STRUCTURAL ENGINEER
celebrating the unsung heroes of the design and construction industry
GoStructural.com | December 2013

CRAIG HUNTINGTON

A winning combination

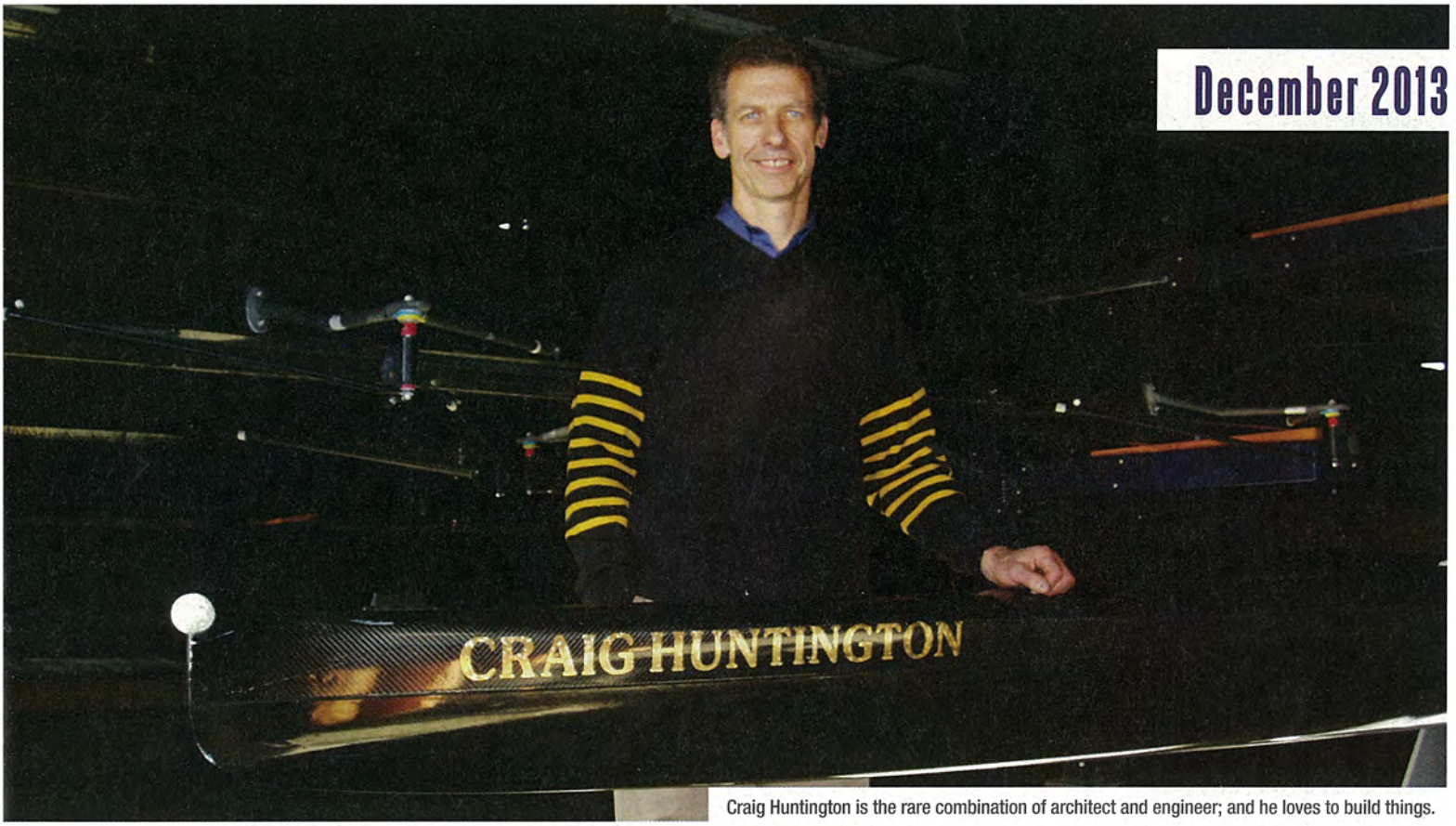
Page 12

Space view
Page 18

ALSO INSIDE

zweigwhite

December 2013



Craig Huntington is the rare combination of architect and engineer; and he loves to build things.

cover story

features

EXCLUSIVELY AT WWW.GOSTRUCTURAL.COM (SEE PAGE 9)

- Slope life

on the cover

The son of an engineer, Craig Huntington today leads the firm started by his father.

Cover photo: www.graceimage.com

Craig Huntington: A winning combination

Architecture and engineering often operate in silos; Huntington is here to fix that.

By Maureen Foody

The covers that Huntington designed and engineered for the new marina in Stockton, Calif. include 24 dramatic hyperbolic paraboloid forms.

Craig Huntington has been involved in engineering since he was a boy, observing his father Bert Huntington work at his firm in the Bay Area. Huntington has, however, furthered his own path by illuminating the links between architecture and engineering – showing that they aren't as far apart as one may think.

The structures around San Francisco's Bay Area are very function-focused due to the nature of the area, but there is also a deep sense of design that comes embedded in the coastal culture. It's hard not to associate clean lines and simplicity with the work Craig Huntington has done over the years as he has established a career uniting his backgrounds in architecture and engineering.

He grew up in Oakland, Calif., where the senior Huntington started his own firm, Huntington & Associates, in 1949, a steel fabrication consultant. Inspired by his father's pursuits, young Craig loved building simple structures around his curvaceous neighborhood growing up. Along with his friends, Huntington would produce ragtag tree forts hidden behind their houses or pile up rocks to create simple, makeshift dams. When the projects turned indoors they would work on making models, maintaining and repairing their bicycles, or tinkering with some scrap wood and their parents' tools to see what they could come up with.

"I learned so much from my father," Huntington says. "He taught me a great number of things but possibly the most important was that the best solution was often both the simplest and the most economical; extravagance never entered into the equation."

School to work

With that in mind, Huntington first studied architecture, earning his bachelor of arts in architecture at University of California at Berkeley in 1976 and then followed this by earning his master of engineering degree in civil engineering from the same institution in 1978. When asked about his time at UC Berkeley, Huntington beamed, recalling

More than 600 meters of roadway frontage at San Diego International Airport are graced by new cantilevered fabric covered canopies for which Huntington served as design consultant and structural engineer.

his introduction to intercollegiate rowing at Cal. Rowing helped Huntington to first realize how much planning and effort went into being great at something, proving the importance of intertwining passion and dedication. He also fully enjoyed his undergraduate classes on architectural history.

"They taught me how to both appreciate architecture at a deeper level but also to see structure's place within it," he says.

Before graduating, Huntington was highly interested in the kind of work happening in the engineering world, especially those who were pushing the boundaries, so he pored over the stacks of engineering magazines piled in his father's office, finding one article that focused on the work of David Geiger and Horst Berger. After sending an inquiry letter along with his résumé to Geiger Berger Associates, Huntington had an interview that was actually more of a conversation with a surprise pop quiz at the end. Luckily, he aced this pop query, which quickly led to his first job. Huntington was immediately put on the dynamic and pace-setting project of the Haj Airport Terminal in Jeddah, Saudi Arabia. Containing 210 fabric cones, the structure was and remains the largest fabric roof structure in existence. With clean lines that help support a precise purpose, the terminal became a milestone for Huntington's career, of course only after numerous long nights under the mentorship of his colleagues and new employers. One of the most important pieces of advice from his time on the East Coast occurred when Huntington remarked how it seemed an architect did not care how a certain project looked. Geiger quickly responded with the reminder, "If the architect doesn't care about these details, we'd better make sure that we do."

Back West

Huntington soon moved back to the West Coast and began working for TY Lin International in San Francisco. TY Lin was also well known for their daring engineering, especially in the work of bridges and concrete structures. Huntington served as the project engineer

for Pacific Park Plaza, a 30-story condominium tower in the Bay Area. The building needed extra protection to withstand a potential earthquake as it rested in an active seismic area.

"We employed a reinforced concrete ductile moment-resistant space frame, a then-emerging technology designed to give concrete structures the ability to resist extreme seismic loading and to survive damage in an earthquake that had traditionally been enjoyed only by steel frames," Huntington says. The design proved itself, beginning a trendsetting mode that has been employed in many other seismically active locations. And as with many innovations, Huntington remembers how staunchly opposed so many were to the design, simply refusing the idea by saying, "You simply cannot build with concrete like this in California."

Homecoming

Huntington returned to work at Huntington & Associates, eventually taking over as president of the firm and adopting its present name, Huntington Design Associates. He has deliberately kept the practice small since taking the helm.

"It allows me to get involved in all aspects: from the details in the design work to managing communications and project coordination with the clients. The work is diverse and very enjoyable while still remaining a challenge," he says.

These projects range from tension structure design, specialty products such as fascia and skylights, external FRP reinforcement for concrete structures, and specialty manufacturing structures for heavy industry and technological manufacturing. The firm also has many eco-friendly applications, including the design of Springs Preserve Photovoltaic Park in Las Vegas, where pre-tensioned fabric membranes are engineered to reflect light back to the PV panels.

One project Huntington recalls as particularly challenging was the work done on a floating dock at the Stockton, Calif. marina.

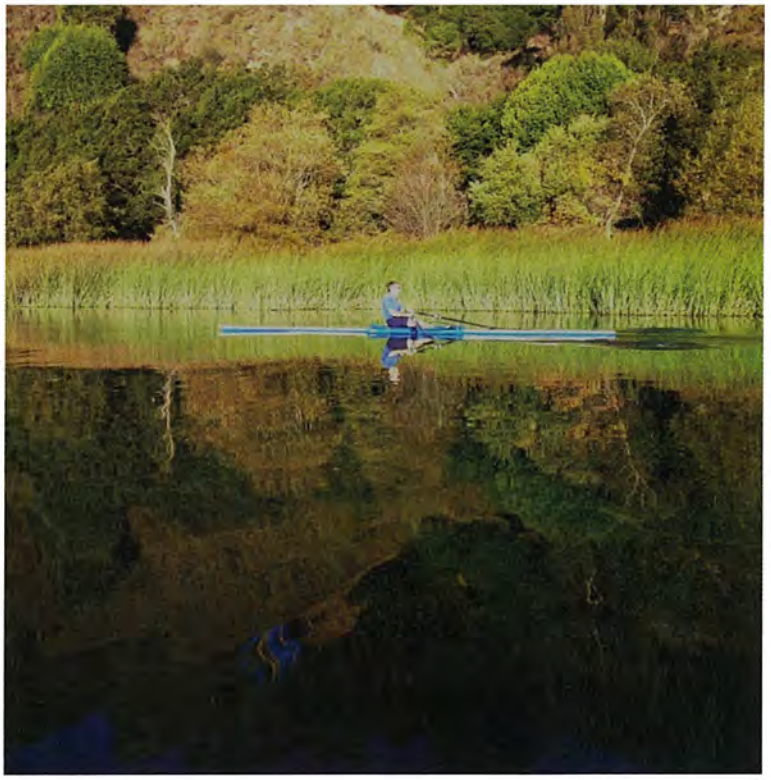
"I was able to create a good looking, effective, yet economical solution to the unusual design problems imposed by the requirements of floating docks and an irregular supporting pile geometry," he says.

Effective communication made all the difference in making the project happen. The landscape architect wanted the structures to mimic birds landing into the watery shores with their wings outstretched or even

Huntington and his wife Robin watching America's Cup action on San Francisco Bay.

Their second anniversary included a surprise elevator ride to the top of the Golden Gate Bridge's south tower arranged through a friend at the Golden Gate Bridge District.

More recently, they crossed the old San Francisco Bay Bridge cantilever span during its last hour of operation, in order to enjoy its juxtaposition with the new self-anchored suspension bridge from nearby Treasure Island.



Huntington enjoys an early morning row on the waters of Lake Chabot.

A two-year varsity letterman at the University of California, Huntington's leadership in the construction of a new boathouse for the crew garnered recognition with a new four oared shell bearing his name.

Huntington and wife Robin enjoying the waters near Yelapa, Mexico.

the waves themselves before they dissipated into the shore. However, the membranes had to be configured to function using tension alone, no backup, so it was difficult to convey the flexibility or freeness that comes from fabric forms while also creating the landscape architect's proposed visual metaphors. Huntington and the design-build general contractor were able to create light and elegant canopies that are also form-resistant and economical structures.

Published author

Along with his work at Huntington Design, Huntington also enjoys writing about structure and architecture. He is the author of "The Tensioned Fabric Roof" and worked as co-author and editor of the recently published, "Tensile Membrane Structures: A Practical Guide," which resulted from serving as chair of the Tensioned Fabric Structures Task Committee at ASCE. He is also writing a book that further explains his own interests in architecture and design, using his own personal experiences, along with external examples.

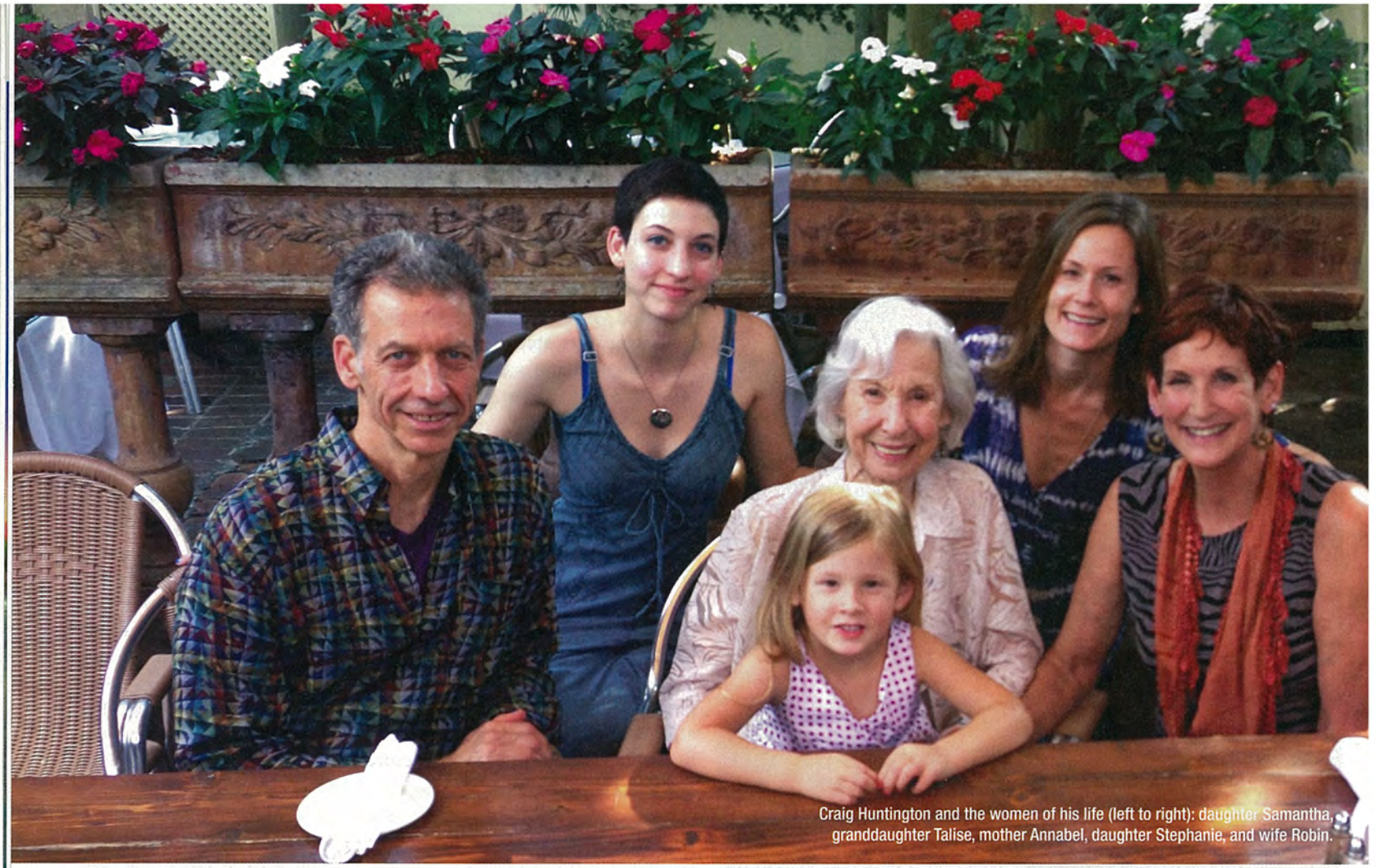
Greatly inspired by the work of David Billington, professor emeritus at Princeton and researcher, Huntington enjoys questioning the links that unite architecture and structure and especially why he finds it so fascinating.

"It is not just beauty that (these structures) share, then, but that particular form of beauty founded in the clear expression of a load bearing function," he says. "Their visual grace is rooted neither in ornament or spectacle, but in the frank and minimalistic expression of their essential purpose."

Huntington credits his architectural background for this inquisitive nature.

"It taught me to be empathetic with architectural clients and to care about how structures look and to consider the visual impact of structural design choices," he says. "From studying architecture, I also learned to give better counsel to architects about the impact of architectural decisions on structural performance and economy."

Huntington shares two pieces of advice for those just beginning their careers. The first is to simply begin by building things, getting involved in projects of any size, from simply hammering a few nails down to any action that can help create a better understanding of the processes involved in design and construction from beginning to end.



Craig Huntington and the women of his life (left to right): daughter Samantha, granddaughter Talise, mother Annabel, daughter Stephanie, and wife Robin.

Secondly, "Work somewhere where your abilities are respected and you're given more responsibility than your experience would suggest you've earned. I kept pushing because I had the good fortune to continually have good challenges put in front of me." And it is those challenges that Huntington relishes, both in engineering and architecture. "If I can put a picture up on the wall of something that I designed and still feel good about it five or 10 years later, then that's the best reward I can have," he says.

When not on the clock, Huntington still enjoys being involved with his alma mater and their rowing team, remaining active with their non-profit group, Friends of Cal Crew, which, while he was serving as the group's president, designed, built, and raised funds for a new boathouse. Craig has been married to his wife Robin for 27 years. They have two daughters, Stephanie and Samantha, and a granddaughter, Talise; plus a young pup named Sherlock who helps keep Huntington active on top of his other enjoyed activities of running, rowing, and cycling.

Maureen Foody is a freelance writer and editor who lives and works in Chicago. She can be reached at Maureen.t.f@gmail.com.

Huntington takes a break from inspecting the terracotta on an old clock tower high above the streets of Oakland, Calif.