



ACOUSTICAL SOCIETY OF AMERICA STUDENT DESIGN COMPETITION 2016

PRESENTED BY: THE TECHNICAL COMMITTEE ON ARCHITECTURAL ACOUSTICS, THE ROBERT BRADFORD NEWMAN STUDENT AWARD FUND AND SPONSOR THE WENGER FOUNDATION, AND THE NATIONAL COUNCIL OF ACOUSTICAL CONSULTANTS

ANNOUNCEMENT

The Technical Committee on Architectural Acoustics with support from the Robert Bradford Newman Student Award Fund (<http://www.newmanfund.org/>), The Wenger Foundation, and the National Council of Acoustical Consultants (<http://www.ncac.com/>) is sponsoring a student design competition to be displayed and judged at the 171st meeting of the Acoustical Society of America in Salt Lake City, Utah, the week of May 23, 2016.

ENTRY REQUIREMENTS

Entries may be submitted by individual students or teams of a maximum of three students. Undergraduate and graduate students are encouraged to participate. Participants must be registered as a student during the spring semester of 2016. Teams comprised of students from different institutions are welcome. Teams comprised of students from different disciplines are encouraged. A faculty sponsor is required. Meeting attendance is not required to participate in the competition.

ENTRY LIMITS

Entries must be limited by each institution to three. Entries submitted by teams with teammates from different colleges within the same university will count as entries from the same institution. Up to two additional entries per institution are allowed if its entrants from the institution team with entrants from a separate institution.

REGISTRATION

Teams must register on or before April 1, 2016, by e-mail to the competition co-chairs at sdc@newmanfund.org. In the e-mail, indicate (1) your name and school; (2) the name of your teammates (if any), their school(s) (if different than your school), and their e-mail addresses, (3) the name of your faculty advisor, his or her school, and his or her e-mail address; (4) if the project will be completed (a) for credit as part of a design studio, (b) for credit as part of a non-studio class, or (c) as an extra-curricular; and (5) indicate the student participant who will serve as primary contact for the team. The primary contact will serve as a vital link for receiving



information and updates on the competition. This may include answers to frequently asked questions and changes to information presented in this bulletin.

JUDGING AND AWARDS

The submitted designs will be judged by a panel of practicing design professionals and university faculty. The panel may include acoustical consultants, architects, theatrical consultants, and educators in associated fields.

Entries will be evaluated on technical merit, design vision, innovation, critical competence, and effectiveness of presentation.

One \$1,250 Wenger Prize will be awarded to the first honors entry, as selected by the judges. Four \$700 commendation awards will be made to other top entries.

At the co-chairs' discretion, the commendation awards may be categorized based on outstanding aspects of the entered designs.

Awards are made possible through a grant from the Newman Fund sponsor the Wenger Foundation.

PRESENTATION FORMAT AND SUBMISSION PROCEDURE

Entries shall be poster presentations. Entries shall be presented on up to three (3) separate display boards with maximum dimensions of 22 x 28 inches (56 x 71 cm) per board. It is advisable to mount posters to foam core board or other rigid backer. Additional documentation may not be attached to the boards. This includes expanding presented materials beyond the surface of the allowed poster area by digital means (for example, a code that can be scanned with a mobile device that links to a website is not allowed). The judges will not review such information.

In addition to the poster submission, a digital copy of each entry shall be e-mailed to the competition co-chairs at sdc@newmanfund.org. Digital file format must be .pdf or .jpeg. If file size is prohibitive, participants may arrange other methods of file transfer with the co-chairs. Digital copy must be received on or before **Tuesday, May 24, 2016**.

The competition language is English.

The font size, amount of narrative text, and number of graphs should be appropriate for poster viewing. A thoughtful viewing of the presentation should be possible in about 10 minutes. Presentation boards should be suitable for wall or easel display. Means of attachment to the wall or easel will be provided by the competition (submissions need not include Velcro or pins). Please denote the orientation and arrangement for the presentation boards either on the rear of the boards or on an included sheet.



For entry in the competition, the physical presentation boards must be received no later than **Tuesday, May 17, 2016** at the following address:

BAi, LLC
c/o Andy Miller
4006 Speedway
Austin, Texas 78751
U.S.A.

Students attending the meeting may hand-deliver their entries. Entries delivered by students must be available at the meeting hotel no later than **8:30 am on Tuesday, May 24, 2016**. Students opting to deliver entries to the meeting are required to notify the competition co-chairs on or before **Tuesday, May 17, 2016**.

Affix an opaque envelope to the back of EACH display board. Within each envelope, enclose a loose sheet with the names, addresses, phone numbers, e-mail addresses, school affiliations, and advisor(s) of all participating team members. Please indicate summer e-mail and mailing addresses for all team members. Team member identifying information (names, addresses, etc.) will not be revealed to the competition judges. Entrants may include a layout diagram for the order in which the posters should be displayed, but this is not a requirement.

Please package display boards securely to prevent damage during shipping.

DESIGN SCENARIO

A center for the arts has decided to open a multi-purpose facility. It will be located at the base of the mountains near Park City, Utah. It will be one building on a campus with others, all dedicated to The Arts. It will include an auditorium with a balcony and platform (stage). The auditorium will be used as a meeting space and as a music performance chamber. The facility will also include a green room. It will be used as a meeting room and for music rehearsal. Music performed and rehearsed in this facility will be chamber ensembles and soloists. Instrumentation will be exclusively classical, western orchestral. Discussions and visits to other similar venues with the owner have revealed the following details about their program requirements:

Auditorium

- **Emphasize the design of the auditorium on your presentation posters. It will be weighted heavily when judged.**
- Main level and any balconies: 220 seats
- Balconies may serve as the performance area for vocalists and choral ensembles.
- Performance platform: 800 square feet (74.3 square meters)
 - The performance platform is the stage.
 - The stage enclosure is to be fixed and designed for acoustical integrity.

Auditorium Support Spaces

- Locate these spaces on the plan, but do not emphasize them on your presentation posters.
- 100 square foot (9.4 square meter) area for audio and recording system control
- 120 square foot (11.1 square meter) area for lighting control



- 530 square foot (49.2 square meter) stage wing space
- Stage left to stage right crossover/corridor
- 100 square foot (9.3 square meter) stage manager's office, located near the stage but lower priority for convenient access than the performers' preparation area (see below)
- 100 square foot (9.3 square meter) piano storage, with easy access to the stage

Green Room

- **Emphasize the design of the green room on your presentation posters. It will be weighted when judged.**
- 800 square foot (74.3 square meter) green room
- The green room uses include speeches, banquets, pre- and post-performance meet-and-greets, private performances, parties, and rehearsals.
- It is possible that a musical group will warm up in the Green Room while another performance is in progress in the auditorium.
- The green room must have convenient stage access.

Lobby Spaces

- Locate these spaces on the plan, but do not emphasize them on your presentation posters.
- 1,500 square foot (139.4 square meter) lobby space
- Vestibules as required for sound control
- Concessions, 190 square feet (17.7 square meters)
- Restrooms, 420 square feet (39.0 square meters)
- Janitorial, 50 square feet (4.6 square meters)

Performer's Preparation Area

- Locate these spaces on the plan, but do not emphasize them on your presentation posters.
- 500 square feet (46.5 square meters), total
- This area consists of men's dressing, women's dressing, toilets, and showers
- The performers' preparation area must have easy access to the stage.

Storage and Service Areas

- Emphasize noise control approaches related to the mechanical and electrical rooms on your posters.
- 850 square foot (79.0 square meter) general storage
- 380 square foot (35.3 square meter) mechanical room
- 250 square foot (23.2 square meter) electrical room

Circulation, Stairs, and Elevators, as required (should be roughly 20 – 25% of the total program area)

TECHNICAL REQUIREMENTS

Design competition entries should emphasize the general building acoustics design (room acoustics, noise control, and sound transmission control). *The auditorium and green room are of primary importance, so these rooms must be emphasized on the posters.* Other programmed building spaces must be included in the overall design, and they may be similarly considered at



the discretion of each team in the interest of design completeness. Presentations may include plan and section drawings, renderings, acoustical calculations, acoustical criteria, and details of construction relating to acoustics and noise control as necessary to describe and support the design. If computer programs are used in the design, graphics and data from the programs may be displayed.

Electroacoustic systems (sound reinforcement or electroacoustic enhancement systems) design is outside of the competition scope and is not required. Electroacoustic enhancement (active acoustic) systems may not be used to produce changes in the auditorium acoustical characteristics.

While the design of the building mechanical and electrical systems is very important to the acoustical success of a project, it is not necessary to indicate the details of the mechanical and electrical system noise control. However, teams may wish to indicate noise criteria, along with general noise and vibration control procedures relating to air handling, electrical transformers, theatrical lighting dimmers, etc. Location of mechanical and electrical rooms will be considered by the judges, as it relates to noise control.

REFERENCES

Useful design references include:

Concert Halls and Opera Houses: Music, Acoustics, and Architecture, Leo Beranek, 2nd Edition, Acoustical Society of America, 2003

Halls for Music Performance: Two Decades of Experience, 1962-1982, Edited by Richard H. Talaske, Ewart A. Wetherill, and William J. Cavanaugh, Acoustical Society of America, 1982

Halls for Music Performance: Another Two Decades of Experience, 1982-2002, Edited by Ian Hoffman, Christopher Storch, and Timothy Foulkes, Acoustical Society of America, 2003

Acoustical Design of Music Education Facilities, Edited by Edward R. McCue and Richard H. Talaske, Acoustical Society of America, 1990

Acoustical Designing in Architecture, Vern O. Knudsen and Cyril M. Harris, Acoustical Society of America, 1980 (originally published in 1950)

Acoustics of Auditoriums in Public Buildings, Edited by Leonid I Makrinenko and John S. Bradley, Acoustical Society of America, 1994 (originally published 1986)

Collected Papers on Acoustics, Wallace Clement Sabine, Acoustical Society of America, 1993 (originally published in 1921)

Deaf Architects and Blind Acousticians?, Robert E. Apfel, Acoustical Society of America, 1998



REQUESTS FOR INFORMATION

Please direct questions to sdc@newmanfund.org. Note that general questions and requests for more information about the design scenario or competition will be met with follow-up to all registered teams by the co-chairs.

COMPETITION TIMELINE SUMMARY

A summary of the competition timeline is presented below, for convenience.

November 2015: Release of announcement and design scenario

Friday, April 1, 2016: Registration Deadline

Tuesday, May 17, 2016: Entry Shipment Receipt Deadline; Notification of Personal Delivery Deadline

Monday, May 23, 2016: Begin 171st Meeting of the ASA in Salt Lake City, Utah

Tuesday, May 24, 2016, 8:30 a.m.: Personal Delivery Entry Receipt Deadline

Tuesday, May 24, 2016: Digital copy submission deadline (This is required *in addition to* the hard copy poster submission and is not a substitute for it.)

STUDENT DESIGN COMPETITION CO-CHAIRS CONTACT INFORMATION

Competition primary contact will be through the e-mail address [**sdc@newmanfund.org**](mailto:sdc@newmanfund.org).

Dave Woolworth, Oxford Acoustics, Inc.

Phone: 662.513.0665

Mobile: 662.701.7534

Andy Miller, BAi, LLC

Phone: 512.476.3464

Mobile: 512.538.5919

Michael Ermann, Virginia Tech School of Architecture + Design

Phone: 540.231.1225

Mobile: 540.558.8279