

DESIGN

JOHN SERGIO FISHER

New discoveries

An expansion project for an established science exhibition center has enhanced the visitor experience, increased attendance levels and created a wealth of potential uses

On June 11, 2015, The Discovery Cube Orange County in Santa Ana, California, unveiled a 44,000ft² expansion, which contains the 10,000ft² Julianne Argyros Showcase Theater and Exhibition Hall, plus other science exhibit spaces.

Discovery Cube Orange County, presented by Taco Bell, offers hands-on permanent exhibits, themes, science adventures, interactive programs and shows (such as Bubblefest), and engineering and math (STEM) learning spaces, with a focus that ranges from micro-ecosystems on Earth to exploration of the universe.

Discovery Cube Orange County's theater has been transformed with telescopic seating, making the venue an ever-changing destination for education and entertainment. The first exhibit is The International Exhibition of Sherlock Holmes, a mystery production that is geared toward young sleuths-in-training.

"This expansion represents Discovery Cube Orange County's evolving commitment to expanding STEM proficiency by keeping up with the trends, events and news that are capturing the attention of kids – and creating an entertaining way to approach education through a day of family bonding," says Joe Adams, president of Discovery Cube Orange County.

The new exhibits help guests understand the roles they play in environmental stewardship and the importance of developing habits for health and wellness.

The new exhibit spaces surrounding the theater include: Mission Control; Helicopter

Tour; Inspector Training Course; Petersonville Healthy Kitchen; Water Gallery; and Eat Well. Play Well. Sleep Well. In addition to these exhibits, the building contains enhanced guest service areas for families and teachers.

History lessons

Discovery Cube dates back to 1978, with The Experience Center on the campus of Culver Dale Elementary School in Irvine, California. Through the efforts of Janet and Walkie Ray, Betty Hutton, Karen Johnson and several new community leaders, it developed into a science center, located in the Crystal Court at South Coast Plaza in Newport Beach.

Its popularity caused it to outgrow its initial facility. In 1998, Taco Bell Discovery Science Center, under the leadership of Walkie Ray and Karen Johnson, renovated a warehouse with the iconic 10-story cube. Designed by Arquitectonica, the cube is tilted to face south and is covered by photovoltaic cells.

In 2003, the Science Center took a dramatic leap forward by hiring Joe Adams from the Walt Disney Company to run the center. Currently serving as president, Adams is responsible for the center's growth and expansion to another science center: Discovery Cube Los Angeles.

Bubblefest, which premiered at the science center, was the main reason for the 500-seat theater. The theater has 460 telescoping upholstered center seats, a permanent balcony, and a side gallery containing another 40 seats. The theatrical lighting, sound and projection systems are all supported by, or positioned on,



Expansion and renovation of The Discovery Cube Orange County has made the center an even more recognizable part of the landscape along California's major freeway



Photos: Chro Cielho



DESIGN



Clockwise from top: **A staging of Bubblefest in the center's new theater; the venue's tension grid; the theater with seating in place; the center's theater with seating retracted, showing The International Exhibition of Sherlock Holmes**



a checkerboard-patterned tension grid, which is located in the audience chamber, and partially over the playing area. A small triangular stepping platform allows diagonal circulation from one tension grid module to another. A catwalk surrounds the playing area at the same level as the side gallery seating.

In addition to Bubblefest, the theater and the stage will be used for scientific demonstrations, 2D and 3D film presentations, lectures and future science-related entertainment shows. The telescoping seating does not have to be deployed to its maximum extent, and can be partially deployed to seven rows, yielding 221 seats, and still meeting exiting requirements. The stage is portable, so retracting the seating and removing the stage creates an exhibit hall of 8,600ft², suitable for mounting large exhibits.

The black box theater on the second floor has an exposed ceiling that slopes at 5° to prevent any vertical overlapping sound waves. The interior high point is 40ft above the floor. On the exterior, it is 74ft above grade. Sound absorption panels at the sides, and fabric-covered sound absorption panels at the rear balcony seating provide the correct reverberation time for the myriad of uses that will take place in the theater/exhibition hall.



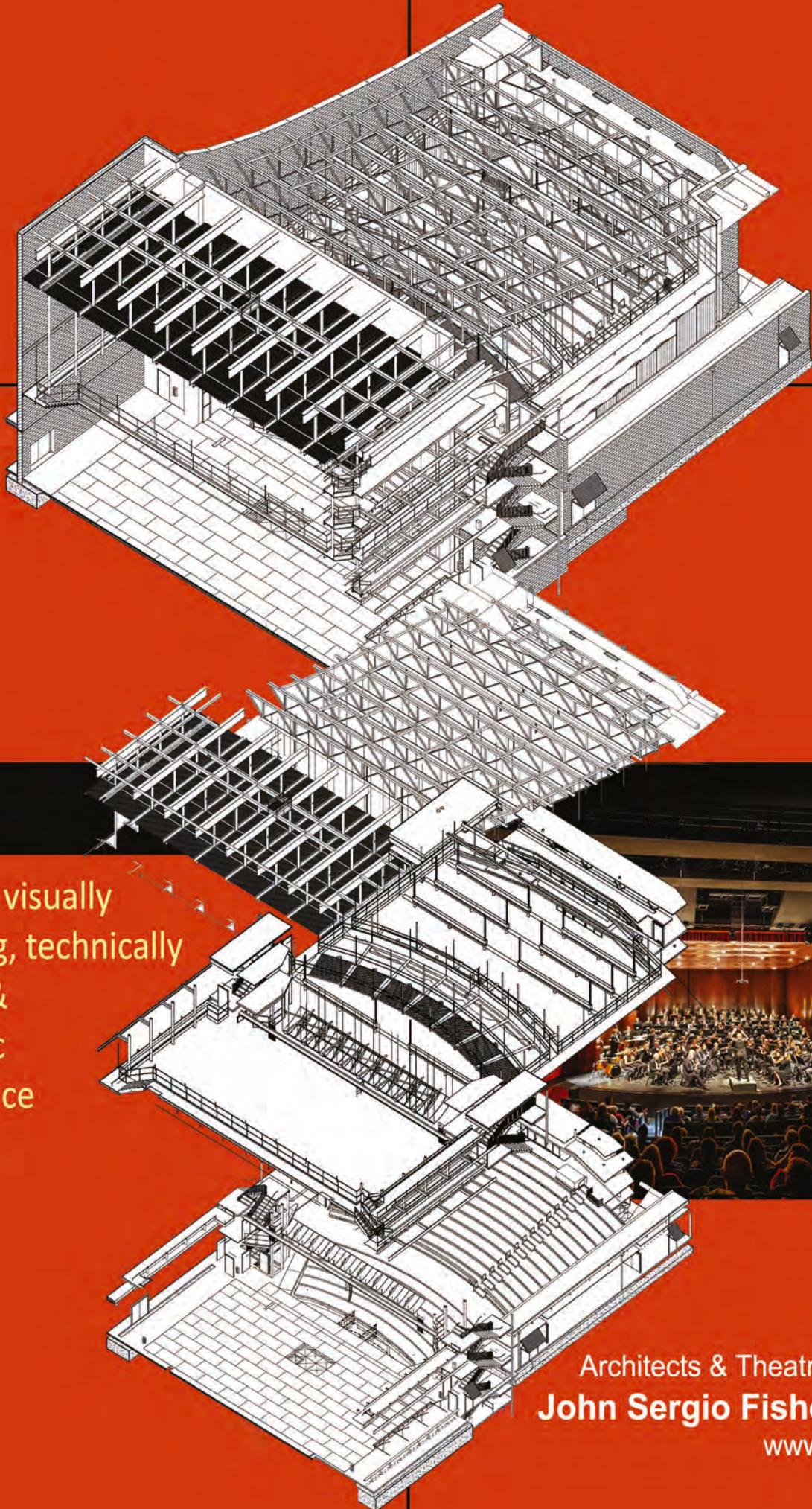
Exterior improvements

Part of the project also included renovating the existing building and transforming the exterior finish from its original desert color scheme to more vivid and playful colors. The addition uses the same exterior insulation finishing system (EFIS) as the original building, and features a grand staircase to the black box theater, which is yellow on the exterior. The building has become a feature of the I5, California's major north/south freeway, complementing the iconic black cube. Mike McGee, VP for finance, remarked that the last time he flew into John Wayne Airport, instead of finding his eyes were drawn to Disneyland's Matterhorn, his attention was now attracted to the new yellow building.

The construction is a steel-braced frame with metal studs, gypsum wall boards and EFIS. The floors are primarily polished concrete and vinyl. The construction cost of the project is US\$13.5m. John Sergio Fisher & Associates of Los Angeles and San Francisco is the architect, theater consultant and acoustical consultant. Driver SPG in Anaheim, California, is the general contractor. Griffin Structures is the construction manager.

Discovery Cube Orange County's goal is to inspire and educate young minds through engineering and science-based programs and exhibits, and to create a meaningful impact on the communities it serves. The addition of the black box theater has helped achieve that goal – attendance has increased, and the addition has been acclaimed by all. ■

www.jsfarchs.com



jsfa

“To create visually stimulating, technically excellent & humanistic performance facilities.”

Architects & Theatre Consultants
John Sergio Fisher & Assoc.
www.jsfarchs.com