



U.S. DEPARTMENT OF ENERGY
SOLAR DECATHLON

Solar Decathlon 2009

Citations from Select Technical Publications

Without a Hitch - New Directions in Prefabricated Architecture

September 25 - 27, 2008 · UMass Campus Center, Amherst, MA

The 2008 UMass Wood Structures Symposium and 2008 ACSA Northeast Fall Conference focused on the art and science of contemporary prefabricated architecture. The three sessions below were based on 2009 Solar Decathlon entries.

Lessons Learned from the Limited Design-Build Exercise

James Middlebrook, Smith College

This paper examines the pedagogical benefits and limitations of a studio project that utilizes the design-build model on a limited scale, meaning smaller than that of an enclosed building.

Confronting the Hitch: Prefab in the Classroom respecting roles, ideas and each other

Lisa D. Iulo, The Pennsylvania State University

An interdisciplinary team of university students under the direction of faculty members representing different “silos” from across campus, developed and tested a Hybrid Prefabricated/Site-Built system for a single family residential construction.

Hybrid Prefabrication: prototypes for green residential construction

Lisa D. Iulo, the Pennsylvania State University

University students, under the direction of faculty members from different disciplines, developed and tested a Hybrid Prefabricated/Site-Built system for green residential construction.

The 2009 Department of Energy Solar Decathlon and the 2010 European Solar Decathlon – Expanding the Global Reach of Zero Energy Homes through Collegiate Competitions

Cecile Warner, Sara Farrar-Nagy, Michael Wassmer, Byron Stafford, Richard King, Sergio Vega Sanchez, Edwin Rodriguez Ubinas, Joara Cronemeberger, Javier Serra Maria-Tome

2009 34th IEEE Photovoltaic Specialists Conference, June 7-12, 2009, Philadelphia, PA. Beginning with the first event in Washington, DC in 2002, the Department of Energy’s Solar Decathlon has brought attention to the promise of PV-powered, zero-energy homes through the format of a riveting collegiate competition.

The Solar B&W House, an Alternative Sustainable Building for the Future Cities

Adell, J.; Garrido I. City Futures '09, June 4-6, 2009, Madrid Spain. Conference Proceedings

Nowadays cities are challenged by climate change. A new concept of smart urban centres has successfully arisen, nevertheless a broader look into technology must be considered. In order to attain energy efficiency, innovative architectural proposals have to study. The perspective of





urbanism has to look from the individual living unit up to the global network. Today PV is one of the technologies which is shaping buildings and cities. Experimental solar communities are being monitored and universities have a key role in this step. Indicatives like the Solar Decathlon competition highly contribute to this purpose of developing technology and knowledge. In this paper, the Polytechnic University of Madrid will present its approach to the contest with a housing proposal “The B&W House” that implements new patents which not only have repercussions from the architectural point of view, but also seek a contribution in an urban sense for the future cities.

http://www.cityfutures2009.com/PDF/100_Garrido_Irene.pdf

Solar Decathlon 2009: Home Showcase

Graham Jesmer, Video Producer, *Renewableenergyworld.com*, October 16, 2009

A video look at the technologies, designs and people behind some of the homes competing in the U.S. Department of Energy 2009 Solar Decathlon. The event brought 20 teams from around the world together to see whose solar-powered home would rise to the top.

<http://www.renewableenergyworld.com/rea/video/solar-decathlon-2009-home-showcase>

Articles About Solar Decathlon From Peer-Reviewed Journals



bp



How the Solar Revolution Will Melt FERC

Joshua Z. Rokach

Electricity Journal, Jan./Feb. 2010, Vol. 23, Issue 1

The Obama Administration has correctly adopted an energy policy based on central alternate energy stations tied to an expanded smart grid with smart meters communicating over the lines. The article discusses the Solar Decathlon as an example of home-based solar energy working in the real world.

Livin' off the Grid: Solar Decathlon Is as Green as It Gets!

Susanne Peckham

Tech Directions, v68 n9 p14-15, April 2009

Additional Articles About Solar Decathlon

Collaboration and Community Triumph at Solar Decathlon

Pascale Vonier, *ACSA News*, December 2009

Walking down the lane of houses at the 2009 Solar Decathlon is like walking through a model home community from the future. But the future is already here. The technologies and materials used in these net zero homes—homes that produce as much electricity as they consume—are already available. Buildings consume approximately 40 percent of our nation's energy, and given the Congressional debate over pending energy and climate legislation and concerns about unaffordable energy bills, the Solar Decathlon is a showcase for what can be done right now.



Seeing Growth in Green: the 2009 Solar Decathlon

Kimberly Del Bright, *Graduatingengineer.com*

The U.S. government, through the Department of Energy (DOE), hosted the biannual Solar Decathlon in October 2009. 20 teams competed in 10 contests to determine which team designed, constructed, and operated the most attractive, energy-efficient solar-powered house.

<http://www.graduatingengineer.com/articles/20100119/Seeing-Growth-in-Green:-the-2009-Solar-Decathlon>

Published Theses

Cornell University Solar Decathlon House Automation Control System

Roshan Jacob

A Design Project Report Presented to the Engineering Division of the Graduate School of Cornell University In partial Fulfillment of the Requirement for the Degree of Master of Engineering (Electrical), Cornell University, August 2009.

http://courses.cit.cornell.edu/eceprojectsland/STUDENTPROJ/2008to2009/rjj42/Report_PDF.pdf

iPhone Interface for MControl

Aakanksha Singh

A Design Project Report Presented to the Engineering Division of the Graduate School of Cornell University in Partial Fulfillment of the Requirements for the Degree of Master of Engineering (Electrical), Cornell University, May 2009.

<http://instruct1.cit.cornell.edu/courses/eceprojectsland/STUDENTPROJ/2008to2009/as2267/FinalProjectReport.pdf>

Optimizing Reflection and Orientation for Bifacial Photovoltaic Modules

Raymond Dong

A Thesis Presented in Partial Fulfillment of the Requirements for Graduation with Distinction in the Department Mechanical Engineering at The Ohio State University, 2009.

https://kb.osu.edu/dspace/bitstream/1811/36981/1/Dong_Raymond_Thesis.pdf

Control System for the Solar Hot Water Collection Alternative Systems of Cornell University Solar Decathlon

Wei-jiunn Jang

A Design Project Report Presented to the Engineering Division of the Graduate School of Cornell University in Partial Fulfillment of the Requirements for the Degree of Master of Engineering (Electrical), May 2009.

<http://instruct1.cit.cornell.edu/courses/eceprojectsland/STUDENTPROJ/2008to2009/wj67/wj67/WeijiunnJangMEngReport.pdf>

Risk-Conscious Design of Off-Grid Solar Energy Houses

Huafen Hu

In Partial Fulfillment of the Requirements for the Degree Doctor of Philosophy in the College of Architecture, Georgia Institute of Technology, December 2009.

http://smartech.gatech.edu/dspace/bitstream/1853/31814/1/hu_huafen_200912_phd.pdf

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Blogs

Solar Takes Over Washington D.C.: Solar Decathlon 2009 Begins

Yael Borofsky, *Cleantechnica.com*, Oct. 9, 2009

<http://cleantechnica.com/2009/10/09/solar-takes-over-washington-dc-solar-decathlon-2009-begins/>

Solar Decathlon 2009 Stretches Imagination to a Solar Powered Future

John Zorabedian, *Thedailytell.com*, Oct. 21, 2009

<http://www.thedailytell.com/2009/10/solar-decathlon-2009-stretches-imagination-to-a-solar-powered-future/>

Solar Decathlon 2009: Team Germany and the benefits of Imagination

Greenlineblog.com, October 28, 2009

<http://greenlineblog.com/2009/10/solar-decathlon-2009-team-germany-and-the-benefits-of-imagination/>

Bright Lights, Small Homes

K.B. Keilbach, Oct. 31, 2009

http://kbkeilbach.blogspot.com/2009_10_01_archive.html

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