

U.S. DEPARTMENT OF ENERGY

# SOLAR DECATHLON

# 2009



THE NATIONAL MALL  
WASHINGTON, D.C.  
OCTOBER 1-21, 2009

[www.solardecathlon.org](http://www.solardecathlon.org)

# 20 TEAMS, 10 CONTESTS, *and* WE ALL WIN

Originally conceived in 1999, a single bright idea to test the power of the sun in 10 contests soon grew into one of the most ambitious and inspiring events in the country—the U.S. Department of Energy Solar Decathlon.

The student Decathletes competing in the 2009 Solar Decathlon are pursuing solar engineering and design excellence. They will demonstrate that we can live our modern lifestyle—where we work hard, move fast, and demand convenience and comfort—while using less energy. And they will show that the time for solar energy and energy efficiency is now!

## The Competition

Today's solar houses connect with nature to capture heat and light from the sun, as well as cooling breezes and shading. Taking these low-tech, natural advantages to higher levels, Solar Decathlon homes combine proven design solutions with the latest high-tech products to create homes that reduce utility bills and meet their own energy needs while providing all the comforts of home.

The fourth competition sponsored by the U.S. Department of Energy (DOE), Solar Decathlon 2009 challenges 20 college teams from around the globe to design, build, and operate the most livable and energy-efficient completely solar-powered house. And, while the competition will crown a first-place finisher, this truly is a competition we all win. Through their work, the students demonstrate winning choices about living with style, comfort, and abundance using only the power of the sun. That's the promise of the Solar Decathlon.

To deliver on that promise, the students spend more than a year building homes of approximately 800 ft<sup>2</sup> (74.3 m<sup>2</sup>). In fall 2009, they transport their completed homes from campus to the National Mall in Washington, D.C., where they create a "solar village" born of their imagination and creativity. During the competition, students test their homes in

contests that evaluate the home's architecture, marketability, comfort and home entertainment, lighting design, how well the home incorporates and uses solar energy features for heating water and powering appliances, and more.

To reflect how most residential solar systems operate when connected to the power grid, the 2009 Solar Decathlon features a new Net Metering contest. Each team house is equipped with a utility meter that enables competition organizers to measure how much net energy the house produced or consumed over the course of the competition. Teams score points for producing as much energy as they need, or more.

The winner of the Solar Decathlon is the team that best blends aesthetics and modern conveniences with maximum energy production and optimal efficiency.

## Today's Students, Tomorrow's Leaders

While the sun is the namesake of the competition, the students and their amazing work are the cornerstone of the event. Today's students are tomorrow's engineers, architects, and entrepreneurs—and the Solar Decathlon provides them with unique training for green jobs in renewable energy and energy efficiency.

Just like Olympic decathletes, the Solar Decathletes draw on all of their strengths, including design and architecture, engineering and performance, and education and promotion. The teams rely on expertise from all disciplines as they spend months fundraising, planning, designing, analyzing, and finally building and improving their homes. Future engineers collaborate with future architects to create houses that are designed not only to look beautiful, but to perform beautifully, too.

The Solar Decathletes tackle the competition with energy, ingenuity, and perseverance. They learn a tremendous amount from the competition and inspire the world to imagine a brighter future.

## Capturing the Imagination of a Nation

Although the Solar Decathlon is primarily a student competition, it is also a living laboratory where concept meets reality. Visitors are welcome to stroll through the solar village and see firsthand the solar energy and energy efficiency technologies available today.





Past Solar Decathlons—held in 2007, 2005, and 2002—attracted large and enthusiastic crowds who toured the solar village to learn strategies to reduce their consumption of fossil fuels and to lower their utility bills. Visitors also learn that using renewable energy sources such as solar can help increase domestic energy security.

The 2007 Solar Decathlon exceeded the success of previous events, attracting more than 200,000 visitors to the National Mall and 400,000 unique visitors to the Web site. Captivating public and media audiences locally, regionally, nationally, and internationally, the 2007 Solar Decathlon garnered more than 1,000 related articles and stories in many of the world's premier newspapers, magazines, television stations, and other media outlets.

## *the* 2009 SOLAR DECATHLON TEAMS



The attention is well-deserved. With each successive event—including the upcoming 2009 Solar Decathlon—the students become smarter and the homes become more sophisticated, more efficient, and more attractive.

But don't just take our word for it. Come visit the village this year and see for yourself. You can also visit our Web site—[www.solardecathlon.org](http://www.solardecathlon.org)—to learn more about this amazing event and the teams, by linking to each team's Web site. During the competition, our site will feature daily updates, exciting news and photographs, and the latest scores in each of the contests so you can keep pace with your favorite team.

Stay tuned!

- Cornell University
- Iowa State University
- Penn State
- Rice University
- Team Alberta (University of Calgary / SAIT Polytechnic / Alberta College of Art + Design / Mount Royal College)
- Team Boston (Boston Architectural College / Tufts University)
- Team California (Santa Clara University / California College of the Arts)
- Team Missouri (Missouri University of Science & Technology / University of Missouri)
- Team Ontario/BC (University of Waterloo / Ryerson University / Simon Fraser University)
- Technische Universität Darmstadt
- The Ohio State University
- The University of Arizona
- Universidad de Puerto Rico
- Universidad Politécnica de Madrid
- University of Illinois at Urbana-Champaign
- University of Kentucky
- University of Louisiana at Lafayette
- University of Minnesota
- University of Wisconsin - Milwaukee
- Virginia Tech



# U.S. DEPARTMENT OF ENERGY SOLAR DECATHLON 2009 SCHEDULE

Oct. 1-7—Teams assemble their houses  
Oct. 8-16—Teams compete in 10 contests  
Oct. 9-13—Houses are open to the public  
Oct. 14—Houses are closed for competition monitoring  
Oct. 15-18—Houses are open to the public  
Oct. 19-21—Teams disassemble their houses

## FOR MORE INFORMATION

[www.solardecathlon.org](http://www.solardecathlon.org)

### Richard King

U.S. Department of Energy  
Mail Stop EE-2J  
1000 Independence Ave., SW  
Washington, DC 20585-0121  
Phone: 202-586-1693  
[richard.king@ee.doe.gov](mailto:richard.king@ee.doe.gov)

### Sara Farrar-Nagy

National Renewable Energy Laboratory  
Mail Stop 301  
1617 Cole Blvd.  
Golden, CO 80401-3393  
Phone: 303-384-7514  
[sara.farrar-nagy@nrel.gov](mailto:sara.farrar-nagy@nrel.gov)



## 2007 WINNERS

**1st Place**  
**Technische Universität  
Darmstadt, Germany**

**2nd Place**  
**University of Maryland**

**3rd Place**  
**Santa Clara University**



U.S. DEPARTMENT OF  
**ENERGY**

Prepared by NREL, a national laboratory of the U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, operated by the Alliance for Sustainable Energy, LLC.  
DOE/GO-102009-2584 • Revised May 2009

Photos in this brochure are available for download at either [www.eere\\_pmc.energy.gov/solar\\_decathlon\\_07/](http://www.eere_pmc.energy.gov/solar_decathlon_07/) or [www.nrel.gov/data/pix/](http://www.nrel.gov/data/pix/).

Printed with a renewable-source ink on paper containing at least 50% wastepaper, including 10% postconsumer waste.