

Better Charrettes  
Libeskind's Music  
Save Columbus  
Yale Center Redux

Best Practice  
MacKay-Lyons Sweetapple  
Tomás Amat Estudio

architectmagazine.com  
The Journal of the American  
Institute of Architects

## R+D Awards

Design · Research · Technology



# CITATION

Vegas Altas Congress Center







The architects behind the new Vegas Altas Congress Center in Villanueva de la Serena, Spain, wanted the 74,000-square-foot project to blend seamlessly into the landscape, becoming a scenic fringe between the medieval town's urban streetscape and its agricultural hinterlands. But they also wanted the building to be a landmark, distinct from its bucolic setting. So they crafted a structure that does both.

The four-person design team—**Luis Pancorbo**, **José de Villar**, **Carlos Chacón**, and **Inés Martín Robles**—partly buried the center's two large auditoriums before topping them with an expansive public plaza. Bursting from this flat surrounds is their counterpoint: a bold, cubic building cast in place with gold-colored concrete and punctuated with geometric window and skylight cutouts. To soften the contrast, the designers wrapped this cube, which houses a restaurant, offices, and service space, in a veil of horizontal bands that follow the cube's rounded corners, orbiting the structure in regimented paths inspired by the lines cut into farm fields after harvest. The veil also obscures the underlying concrete form from a distance, while providing invaluable shade to building occupants during the region's hot summers.

For the veil, the designers initially planned to use straight lengths of plastic pipe, but the cost was too

high. In their hunt for an alternative, they discovered what turned out to be a superior material: naval-grade rope made from recycled plastic. Not only did the rope cost less, but the designers could customize its colors to include a mix of yellows, oranges, and greens, mirroring the surrounding fields and imbuing the building with the likeness of a hay bale.

Though the design clearly specified the ropes' thickness and spacing, along with the cantilevered, painted-steel armature that would support them, their precise attachment method remained uncertain until the center was nearly complete. As construction was wrapping up, the architects and their engineers rapidly explored different techniques to secure the ropes to the armature, "testing and trying again, and testing and trying again," Pancorbo says.

Finally, the team identified that 12-centimeter-diameter rebar would support the ropes, and that 10 or 11 brackets per elevation would ensure the ropes stayed horizontal and taut around the building. The rebar is painted to match the rope, to minimize its appearance.

The jurors praised the Vegas Altas as a monumental artifact. Juror Doug Stockman was particularly taken by the veil, both for its outward appearance and for the "effect it has, especially in that interstitial space" between rope and concrete. —N.B.

## Jury

**Mic Patterson** is founding principal of Los Angeles–based Design Tectonics, a consultancy that focuses on innovative façade technology applications and research. He was formerly the vice president of strategic development at Enclos. Patterson is a Ph.D. candidate in the University of Southern California School of Architecture with a focus on sustainable façade renovation practices.

**Douglas Stockman**, AIA, is a founding principal at El Dorado in Kansas City, Mo. He also serves on the Kansas State University College of Architecture, Planning, and Design Dean's Advisory Council, and is chair of the Downtown Council of Kansas City. Stockman received a B.Arch. from Kansas State University.

**Elizabeth Whittaker**, AIA, is founder and principal of Merge Architects in Boston. In 2015, she was a recipient of the AIA Young Architects Award and the Emerging Voices award from the Architectural League of New York. Whittaker received an M.Arch. from the Harvard Graduate School of Design, where she is an assistant professor in the practice of architecture.

## Credits

### **Cricket Shelter: Modular Edible Insect Farm, page 112**

*Client:* Randy Jayne Rosenberg  
*Design Firm:* Terreform ONE, Brooklyn, N.Y. · Mitchell Joachim, ASSOC. AIA, (co-founder and primary investigator); Jiachen Xu, Lissette Olivares, Cheto Castellano, Ivan Fuentealba, Sung Moon, Kamila Varela, Yucel Guven, Chloe Byrne, Miguel Lantigua-Inoa, AIA, Alex Colard, Melanie Fessel, Maria Aiolova, ASSOC. AIA, Vivian Kuan (project management); Felipe Molina, Matthew Tarpley (research assistants)  
*Consultant:* Seek Food · Robyn Shapiro  
*Fabricators:* Shandor Hassan, Christian Hamrick  
*Funding:* Art Works for Change; Terreform ONE  
*Photography:* Mitchell Joachim, Matthew Tarpley  
*Special Thanks:* David Stewart, Christian Hubert, Heather Lord, Scott Pobiner, New Lab, Brooklyn Navy Yard, GMD Shipyard, New York University Gallatin School of Individualized Study

### **BayArc: A Tidal Responsive Barrier, page 116**

*Design Firm:* Skidmore, Owings & Merrill, San Francisco · Craig Hartman, FAIA (concept and interdisciplinary leader); Mark Schwetmann, AIA, Alex Cruz, Ross Findly, David Kwon (project team)  
*Project Adviser:* Moffatt & Nichol  
*Drawings:* Skidmore, Owings & Merrill  
*Structural Engineer:* Mark Sarkisian, Eric Long, David Shook, Geoffrey Brunn  
*Marine Engineering Concept:* Moffatt & Nichol · Dilip Trivedi, Richard Dornhelm

### **The Tower at PNC Plaza, page 118**

*Client:* PNC Financial Services Group  
*Design Firm:* Gensler, San Francisco · Doug Gensler, AIA (principal-in-charge); Hao Ko, AIA (principal and architectural design director); Benedict Tranel, AIA (principal and technical director); Lisa Adkins, AIA (project manager); Anastasia Huggins, AIA, David Hall, Gunwook Nam, Alison Wilkinson, AIA, Daniel Nauman, AIA, Jorge Barrero, AIA, Ethel Macleod, Eugene Lee, Joe Chisholm,

Brent Van Gunten, AIA, Len Sciarra, Philip Kaefer, AIA, Joel McCullough, AIA, Rich Peake, Mariana Vaida, Jessica Yin, Yooju No (project team)  
*Rendering:* Space Matrix; Tangram 3DS  
*Construction Manager:* PJ Dick  
*Lighting Designer:* Fisher Marantz Stone  
*Structural and M/E/P Engineer:* BuroHappold  
*Sustainability Consultant:* Paladino & Co.  
*Photography:* Connie Zhou Photography

### **LELU Exit Sign, page 122**

*Client:* Architectural Safety Components  
*Design Firm:* Interloop—Architecture, Houston · Mark Wamble, Dawn Finley, AIA (design principals); Eric Hughes, Peter Muessig, Jack Mussett (project team)  
*Project Adviser:* Architectural Safety Components · Sam Youdal  
*Consultant:* Martin Co. · John Martin  
*Fabricators:* Moore Fabrication · Kerry Krumbeck; Professionalized Products and Services · Jerry Huang; Southwest Electronic Energy Group · Alex Marin; Anodizing Graphics of Houston · Linda Sayers  
*Special Thanks:* Underwriters Laboratories · Abdul Ahad (investigating engineer)

### **Tally, page 124**

*Design Firm:* KieranTimberlake, Philadelphia · Roderick Bates, Stephanie Carlisle, Billie Faircloth, AIA, Elizabeth Friedlander, AIA, Ryan Welch (project team)  
*Development Partners:* Autodesk; Thinkstep (previously PE International)  
*Project Team:* Autodesk · Jonathan Rowe; Thinkstep · Heather Gaddoniex, Nick Santero, Maggie Wildnauer  
*Special Thanks:* Emma Stewart, Jacky Liang

### **Pulled Plaster Panels, page 128**

*Design Firm:* Young Projects, New York · Bryan Young, AIA (principal); Jon Cielo, AIA (project architect); Noah Marciniak, Samantha Eby, Nayoung Kim (project team)  
*Lighting Designer:* Architectural Lighting · Rick Shaver  
*Structural Engineer:* Silman · Nat Oppenheimer

*Electrical Engineer:* Engineering Solutions · John Ryan  
*Consultants:* Butter and Eggs · Judy Dunne (interiors); Taocon (general contractor); Engineering Solutions · John Ryan (M/E/P engineering)  
*Drawings:* Young Projects  
*Fabricators:* Kammetal (stainless steel screen); Balmer Architectural Mouldings  
*Photography:* Young Projects and Jon Cielo

### **Chicago Horizon, page 130**

*Client:* Chicago Architecture Biennial, Chicago Park District  
*Design Firm:* Ultramoderne, Providence, R.I. · Yasmin Vobis, Aaron Forrest, AIA, Emily Yen, ASSOC. AIA, Tida Osotsapa, Will Gant, Hua Gao, Ronak Hingarh (project team)  
*Design Structural Engineer:* Guy Nordenson and Associates · Brett Schneider  
*Structural Engineer of Record:* Thornton Tomasetti  
*Architect of Record:* Animate Architecture · Joe Lambke  
*Fabricator:* Nordic Structures  
*Funding:* BP; Chicago Park District; Chicago Architecture Biennial; Rhode Island School of Design; ReThink Wood; Nordic Structures  
*Photography:* Naho Kubota  
*Special Thanks:* Laura Briggs

### **Spray-On House, page 132**

*Design Firm:* Patrick Tighe Architecture, Los Angeles · Patrick Tighe, FAIA, Zachary Teixeira, Evelina Sausina, ASSOC. AIA, Risa Tsutsumi, Bran Arifin (project team)  
*Structural Engineer:* Nous Engineering · Matt Melnyk  
*Consultant:* Demilec  
*Fabricator:* Machineous  
*Life-Cycle Assessment:* Department of Civil and Environmental Engineering, School of Engineering, Stanford University  
*Prototype:* Built at Southern California Institute of Architecture (SCI-Arc), as part of the SCI-Arc Gallery Series  
*Drawings, Renderings, and Photography:* Courtesy Patrick Tighe Architecture  
*Special Thanks:* SCI-Arc team

### **Vegas Altas Congress Center and Auditorium, page 134**

*Client:* Junta de Extremadura  
*Design Firm:* Pancorbo + de Villar + Chacón + Martín Robles, Madrid · Luis Pancorbo, José de Villar, Carlos Chacón, Inés Martín Robles (project team)  
*Drawings and Lighting Designer:* Luis Pancorbo, José de Villar, Carlos Chacón, Inés Martín Robles  
*Structural Engineer:* Mecanismo · Juan Rey, Pablo Vegas, Jacinto Ruiz Carmona  
*Electrical and Facilities Engineering:* Úrculo Ingenieros · Rafael Úrculo, Sergio Rodríguez  
*Acoustics:* Arau Acústica · Higiní Arau  
*Models:* Gilberto Ruiz  
*Construction:* Placonsa · Eloy Montero; Julio Oreja (site manager)  
*Ropes Installation:* Cotesi; Lastra & Zorrilla  
*Funding:* Junta de Extremadura  
*Cost:* €10,505,187 (\$11.7 million, approx.)  
*Photography:* Jesús Granada (building); Ignacio Bisbal Grandal (model)

### **Nanobiome Building Skin, page 136**

*Design Firm:* Michael K Chen Architecture (MKCA), New York · Michael Chen, Justin Snider, AIA, Alan Tansey, Natasha Harper, Elena Hasbun, Braden Caldwell, AIA, Julian Anderson, AIA (project team)  
*Drawings:* MKCA  
*Landscape Architect:* Local Office  
*Landscape Architecture:* Walter Meyer, Jennifer Bolstad, AIA, Jenny Hindelang  
*Conservation Consultant:* State University of New York College of Environmental Science and Forestry, Department of Environmental and Forest Biology · Danilo Fernando (associate professor and graduate program director)  
*Façade and Structural Engineer:* Buro Happold  
*General Contractor:* IA Construction Management  
*Manufacturer:* Boston Valley Terra Cotta  
*Photography:* MKCA

### **Infundibuliforms: Kinetic Tensile Surface Environments, page 138**

*Design Firms:* Matter Design, Boston · RVTR, Ann Arbor, Mich., and Toronto · University of Michigan  
*Primary Investigators:* Wes McGee, Geoffrey Thün, Kathy Velikov  
*Design Research Associate:* Daniel Tish  
*Fabrication Assistants:* Asa Peller, Dustin Brugman, Andrew Kremers, Andrew Wald, Iram Moreno Pinon  
*Wireless Sensing Adviser:* Jerome Lynch  
*Technical Partners:* Buckeye Polymers; Industrial Fabricating Systems; Beckhoff  
*Funding:* Taubman College of Architecture and Urban Planning: 2016 Research Through Making Program; University of Michigan Office of Research: Small Projects Grant  
*Photography:* Peter Smith

### **Timber Waste Modular Unit ("TwMU"), page 140**

*Design Firm and Fabricator:* IKD, Boston · Yugon Kim, Tomomi Itakura (leaders); Yuki Kawae, Steven Hien, Brendan Casimir, David Morgan, Erin Kim, James Fan, Miguel Lorenzo Gumila (student research assistants)  
*Drawings:* IKD  
*Funding:* Heritage Museums & Gardens; Rhode Island School of Design  
*Photography:* IKD  
*Special Thanks:* Windy Hill Farm Sawmill

### **Grove, page 141**

*Client:* Design Biennial Boston, Boston Society of Architects (BSA)  
*Design Firm and Fabricator:* GLD Architecture, Brookline, Mass. · Joel Lamere, Cynthia Gunadi, Sophia Chesrow, Grigori Enikolopov, Zain Karsan, Dohyun Lee, Elizabeth Galvez (project team)  
*Drawings:* GLD  
*Funding:* Design Biennial Boston; GLD  
*Photography:* Jane Messinger  
*Special Thanks:* Rose F. Kennedy Greenway Conservancy, Boston Art Commission, Pinkcomma Gallery, BSA Space, Boston Mayor's Office of New Urban Mechanics, David Costanza, Sixto Cordero, Caitlin Mueller, Steven O. Anderson, John Skibo, Matt Wagers, Chris Dewart, Christopher Gunadi

### **Blooming Bamboo Home, page 142**

*Design Firm:* H&P Architects, Hanoi, Vietnam · Doan Thanh Ha, Tran Ngoc Phuong, Chu Kim Thinh, Erimescu Patricia, Nguyen Van Manh, Nguyen Khanh Hoa, Nguyen Quynh Trang, Tran Quoc Thang, Pham Hong Son, Hoang Dinh Toan, Pham Quang Thang, Nguyen Hai Hue, Nguyen Khac Phuoc (project team)  
*Fabricator:* H&P Architects  
*Photography:* Doan Thanh Ha  
*Cost:* \$2,500  
*Special Thanks:* Nguyen Tri Thanh