

Chapel Hill News REAL ESTATE



PHOTO BY MICHAEL CINCALA

The living room space expands with views of the sky and multiple sight lines to the outside through large windows.

Aiyyer House nods to Japanese sensibilities

When delegates from the Japanese Foundation for Senior Housing planned their tour of senior housing options in Orange and Chatham counties, they wanted to see a detached, single-family house with accessible features that would allow aging in place for a middle-class family.

Long-time Chapel Hill resident Yoko Crume helped Foundation members plan the tour. She is a native of Japan and consultant in aging research and policy.

When looking for a house she thought would fit the Japanese delegates' interests, Crume came upon a recently constructed modern house in Carrboro that was designed by local architect Jason Hart. Hart had previously worked for Takenaka Corporation, one of the largest construction and architectural firms in Japan, and under internationally renowned Italian architect Renzo Piano in Europe.

Hart, now the principal architect at CUBE Design + Research in Chapel Hill, designed the house in 2013 for Anantha Aiyyer, who owned a half-acre, wooded lot and wanted to build a small, energy-efficient house that would blend into its natural surroundings and allow him to age in place.

After several discussions about Aiyyer's interests and Hart's design process, they began planning what would become a 1,750-square-foot home with large living room, kitchen/dining area, study, three bedrooms and 2.5 baths.

A few months after breaking ground at 704 Hillsborough Road, Aiyyer had proposed to Leigh Stringfellow, a professional harpist. Even though Stringfellow wasn't

involved in the design of the house, it turns out her harp "fit beautifully in the living room where she also teaches," Aiyyer said.

The use of natural light from insulated skylights was an important aspect of the home. When a cloud passes over, the interior light in the home slightly dims – engaging the house with nature.

"You can't get that from windows alone," Hart said, "but you can from careful placement of skylights. During the day, the owners don't use any artificial light. It is all free daylight."

The house also stores rainwater from the roof in a cistern that is used for watering landscape and flushing toilets.

"O.W.A.S.A. says we're the first single-family home in Orange County to do this," Hart said. "It saves money. By using rainwater, we're not flushing dollars down the toilet."

"It was a challenge to build something affordable for a middle-class budget," Aiyyer said. "To do it, we kept the size small and chose materials wisely."

"The Aiyyer home is a small house that lives big," Hart said. "Every inch matters. We maximized the living areas, minimized hallways, and opened big views to the outside."

One of the Japanese delegates, Hiroki Goto, said his im-

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PHOTO BY JASON HART

A white coating on the roof helps deflect heat from the house. The vertical zinc wall separates private and public spaces inside.

ACCESSIBLE

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pression of visiting the Aiyyer house was that of "a quiet retreat, where time passes slowly."

Goto, whose company, UR Community Inc., manages rental units in Japan, said he found the Aiyyer house very user-friendly with enough space to make people feel comfortable. He said Japanese homes are about a third smaller and designed to maximize the use of small space.

"Japanese homes have to be earthquake resistant, and that requires special construction techniques that leave less space for the occupants," Goto said. "If we built this (Aiyyer) house in Tokyo, it would be at least a million dollars, mainly for the land."

Hart said to build a modern, green home in the Triangle starts around \$200 per square foot. Tax credits for energy efficiency help defray costs for geothermal heating systems and solar panels.

CUBE offers a free, modern-home planning guide at cubedesignresearch.com.

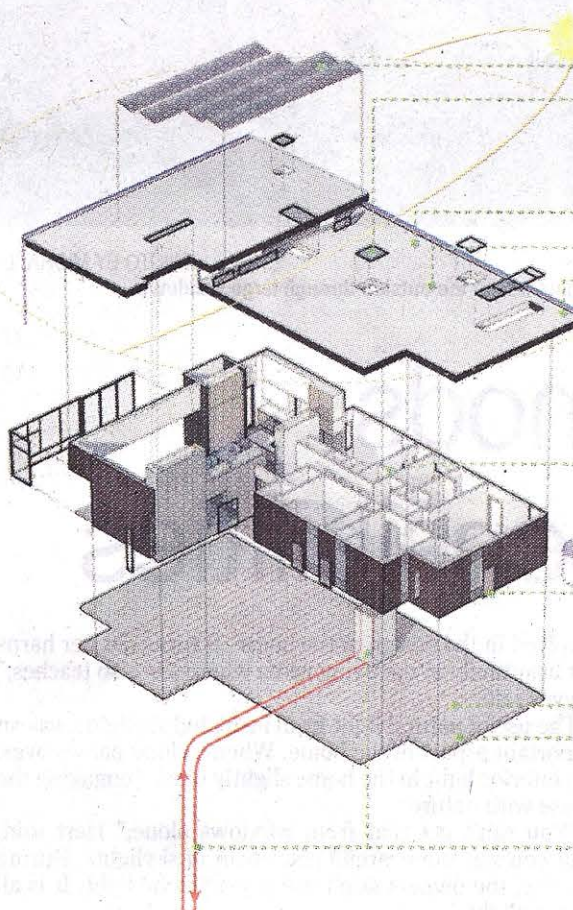
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PHOTO BY RICHARD CRUME

During a tour of her house with a delegation from the Japanese Foundation for Senior Housing, homeowner Leigh Stringfellow, holding her cat, kneels in front of (left to right) delegation member Mika Yamamoto, Ph.D.; Jason Hart, principal architect at CUBE Design + Research in Chapel Hill; Yoko Crume, Ph.D.; and Cherie Rosemond, Ph.D., research scientist at UNC's Center for Health Promotion and Disease Prevention.

SUSTAINABLE STRATEGIES IN THE AIYYER HOUSE



- SOLAR COLLECTION**
5kW Solar Photovoltaic Panels
Thermal Skylights for Natural Light
- ROOF**
Super-Insulated (R-54)
White Color Reduces Heat Gain
Deep Overhangs Reduce Sun Glare
- WATER**
Rainwater used for Toilet Flushing and Landscape Watering
Tankless Water Heater
- WINDOWS**
High Thermal Performance Fiberglass-Clad Wood Windows with Insulated Glass and Low-E Coating
- FLOOR**
Radiant Heating Throughout
Concrete Floors for Thermal Mass
- ENERGY**
Geothermal Air-Conditioning System