



All[e]Land // Team Israel



Solar Decathlon CHINA 2013

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Shenkar College
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Design

חוצות
המפרץ



לבני מהנדסים בע"מ
LIVNI ENGINEERS LTD.



Additional companies: Invivo, AA Laser, Boutique Ceramic, Barkai Syatems, Karnei Tchelet
Consultants: NASH Engineers, Tiktin Engineers, Lilach Raz, Michael Levi, Totem Imaging, Michael Engler,
Accessibility Israel, Ofer Kaufman, Ronen Gisser, Rebecca Vital, Evyatar Harel

10 competitions

The design concept, All-e-Land (a play on Holyland), integrates the team's perspectives on cultural, social and energy issues. The following is what sets our design apart from the other teams.



Architecture

Suited to a Mediterranean climate and based on an ancient local building style set around an internal courtyard, the design makes innovative use of the outdoors and engages with outdoor space as one component of energy efficient design.



Market Appeal

The house is designed for today's society, promoting sustainable living through energy independence and an infrastructure for home-grown food. It can be adapted to suit inhabitants at different stages of life, providing flexibility within a small area.



Engineering

The structure is made of modules which are prefabricated and manufactured by automated technology. This minimizes waste on site and simplifies the assembly process.



Solar Potential

The house showcases solar energy technologies from a range of Israeli firms, from the most established to the latest start-ups. All of these work to maximize the house's energy potential, including rooftop and building-integrated PV systems and solar-driven heating and cooling. Design and energy were integrated from the start, creating a striking roof design angled to optimize electricity production.



Internal Comfort

The building envelope is designed for maximum temperature control, with two thick insulation layers. High-performance Israeli solar windows generate electricity while also providing natural daylight and insulation.



Hot Water

The house will use a new type of solar thermal collector to heat water, capable of generating significant heat even on freezing winter days.



Energy Control

The control room is the nerve center of the house. Detailed monitoring and control of the house's microclimate allows its inhabitants to maximize energy efficiency as well as comfort, integrating passive and active climate control.



Culture



Society



Energy

Solar Decathlon Park

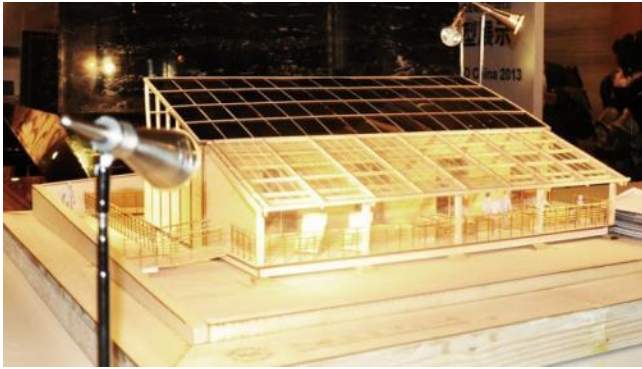
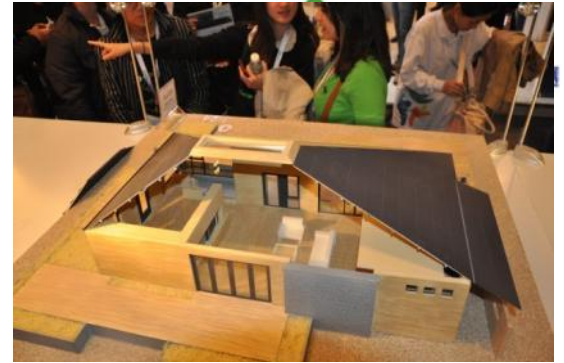


Solar Decathlon CHINA 2013

Solar Decathlon Park

Datong Shanxi, China, 2013



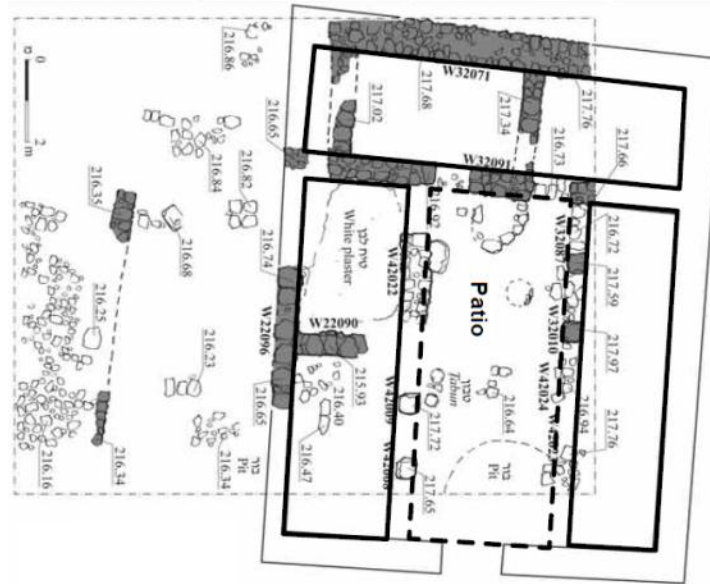


4 Room Israelite House

בית ארבעת המרחבים (הבית הישראלי)

פרוגמה:

3 חללים סביב חלל פאטיו אחד
גג שימושי
חללים שימושיים (אירוח/לינה/אחסון...)
מבנה אקלימי/אקולוגי



Architect: Josep Cory, Israel, solar decathlon 2013

Team

All[e]Land

Project Name:

Dr. Josep Cory
Arch. Chen Shalita

Checked by:

**Four area house
Concept**

Sheet Name:

A-100

Sheet Number:

1-100

1

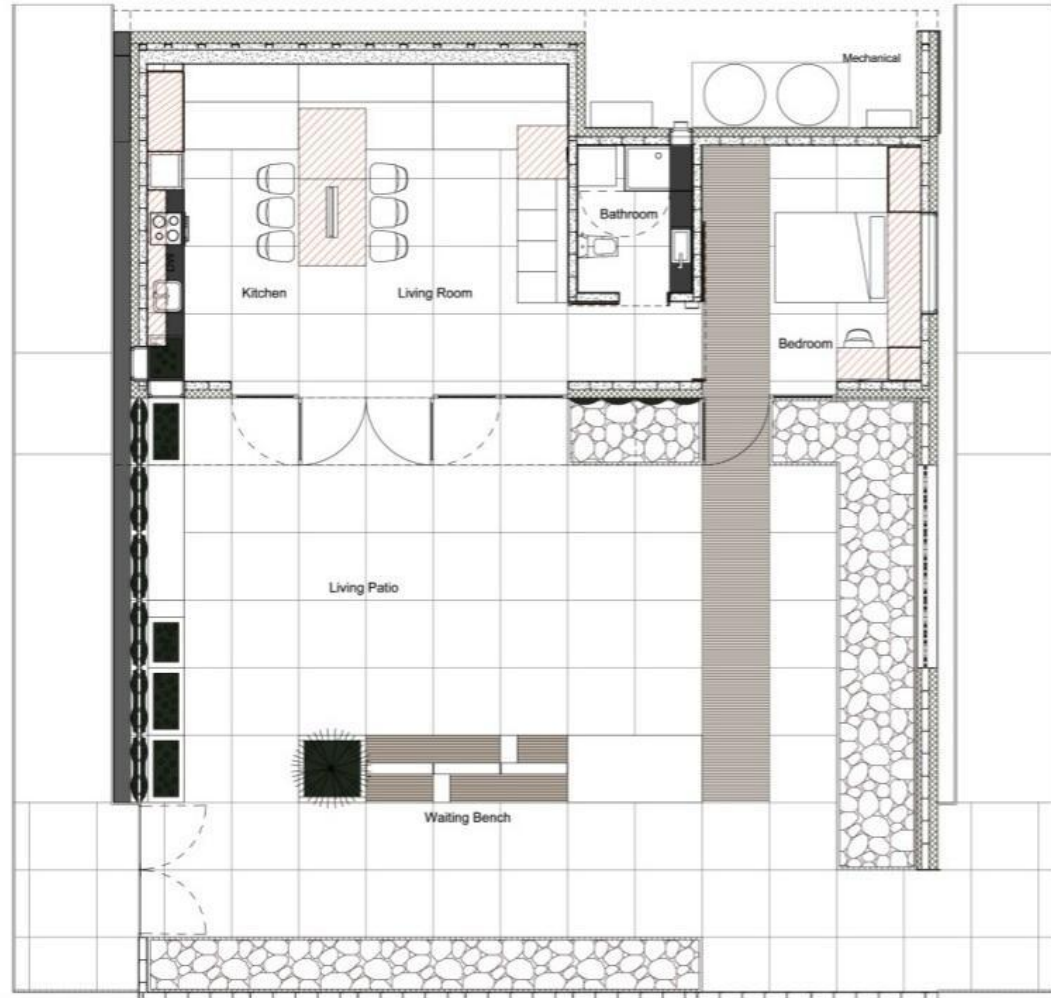
30 Dec 2011

Scale

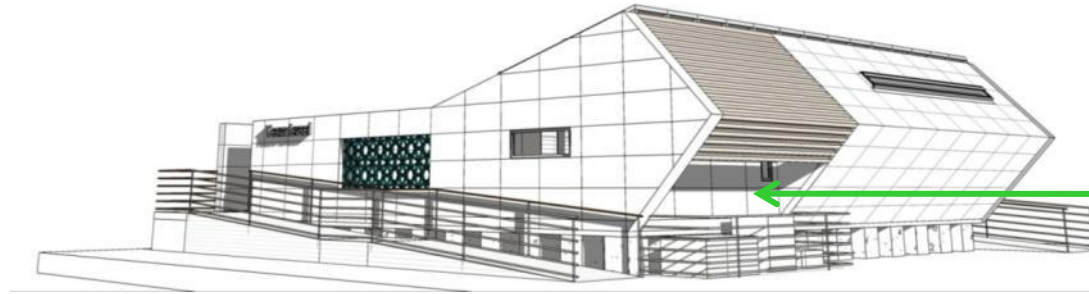
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Date

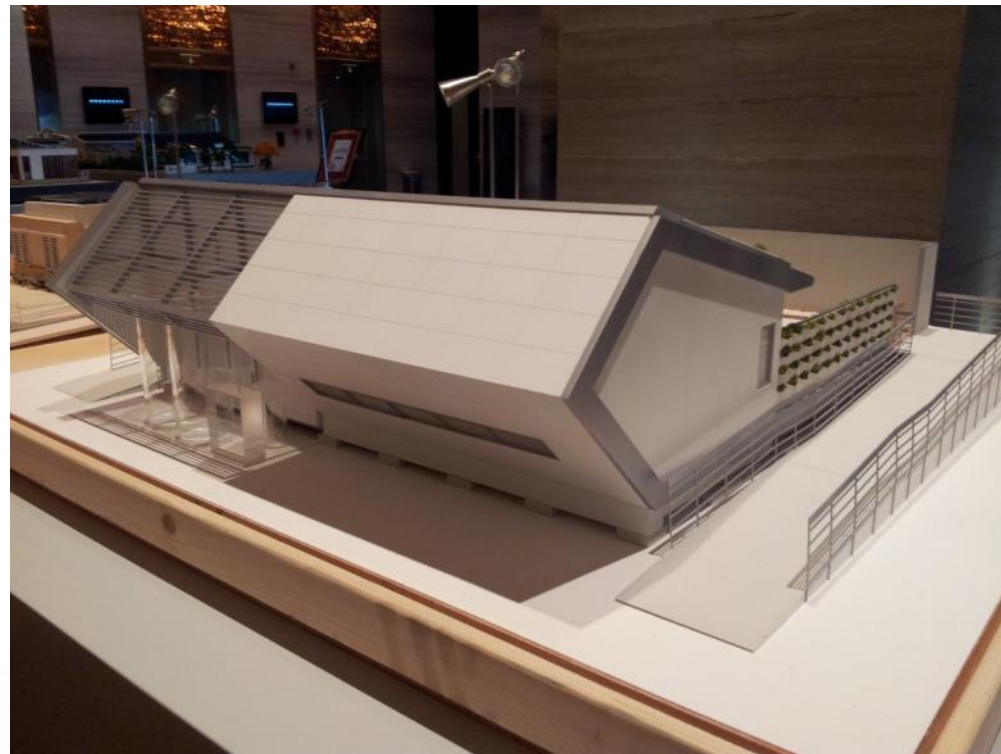
Modern Interpretation



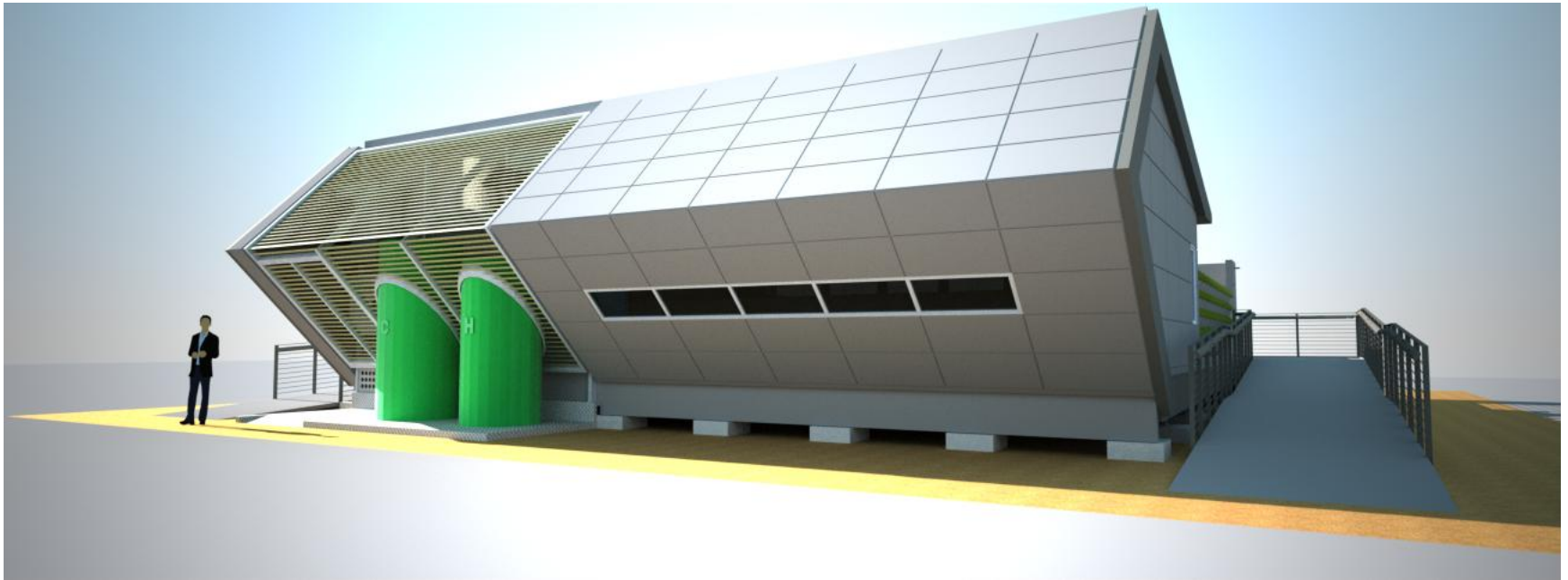
Perspectives



איזור המערכות



Perspectives



Interiors

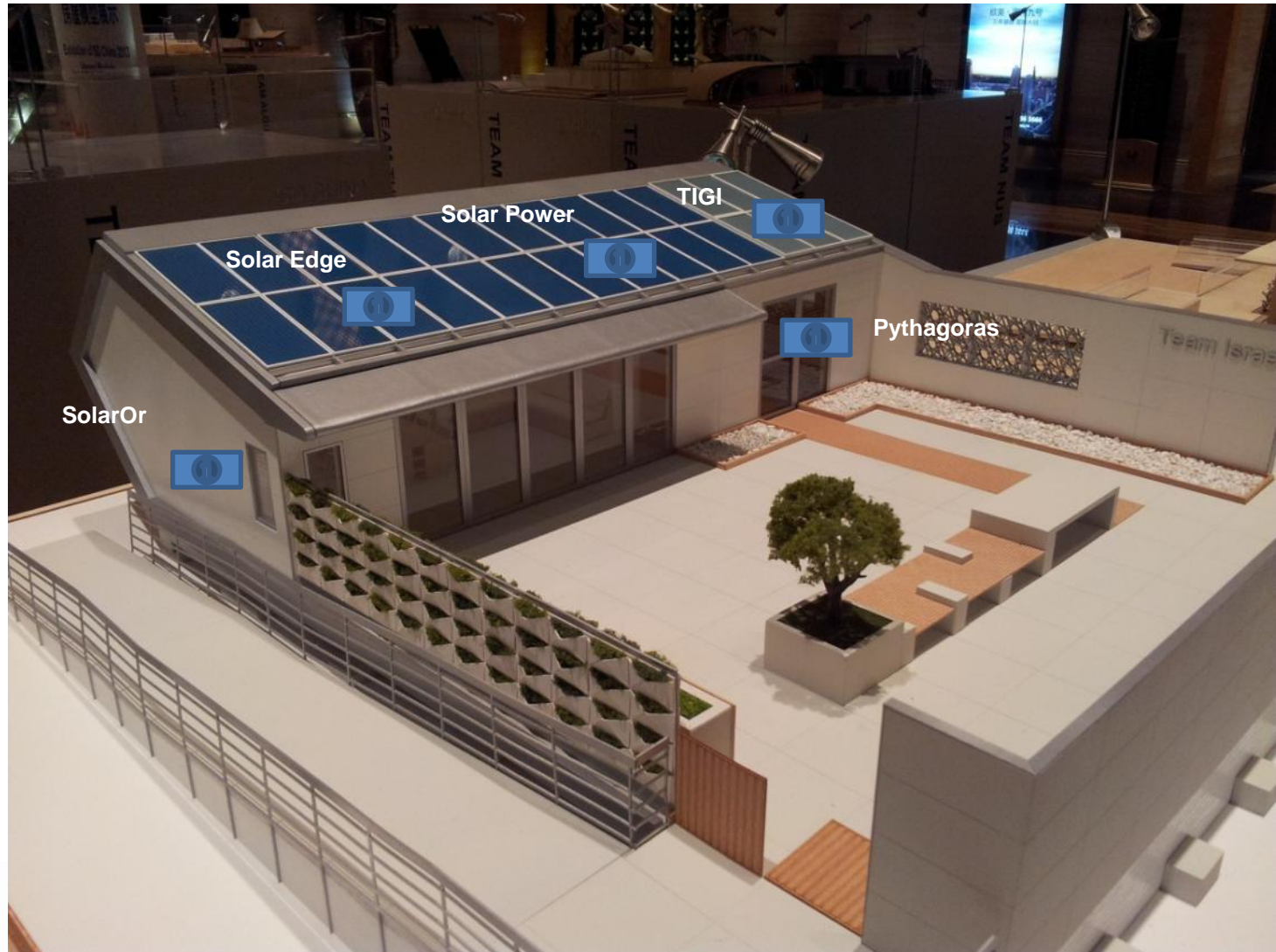


Interiors

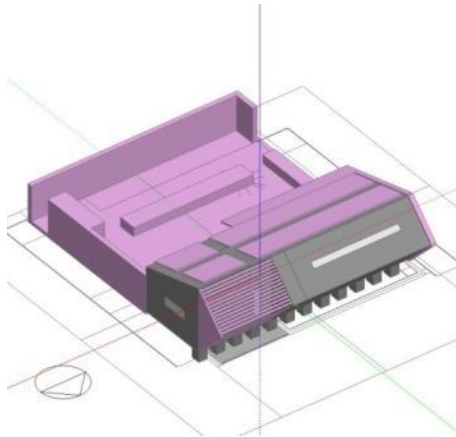




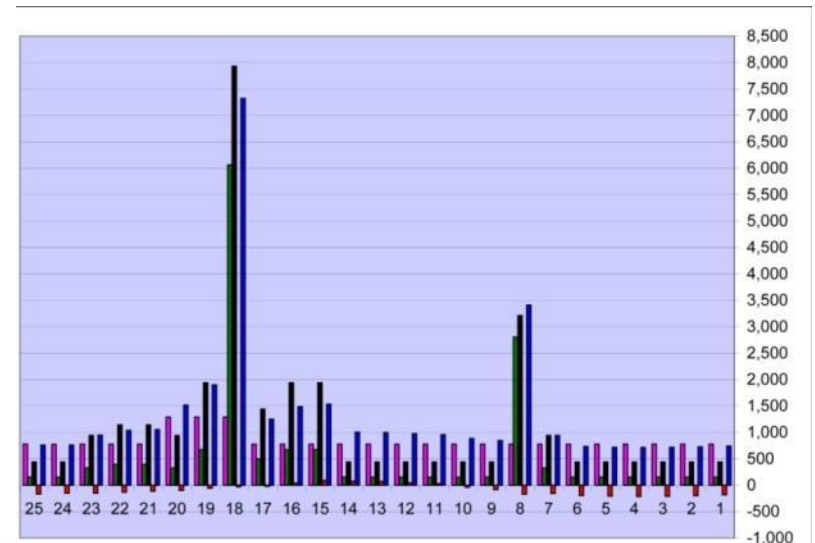
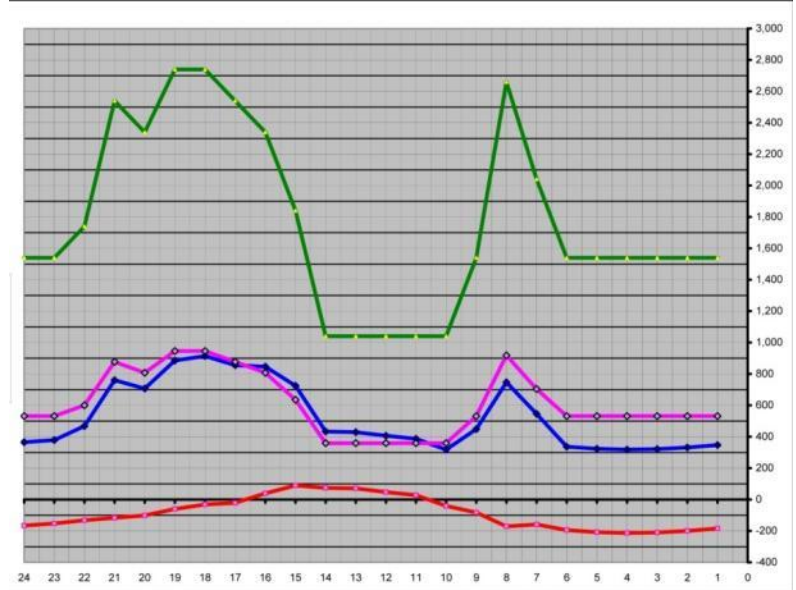
Solar Array



Energy Simulations



- עומס חום כללי, W
- עומס חום ממעטפת, W
- צריכת חשמל, W
- ◇ פליטת חום ממכשירי חשמל, W



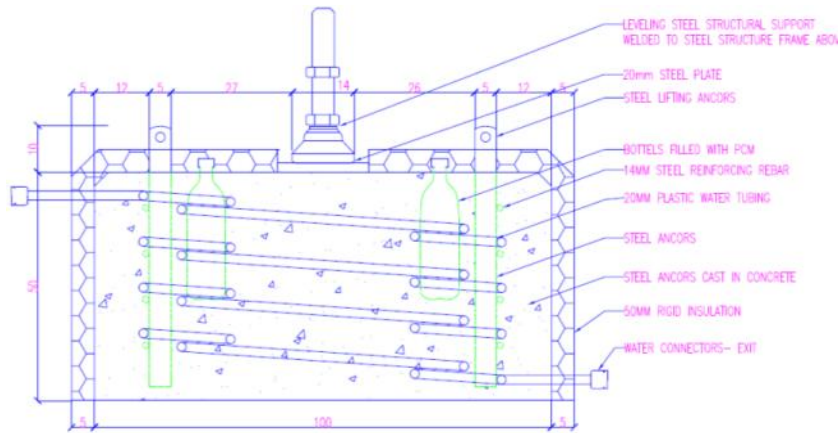
- עומס חום כללי, W
- עומס חום ממעטפת, W
- צריכת חשמל, W
- פליטת חום ממכשירי חשמל, W
- פליטת חום מאנשים, W

Solar Decathlon CHINA 2013

R&D: Solar Cooling

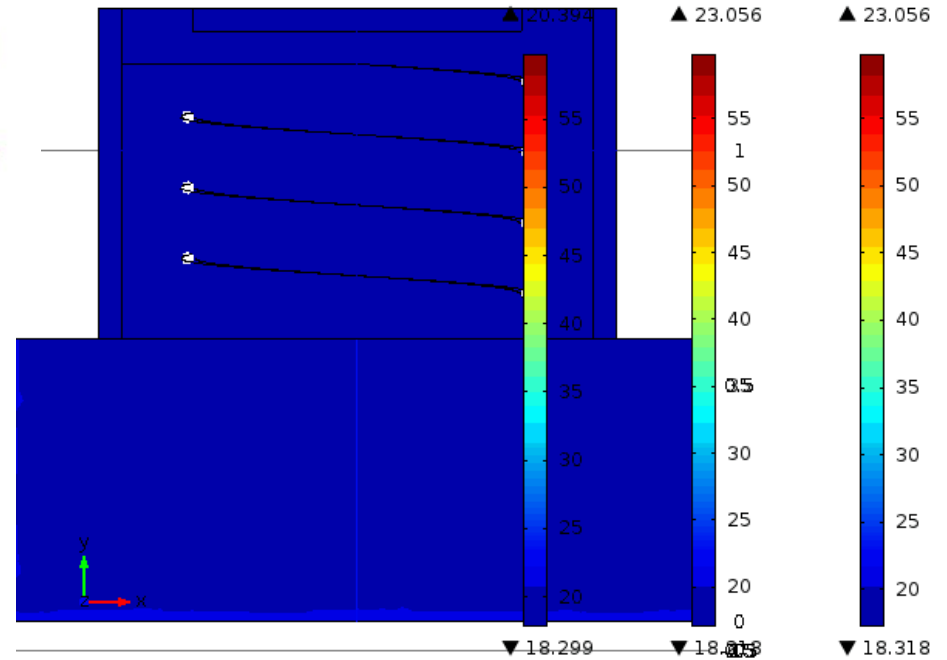


R&D: Energy storage

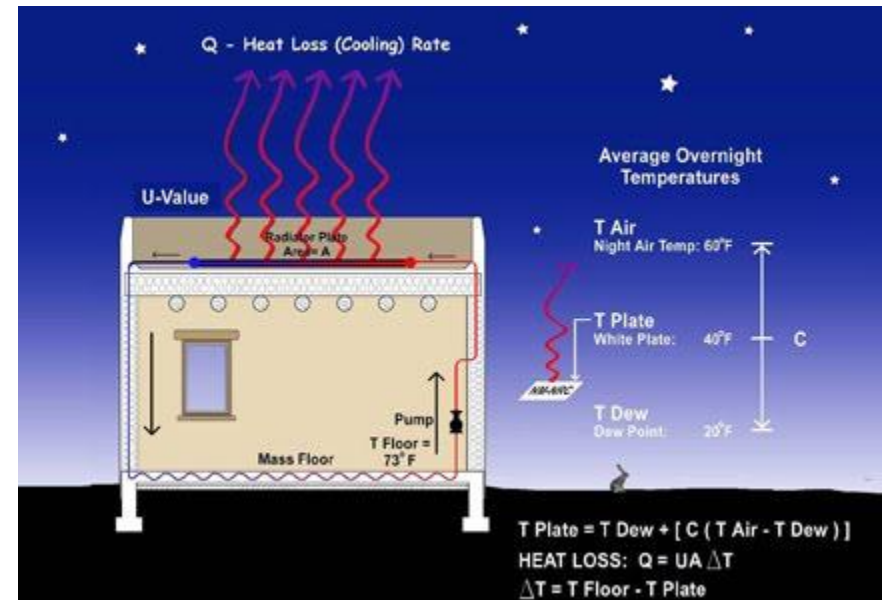


Time=0 Slice: Temperature (degC) Slice: Temperature (degC)
-0.5 Slice: Temperature (degC) 0.5

COMSOL MULTIPHYSICS



R&D: Night Radiation Cooling





Team Israel

2012



המרכז האקדמי
ויצו חיפה
THE NERI BLOOMFIELD
SCHOOL OF DESIGN



TEL AVIV UNIVERSITY

שנקר
ב"ס גבוה להנדסה ולעיצוב

Team Israel: integrating culture, society and energy.



Thank You
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