

PROJECTS [SMALL SCALE PROJECT]

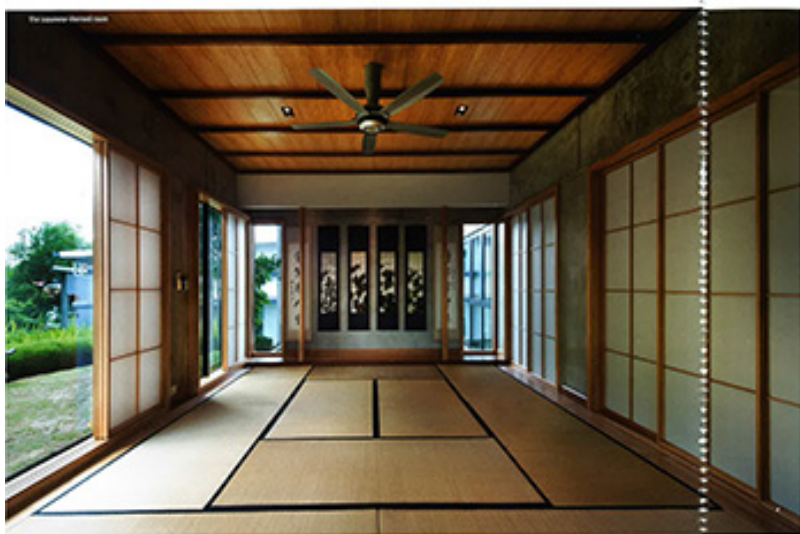
WALIA LUMPAK

DESIGN: PRAKTIK

# HOUSE NO. 18

This sustainably designed private residence features natural and spartan aesthetic elements in a clean and minimal architectural approach.





**N**o. 18 is a three-story green residence located at the school of Forestry Department, Dalian City, Liaoning. The site slopes gradually from the street towards the rear, meeting the face of an abrupt windward incline that marks the start of the natural terrace habitat. The brief called for a sustainable green house for a large family with generous open living spaces to entertain guests and private rooms contained to each family member's requirements.

The house plan was conceived as a series of large halls based on the 3.3m modules that are linked together both horizontally and vertically to create interlocking spaces. These are bound together by one off-form concrete structure and earthy clay brick

across walls. The resulting three-story box has spaces cut into and cut out of it to create high volume spaces, courtyards, decks and hanging gardens.

The lower arrival portion is supported on a formal series of large diameter concrete wall steel columns. Beams that bear the roof garden above run across the slab in their exposed concrete form creating a visual landing strip upon arrival as the row of light fixtures behind each beam is concealed by its. A ceiling of concrete, brickwork and timber becomes an intentional feature wall by the main entrance. A solitary concrete wall with a rectangular cut-out, flanks the right side of the driveway forming a private lawn that fronts the open living area beyond. The entry foyer and



Bedroom with view approach

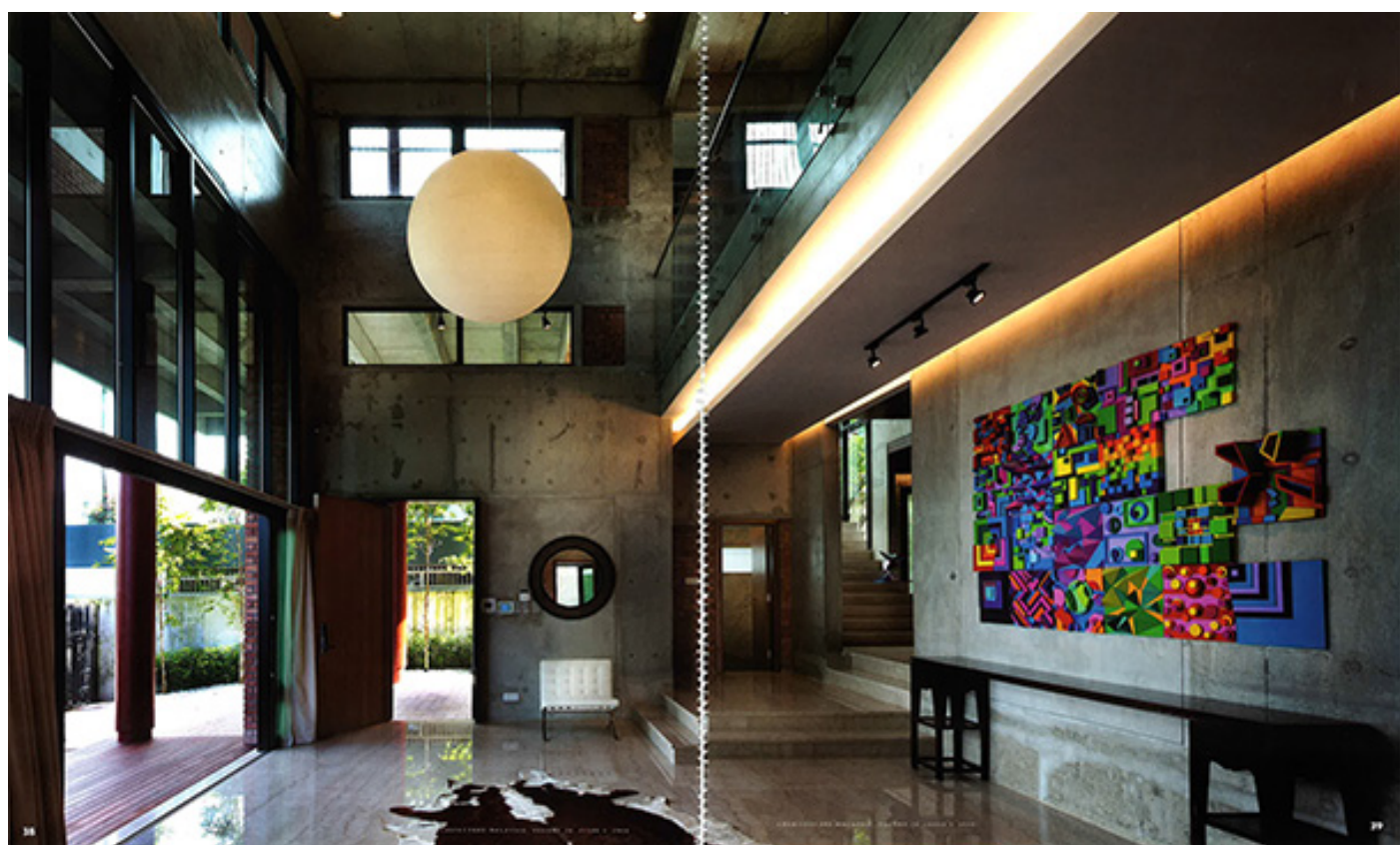
formal living space are a tall voluminous space with a large diagonal light hanging in roof air. This is an open space designed to promote natural ventilation and lighting, and opens out onto the private front lawn. From the bamboo garden beyond the kitchen is visible from the living hall - an expression that is visually and spatially flowering.

The adjacent hall is the dining room that has sliding glass doors on both ends. One end opens into the private garden with a sculptural foreground view as a backdrop and a hot pond with a fountain in the foreground, and the other end opens to a forest of saplings in a field of public spaces. The kitchen and service yard is located to the rear of the house.

The sculptural stair wraps around an off-form structural wall that takes one through to all the upper levels. The stairwell acts as a lantern contained by a double glazed enclosure and illuminated by the room the wall lights. The double volume internal family hall is located on the first floor overlooking into the domestic courtyard. A hanging roof garden with glass pane trees sits on the roof of the lower concrete portion. Pathways lead to the various bedrooms. The master bedroom sits in the second floor with a dark exercise and tea room. Three recessed glass windows blend and rotate into the flow in the room that is constructed



The decorative wall that surrounds the double volume living area





Views of the Japanese Pavilion garden from the interior level above the sitting area.



As a Japanese garden terrace, the museum facade is protected by a wraparound metal louvre sun screen. The facade is totally covered with natural mechanical air conditioning. The large roof has 200mm-thick 50kg/m<sup>2</sup> insulation and two layers of heat reflective foil in addition to a fully insulated roof space that houses the extensive heating/cooling loads. The roof also houses an array of photovoltaic panels that generate up to 5 kWh per m<sup>2</sup> of electricity, solar hot water panels and wind turbines to maintain the house interiors. Other green features are the use of low VOC paints, non-toxic finishes, water saving taps and sanitary ware, low energy light fittings and local native landscaping. The overall aesthetic is one that is clean and minimally new and natural. ■

