

The Cross-disciplinary Approach

By Randi Minetor

In the Carnegie Mellon theatre architecture program, architects and theatre practitioners learn from each other

“The best work in school and in real life is when you have collaboration between two groups,” says Kevin Rodriguez, a fifth-year architecture student at Carnegie Mellon University (CMU). “The people who use the building are going to view it very differently from the way we view it as designers.”

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It may seem like an obvious point, but to students who are used to working solely with a professor or instructor in an academic situation, the opportunity to collaborate becomes a revelation. This is exactly what leaders of the CMU School of Architecture and School of Drama had in mind in 2001, when they created a new interdisciplinary program in theatre architecture—an innovative collaboration between two schools in the College of Fine Arts.

The program aims to open architecture students’ eyes to the unique challenges of designing a space for theatrical performance—creating a new generation of theatre architects who understand issues like sightlines, wing and loft spaces, load-bearing structural strength, lighting and sound, dressing rooms, scene and costume shops, and many others.

In this program, students from the schools of architecture and drama come together for a semester to understand each other’s approach to their work. The final product: Design of an actual theatre building, based on a real project already in progress in New York City. In essence, the theatre majors become the clients of the

architecture majors, sharing the common goal of a great theatre design.

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One consultant’s vision

The one-of-a-kind program got its start in 2001, when CMU alumnus S. Leonard Auerbach, founder and president of the theatre consulting firm Auerbach Pollock Friedlander, became the consultant for CMU’s new Purnell Center for the Arts.

While studying at CMU in 1966, Auerbach received a Heinz Fellowship for an interdisciplinary graduate study of theatre architecture—the first of its kind at then-Carnegie Tech. “I worked

with the graduate architects in the urban design studio, focusing on the design of theatres,” he says. “My thesis project was an expansion and functional renovation of the Tyrone Guthrie Theatre.”

The program played an instrumental role in Auerbach’s career, enough so that he conceived the idea to create an academic program based on his experience. The Purnell Center project opened the door for a discussion with Martin Prekop, dean of the CMU College of Fine Arts at the time. “At the end of construction, Martin asked if I would like to become a donor and sponsor a room in the new building,” Auerbach says. “I responded that more importantly, I would like to see a theatre architecture program fashioned after the study I had participated in as a graduate student.”

Auerbach and Prekop brought together the heads of the schools of drama and architecture—then Peter Frisch and Vivian Loftness, respectively—to determine the best way to move forward. With the help of funding Auerbach provided, the two schools launched a pilot semester. Lectures delivered by top theatre architects and acoustics consultants, a theatre design seminar, and an architecture design studio engaged fourth-year architecture students and drama graduate students in a semester of intensive collaboration.

As the program got underway, Auerbach approached Bob Theis, then president of J. R. Clancy, Inc., to

make a significant corporate contribution as well. A major designer and manufacturer of rigging equipment for theatres around the world, J. R. Clancy has a vested interest in educating future theatre architects.

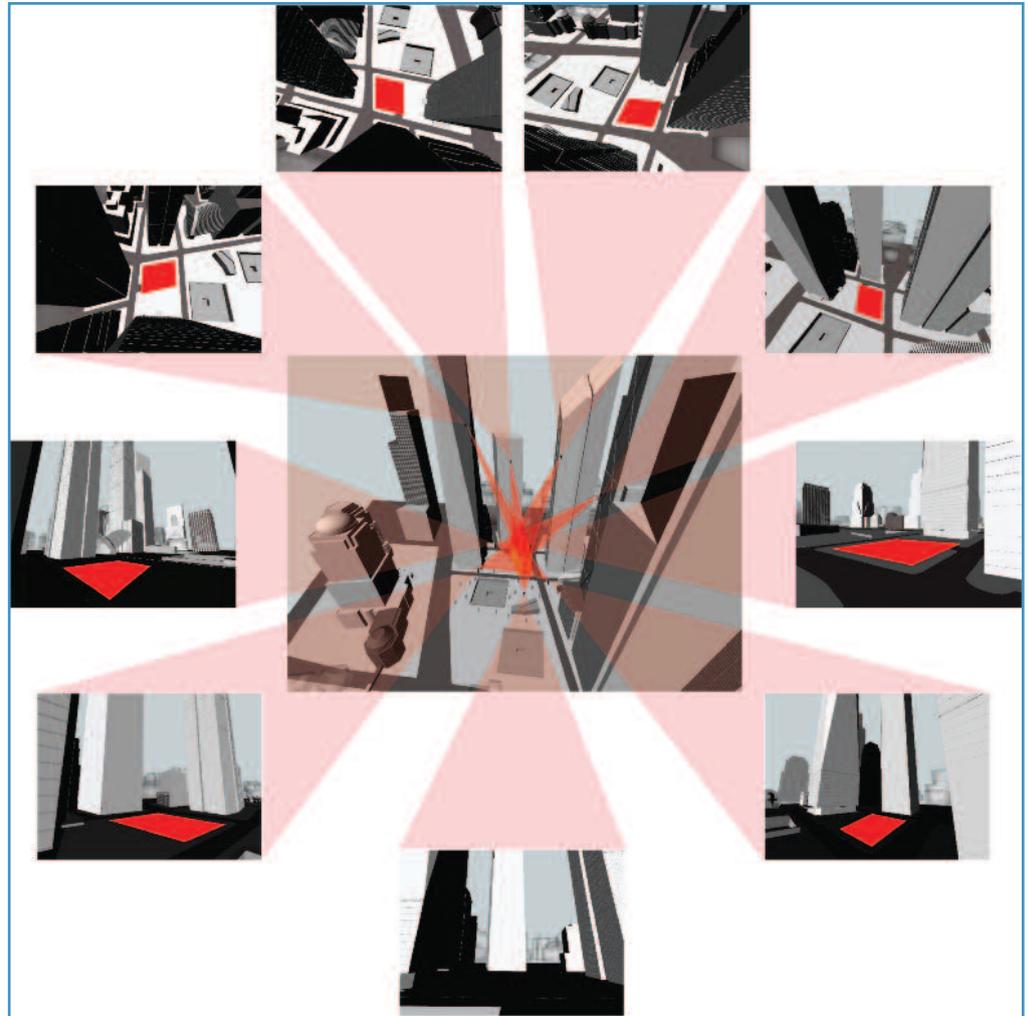
"We were absolutely delighted to be able to participate with Len in the startup of this program," says Theis, now J. R. Clancy chairman. "This will be a great success for a lot of young people, while creating the next generation of highly specialized professionals who understand all aspects of theatre design."

The gift established the J. R. Clancy Endowment, which, together with Auerbach's contributions, funds lectures and field trips for students and their instructors to New York City, Las Vegas, and other areas to see theatres under construction, as well as some of the most complex performance facilities in the nation.

"It's a fantastic program that Len's initiated," says Peter Cooke, head of the CMU school of drama. A native of Australia, Cooke shares Auerbach's understanding of the need to educate architects about the peculiarities of theatre design.

"In Australia, there was a whole spate of theatres built in the 1980s and 1990s," he says. "Every town wanted a theatre complex, so these buildings went up everywhere with extremely poor communication between the architects and the theatre world. There had been and there continues to be bad halls built, and you just can't do theatre in these venues. So having an informed and bright cohort of students who understand the needs of the artist will make a much better landscape down the road."

To teach the course, CMU has connected with a number of theatre design professionals. Kevin Wagstaff, adjunct assistant professor of architecture and a principal at the Pittsburgh architectural firm Perfido Weiskopf Wagstaff + Goettel, taught the spring 2010 semester with Dick Block, asso-



Above: A conceptual drawing by Jiwon Hur, a student in the program, for the Joyce Theatre at One World Trade Center.

ciate head of the CMU School of Drama. Matthew Fineout, a partner with Smart Architecture in Pittsburgh, also served as an instructor.

Most recently, the School of Architecture recruited one of its own alumni: Hal Hayes, a practicing theatre architect in New York City. "Hal is very connected to the New York theatre scene," said Stephen Lee, head of CMU's school of architecture. "He's very involved with the World Trade Center project, and he's a wonderful designer."

The creative cauldron

Bringing theatre students into the architectural studio creates an excit-

ing learning environment, Cooke says. "In drama, we have designers, we have technicians, we have directors, but we don't know a lot about building systems and infrastructure, like heating and air conditioning," he explains. "We know the things that make a good theatre. So having that sensibility, having that interaction that informs each other's process...it's a wonderful cauldron in which they're all swimming."

Kevin Rodriguez had exactly that experience as a student: "I had questions about how lighting works. Is it one room where they control everything, and is there sound in there as well? So I talked with the lighting

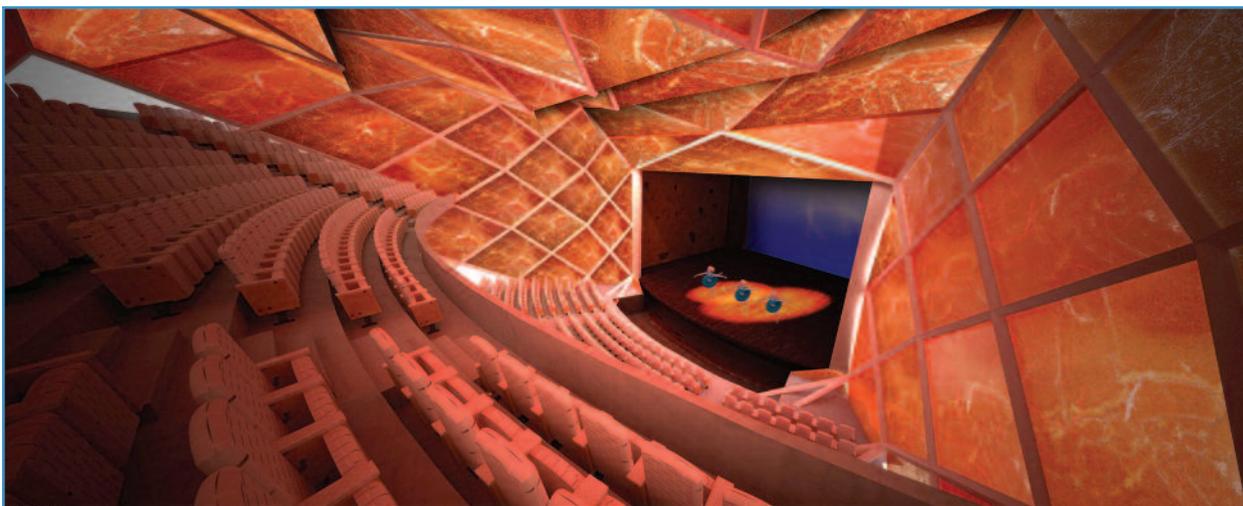
majors, and they really were able to go into how they do everything, and the questions I had were answered. Then they asked about how the construction process works, and how we do what we do. We had people to help us understand what we were supposed to be doing.”

And the result? “I found that they picked it up; they were very quick on the uptake on both sides,” says

a site on which a real theatre is under construction. In the fall 2010 semester, the class engaged with Len Auerbach and Steve Friedlander in New York, where the firm is currently the theatre consultant for Signature Center, the new home of the Signature Theatre Company in New York City. Construction had just begun on a 70,000-sq.-ft. space designed by architect Frank Gehry.

pen. It’s a balancing act, because we’re not producing work that can be legally incorporated into the project, but the students can envision things and help the architect think in a slightly different way.”

This fall’s studio assignment is the new Joyce Theatre Company’s 1,000-seat performance center, currently under construction in the World Trade Center in downtown Manhattan. The



A concept drawing by Ranjit Korah, another student, for the Joyce Theatre’s interior.

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Cooke. “When I went to the last big pin-up [where students share their final designs], the architecture students really understood the staging issues. And then how to bring everything into the building with street entrances and subways—were they actually going to bring everything in through the front door, for example. I found it as interesting as the students did, I’m sure.”

From the outside in

As part of the semester-long seminar, students create their own designs for

Students had the opportunity to meet with Jim Houghton, Signature’s artistic director, and learn about the challenges involved in creating a center in a mixed use high-rise with three performance spaces: a 299-seat theatre with a stationary stage and seating, a 199-seat flexible space, and a miniature opera house with just 199 seats.

“The Signature was just starting construction, and one of the staff people took a real interest in our activity,” says Lee. “The students got far more time on the job site than we would ever have hoped would hap-

J. R. Clancy Endowment provides the funds for multiple field trips from CMU’s Pittsburgh campus to New York City.

In addition to the Manhattan jun- kets, students travel with Auerbach annually to visit some of the nation’s most complex stages.

“The J. R. Clancy funding and my personal funding have enabled several valuable field trips to visit Cirque du Soleil theatres in Las Vegas and multiple venues in New York,” says Auerbach. Once on site, the students benefit from Auerbach’s commentary about the building design process as they take a backstage tour of the facility, and again as they watch a performance on the stage he designed. “While going to the theatre is very important from the audience point of view, there is nothing like getting into the inner workings of the building in

helping to understand how design affects the experience," he says.

Last year's trip to Las Vegas to tour the backstage facilities of Cirque's *KA* and *The Beatles LOVE* exposed 14 students to the most advanced theatre technology in the world, Auerbach says. Students viewed stage machinery, lighting, and sound systems, and other elements involved in designing a performance venue: "In my orientation lecture, I said that no matter how complex the venues you are about to experience may be, all of the elements, in different scales and scope, are required for theatres of all sizes and forms. Everything is applicable."

A bright future for theatre design

How effective is the CMU program in opening future architects' eyes to theatre design?

Several studio graduates have gone on to positions at Auerbach Pollock Friedlander, in the company's New York City and San Francisco offices. "Over the years, we have hired CMU graduates who have risen to principal, senior associate, and associate levels within our firm," Auerbach says. Another graduate obtained a senior design position with J. R. Clancy.

"The really important lesson that I want my students to take away is that buildings are becoming so complex in our society that the architectural practice today is collaboration," says Lee. "We are very protective of the numbers we have in studio, so we embrace every opportunity we have for students to work across disciplines. I want them to know that they don't know everything, and they will be asking a lot of questions."

"The collaborative merging of many design and technical disciplines is now critical to the success of creating effective buildings," says Auerbach. "Just consider the new presentation media,



This drawing, by Hur, offers a cutaway view of a version of the Joyce Theatre.

theatre machinery, automation, production and directorial values, video and projection, 3D imagery, 3D tracking of flying performers, audience viewing and comfort criteria, ADA, sustainable architecture, and expressive architectural design as icons of the arts and architecture. These facets need to come together with design leadership, not only from the architect but also from multiple disciplines."

If Rodriguez's experience is typical, CMU is on the right track "The final project really showed how much we had worked together, and how much we learned from each other," he says. "This was exponentially better than

other studios, because we learned so much from the other students."

Mike Murphy, president of J. R. Clancy, sees the value in bringing theatre students together with future architects as well. "With the complexity and imagination we see applied to new theatres of every size, it's critical that architects understand all of the systems that go into the building," he says. "CMU has taken an important step in teaching its architecture students to be aware of the ways that the finished building will be used, from the stagecraft to the audience experience. We at J. R. Clancy are proud to be a part of this excellent effort." 