#### **XI. (9:31 PM) Meeting Adjournment** Motion to adjourn was more than unanimous, as everyone gave it 110%