

Soka University of America Performing Arts Center Opens

By Motoo Komoda

The new Soka Performing Arts Center completed and opened on the Soka University of America campus in Aliso Viejo, Orange Country, California, U.S.A. The inaugural concert took place on September 17, 2011.

Project Overview

The new four story building features a 1,000-seat, multipurpose main hall and a multipurpose black-box theatre that accommodates up to 150 occupants. In addition, the building has practice rooms, offices and other support rooms.

ZGF (Zimmer Gunsul Frasca Architects) designed the building, Auerbach Pollock Friedlander served as the stage consultant and McCarthy was the general contractor. Nagata Acoustics was the project's acoustical consultant, participating from the design phase through construction and project completion. Our services included both acoustical room design and sound isolation design and project oversight. The overall cost of this project was \$73 million.

In this article I will introduce readers to the center's 1,000-seat, multipurpose main hall.

The Main Hall's Unconventional Design

Multipurpose halls on school campuses usually have designs and configurations optimized for school convocations and lectures attended by large numbers of students. Some readers may have memories of this kind of typical school auditorium with a wide stage at one end. By comparison, the Soka Performing Arts Center Main Hall offers students a hall design that has many unique features and acoustics not often found in multipurpose halls built on school campuses.



Figure 1: Building Exterior



Figure 2: Stage configured for orchestral performances

On this project, the school was represented by a team of people who have a strong interest in the school's performing arts education program. In particular, the school's representatives included classical music enthusiasts who convincingly articulated their plans for school-sponsored subscription series of music concerts by local professional orchestras and other ensembles and performers. While it is expected that these kinds of events may use the hall on only a limited number of days each year, the project's client made this purpose a priority in the hall's programming.

In addition to its focus on classical music concerts, this multipurpose hall has unique interior architecture. The combination of classical music programming and unconventional interior design ensured that the project prioritized the acoustical goals for the hall and implemented a number of innovative design solutions.

Stage Options and Seating Arrangements

Instead of the traditional auditorium configuration of a performance stage at one end of the room and the audience seating filling the space between the stage and the other end of the room, the Soka Performing Arts Center Main Hall has a stage that can seat a full-size orchestra and banks of seating placed in an arena-style layout around the stage. This layout minimizes the distance from audience seating to the stage and facilitates the hall's sense of intimacy and connectedness.



Figure 3: Thrust Stage



Figure 4: Stage configured with stage curtains

In addition to the full-size stage configuration for orchestral concerts, side portions of the stage can be lowered and seating rolled out over these areas to create a thrust stage configuration. Also, curtains hung from stage batons can be used to approximate a proscenium stage configuration. Theatrical productions have the limitation that the hall does not have equipment for raising and lowering curtains and scenery or spacious side wings. Overall, the three stage configurations make possible a broad range of performing arts productions and events.

When the hall is configured for orchestras, the floor of the first row of audience seating is at the same height as the stage floor. This arrangement gives the people sitting in this row the opportunity to enjoy a rarely experienced level of intimacy with the performance.

Visible Architectural Ceiling and Acoustical Ceiling

The hall has two ceilings, one that functions as the visible architectural ceiling and one that functions as a ceiling acoustically. The accompanying photos of the hall interior show the gracefully curved, suspended wood panels that form the visible architectural ceiling. Above this ceiling, we installed a very rigid and heavy acoustical ceiling. From an acoustical perspective, the two ceilings' functions differ dramatically. The curved panels allow the hall to benefit from the large spatial volume between the suspended panels and the acoustical ceiling above them so that, acoustically, the hall has a high ceiling and rich acoustics.

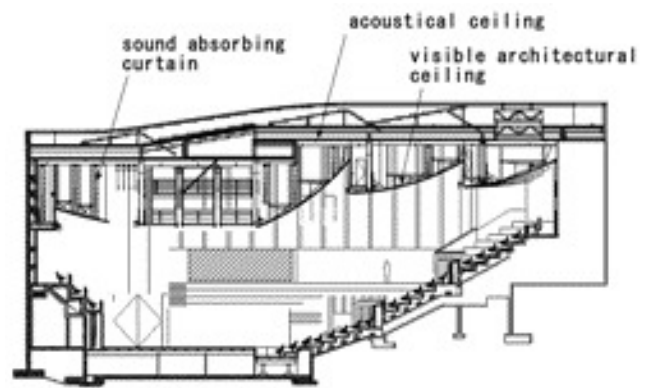


Figure 5: Cross-section drawing of visible architectural ceiling, acoustical ceiling, and sound absorbing curtains

When we designed the curved ceiling panels we paid special attention to achieving a design that makes the panels as acoustically transparent as possible, a process that required multiple design iterations. The implemented design is a good example of how visible architectural elements and acoustical room design needs can be effectively combined.

Acoustical Curtains

To maximize the hall's adaptability to the venue requirements of many diverse kinds of events, we installed an adjustable acoustical curtain mechanism in the hall. We hid the electrically operated curtain sections from both the audience and on-stage performers by locating them above the visible architectural ceiling's panels and behind panels at the rear of the stage.

The acoustical curtain mechanism can be easily operated with the push of a button to horizontally open or close the curtains in a matter of a few minutes. When the hall is configured with the stage for full orchestra, the hall's reverberation time (at 500 Hz) measures 2.4 seconds without the acoustical curtains and 1.8 seconds when the curtains are fully extended. We also listened aurally to the reverberation and confirmed that the human ear can hear the considerable change in the hall's reverberation time when the acoustical curtains are open compared to when they are closed.

Soka Performing Arts Center Opening Series

On September 17, 2011, Orange County's Pacific Symphony performed the center's inaugural concert in the Main Hall. The program included Adam's challenging "Short Ride in a Fast Machine", Rachmaninoff's Piano Concerto No. 2 in C Minor, Op. 18, Prokofiev's Suite from Romeo and Juliet and Ravel's Suite No. 2 from Daphnis and Chloe. The Pacific Symphony, Maestro Carl St. Clair and pianist Horacio Gutierrez performed each work superbly and with gusto.

The hall's opening series of performances continued in the Main Hall with a Polynesian and Micronesian dance performance on October 23 and the first concert of a jazz festival on October 28. Next year, the Pacific Symphony will return for its second concert and Emanuel Ax is scheduled to perform a piano recital.

This year marks the 10th anniversary of the university's establishment of its Orange County campus, located about an hour's drive south of Los Angeles. When the opportunity arises, please pay a visit to the campus and its wonderful new Soka Performing Arts Center. The Soka Performing Arts Center page of the school's Web site can be accessed at <https://www.soka.edu/soka-performing-arts-center>.