DS+R

THE TIANJIN JUILLIARD SCHOOL

ARCHITECTURAL FACT SHEET

FOR MORE INFORMATION,
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The Tianjin Juilliard School with view of Hai River. Photo by Zhang Chao, courtesy of Diller Scofidio + Renfro.

Project Description

The Tianjin Juilliard School (TJS) is a center for performance, practice, research, and interactive exhibitions, with communal spaces that are designed to welcome the public into the creative process and performance of music. TJS is the first performing arts institution in China to confer a U.S.-accredited Master of Music (MM) degree. The new school also comprises a Saturday Pre-College program for students ages 8- 18; continuing education programs for professionals and adult learners; public education programs for music learners of all ages; and public performances. Located in the Yujiapu Financial District, the 350,000 square-feet (32,500 square-meter) building was designed by Diller Scofidio + Renfro, the same firm responsible for the 2009 expansion of Juilliard's iconic New York home.

The building is composed of four faceted pavilions housing a 690-seat concert hall, a 299-seat recital hall, a 225-seat black box theater, and administrative, faculty, and rehearsal programs. Five glass bridges span an expansive public space that extends the surrounding park into the building, inviting students, visitors and concert goers to mingle, relax and experience the students practicing and giving informal performances. The bridges contain classrooms, teaching studios, and practice rooms, all clad in transparent glass to encourage visual and auditory access to the study of music, inviting both casual and structured exchange between students, faculty and visitors. The building achieves world-class acoustics in the performance, teaching, and practice areas, which are all sound isolated and achieving NC15 acoustic rating

The school utilizes leading edge telecommunication and video conferencing technologies to ensure a high degree of connectivity and collaboration between students and faculty at Tianjin Julliard School and The Juilliard School in New York. The Juilliard Imagination space, for example, is a digitally connected exhibition space, capable of hosting livestreamed concerts between both Juilliard facilities.

Lead Architect

Diller Scofidio + Renfro

Client/Owner

Tianjin Innovative Financial Investment Company (TIFI)

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Location
Tianjin, China—Yujiapu (Binhai); Adjacent to Hai River and steps from the high-speed rail station, positing the school—45 minutes by high-speed train from downtown Beijing. (Google map link)

Milestones
1969: Juilliard Center arrives at its new home at Lincoln Center.
2009: DS+R completes the Juilliard School renovation and expansion at Lincoln Center in New York.
2014: DS+R is commissioned for the Tianjin Juilliard School.
2017: Construction begins on site in Tianjin.
2018: The building's streel structure is completed.
2020: Construction is completed and the Tianjin Juilliard School opens to students on October 26.

Major Features
While the 4 pavilions serve as cornerstones for the building, the spanning bridges create a generous column free space at grade that opens to and extends the park that surrounds the building.

Plaza
Designed as a performance and event venue amenity for Juilliard, as well as a community space, the plaza features stepped piano-key like seating and planting. The shallow reflecting pools form a dialogue with the nearby Hai River and create unique moments of reflection of the building and sky, adding an element of surprise where visitors can seemingly walk over water.

Lobby
This generous, column-free space at ground level features four sky-lit atriums that draw light down to lower levels programmed by grandstand seating and a café as well as a tilt-up tree planter and a lush grove. With entry available from every direction, the lobby also provides interior access to all three concert venues as well as creating a lush public space usable all-year-round by citizens of and visitors to Yujiapu.

Bridges
To encourage integration of public and private space, five windowed bridges span the pavilions, housing two levels of instructional spaces including 12 classrooms, 23 teaching studios, and 86 practice rooms of diverse sizes that can be viewed from public space below. Double height student lounges with panoramic views of the city or the Hai River are generated by the spaces where the bridges intersect.

Pavilions
Level (-1) Concert Hall
The Concert Hall is the institution's primary performance facility. The hall has a seating capacity of 690, including 80 balcony seats, as well as mechanized wood stage risers that can transform the stage into various configurations. Under the stage is an acoustic resonant chamber to enhance the sound of cello and bass. Surround-configuration allows for a more intimate relationship between the audience and performers, especially in the stage-right area, fostering a close up view of the performer's fingering on the piano. The hall is clad in eucalyptus wood, creating a warm, reverberant environment. A glass façade equipped with motorized blackout shades offers a view to the Hai River as a dramatic backdrop for performances. Acoustically isolated on giant springs, the Hall achieves world-class acoustic ratings in all categories. Overhead mechanized lighting positions allow for optimal illumination of the concert stage and the musicians.

Level (-1) Recital Hall
The 299-seat Recital Hall is the acoustic workhorse of the school with nearly continuous use for student and faculty recitals. Clad in Eucalyptus wood, the Recital Hall features a surround configuration – rare in intimate recital halls- and a 14m x 6m stage with a glass façade overlooking the nearby park and reflecting pool. The Hall achieves an NC15 rating with motorized adjustable acoustic tuning and complete soundproofing.

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Level (-1) Black Box Theater
The 225-seat Black Box Theater has been designed for multi-media performances as well as recitals, small ensembles and chamber opera, and dance events. The theater features telescopic seating and an overhead wire rope grid that allows for flexible audience and lighting configurations. Full box-in-box isolation, motorized acoustic banners and NC15 levels establish a new creative canvas for Juilliard's student performances.

Level (-1) Large Rehearsal Rooms
The 3 large rehearsal rooms function both as education and performance spaces. These acoustically adaptable spaces feature motorized vertical acoustic banners to allow for acoustical fine-tuning, as well as a resilient floor and box-in-box sound isolation. The rooms are also equipped for real time audio recording. The rehearsal rooms are located in the same B1 level as the Concert Hall and Recital Hall stage to allow easy movement of large instruments from one space to the other.

Level (-1) Juilliard Imagination
Juilliard Imagination is a multi-faceted, digital learning environment for exploring the rich tapestry of music, dance, and drama, providing a unique opportunity for the public to learn about Juilliard. This dedicated 8,800 sq. ft. space has curated interactive displays with exciting audio and visual experiences incorporating virtual reality and other cutting-edge technologies powered by Sony.

Level (2, 3, 4) Offices
Three of the four pavilions house administrative offices in their upper levels. These levels feature open office plans with large atria to draw in daylight.

Level (4) Orchestral Rehearsal
A rehearsal space above the main concert hall opens up to a roof terrace with views of the Hai River. In addition to housing the full orchestra for rehearsals, the space will be used as a multi-purpose and pre-function room and event space to host events, including a 120-person seated dinner. Flipping wood wall panels allow the room to be fine-tuned for any performance or rehearsal. Direct access from the ground level is provided by an external stair cladded in faceted wood panels.

Level (4, 5) Library
The library offers reading rooms, reference sections, as well as computer and multimedia stations. For faculty and staff. The open stacks on Level 5 can be seen through the glass floor from the reading room below.

Landscape
Designed by Hargreaves Jones, the landscape provides a series of indoor and outdoor spaces that invite the public into the site via the park to the north, the gardens to the east, the plaza and promenade to the south and the Town Square and riverfront landscape to the west. The grain of the larger pedestrian systems intersecting on site is recognized in landscape connections: promenades from city to river and from Juilliard to the river and city. These connections guide visitors from the high-speed rail station to the waterfront. The landscape is incorporated throughout the building, merging the indoor and outdoor environments. Publicly accessible green roofs and a rooftop terrace covered with planting, paving, and bench seating will further encourage visitors to the site, as well as provide views of the nearby Hai River. The landscape that connects to the city is a series of gardens to add color and texture that continue into the building.

Building Materials
The highest level of acoustic performance was paramount to Juilliard and TIFI. All materials, surfaces and space configurations were selected with this goal in mind, including custom sound windows and doors, box-in-box construction, and unique acoustic treatments. The exterior materials and cladding for the building include high-performance glass assemblies, bead blasted stainless steel, glass fiber reinforced concrete (GFRC), and Parklex wood panels. A continuous surface of stone paving connects the main lobby with the exterior plaza to emphasize the extension from indoor to outdoor. Interior walls of the pavilions

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will match the exterior wall in GFRC. The bridges feature wooden soffits and ceilings and glass enclosures that broadcast their activities from the building's lobby and public spaces.

Sustainability

The lobby is designed as an extension of the park. Large skylights flood the public entrance lobby with direct sunlight, providing sufficient lighting for plants that are normally grown outdoors and creating an indoor-outdoor environment. Rather than reducing solar heat gain through exterior shading - which reduces light levels and changes the resulting plant palette and indoor experience – solar radiation strikes a radiant floor cooled by water circulated through tubing embedded in the structural foundation piles. This simple, low-tech solution maintains the architectural design intent for the lobby.

Structural Features

Bridges spanning 50-60m float above the column-free lobby are supported by vertical load carrying elements (columns and braced frames) located within the pavilions. The bridges rely on interconnectivity between the pavilions for support, as well as two-story deep (10m) trusses that span between perpendicular two-story deep primary trusses. Primary trusses intersect the pavilions and find support on the braced frames and columns within see the figure below. Additionally, bridge trusses spanning across the interior of the building act as back spans for the pavilion cantilevers to help resist overturning. The three performance spaces are free-standing structures entirely separated from the main structure, and rest on large sound isolation springs.

Design Team

Design Architect: Diller Scofidio + Renfro
Executive Architect: East China Architectural Design & Research Institute (ECADI)
Landscape: Hargreaves Jones
Structure/MEP: Arup
Acoustics: Jaffe Holden Acoustics
Theater: Fisher Dachs Associates
Curtain Wall: Front
Lighting: Tillotson Design Associates
Climate: Transsolar
AV/IT: Shen Milsom Wilke
Facade Glazing: Luoyang North Glass Technology Co., Ltd
Facade Wood Cladding: Parklex International S.L.
Performance Hall Wood Veneer: SanFoot

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