
Add them up, and the result is Iowa State’s successful 12th-place finish in the fourth US Department of Energy (DOE) Solar Decathlon, held Oct. 8-18, 2009, on the National Mall in Washington, DC.

Background
In January 2008, Iowa State University was one of 20 national and international teams selected by the US DOE to design, build and operate the most attractive, effective and energy-efficient solar-powered house. Iowa State was the first school from the state of Iowa to participate in the Solar Decathlon.

Over 20 months, the project involved more than 200 ISU students and 20 faculty and staff members from a dozen different departments, as well as a partnership with the Des Moines Area Community College Architectural Millwork Program in Ankeny.

Ulrike Passe, assistant professor of architecture and director of the ISU Center for Building Energy Research, led the effort. Graduate students from construction and mechanical engineering, architecture and journalism comprised the student leadership team.

“With such a large team, some people played a role at certain times and some at others. They stepped in and out of the process depending on their availability and interest,” Passe said.

Clare Cardinal-Pett, associate professor of architecture, taught the interdisciplinary studio known as the Solar Decathlon Workshop, once by herself and twice with Passe. The workshop class was responsible for designing the house and building the six individual modules in conjunction with two construction engineering classes.

“It was quite a unique experience in that it operated more like an office than it did a traditional design studio,” said Cardinal-Pett. “Everything was headquartered there, even some of the fundraising.”

Eric Berkson, now a senior in architecture, is one of the few who took part from beginning to end. Although his primary role was as IT coordinator (website, blog, webcam, etc.), “over the two years I’ve done just about everything, from working on design development and construction documents to handling media inquiries to mixing samples of biocomposite materials,” he said.

“Solar Decathlon has been a greater part of my life than even studio, which for an architecture student is saying a lot!”

The House
The collective effort went into designing, building and operating the 800-square-foot “Interlock House,” so named as it was intended to “interlock” with its environment, its occupants, and its active and passive energy systems.

In addition to focusing on passive solar design and creating a net-zero-energy house (one that produces as much energy as it consumes), the ISU team designed a structure that could serve as an accessory dwelling or as a stand-alone home. This approach targeted older adults who want to downsize from a family home but still live independently.

“One of the things that set us apart was the target market—retired and about-to-retire baby boomers looking to downsize but still live in their own home. This is a market that is only going to grow larger as the Baby Boom generation ages.”

ISU’s Interlock House shared the National Mall with homes designed by 19 other teams from the US, Canada, Germany, Spain and Puerto Rico during the 2009 US DOE Solar Decathlon. Iowa State placed 12th overall; Germany won the competition. Photo © Jim Tetro Photography/Courtesy DOE.

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that’s never been looked at before in the Solar Decathlon,” Berkson said.

The Interlock House is the first in the competition’s history to meet all regulations for accessibility under the 1990 Americans with Disabilities (ADA) Act. With its ranch-house styling and cedar siding, it was also designed to fit aesthetically into a typical Midwestern community.

The house’s modular design—six individual components that interlock together—allowed it to be transported in pieces and reassembled for the competition in Washington, DC.

The Competition
The team hired a crane and professional rigging crew to simplify the process of loading the six modules onto four semis in Ames and unloading them again on the National Mall. A licensed electrician from Ames traveled to DC with the team; all other work was completed by ISU students, faculty and staff.

As the lead faculty member on the ISU team, Passe spent three weeks in DC and oversaw the work from start to finish. Several other faculty members, including Cardinal-Pett, arrived later to help with contest preparations.

Three different crews of students traveled to DC. The initial group arrived in two waves: the first worked to unload the semi trailers and erect the house, while the next focused on closing seams, working on the interior, and installing the deck and railing.

Once the house was assembled, the second crew arrived and the 10 evaluative contests began, running from 8 to 11 a.m. and 5 to 10 p.m. each day.

Some contests were scored by measuring performance. For full points in the comfort zone contest, for example, a house had to maintain a temperature of 72-76 °F and a relative humidity of 40-55 percent. In the hot water contest, teams earned points by completing several daily “hot water draws” in which their system had to deliver 15 gallons of hot water (110 °F) in 10 minutes or less.

The net metering contest measured how much net energy the house produced or consumed over the course of the competition. Teams scored points for producing as much or more energy than they consumed.

Other contests, including home entertainment and appliances, required the successful completion of tasks, such as boiling water, refrigerating and freezing food, doing laundry, washing dishes, and operating a TV, computer and other electronic devices.

Teams also hosted two dinner parties and a movie night for neighbors, earning points based on the quality of the meals, home theater system, ambiance and overall experience.

The subjective contests—architecture, market viability, engineering, lighting design and communications—were scored by jurors who evaluated how well the house met standards for holistic design, livability, functionality, efficiency, reliability, and ease of operation, as well as the successful delivery of clear and consistent messages about the house.

Between the contests, all 20 houses were open for public tours. About 14,000 people toured the Interlock House altogether. The third crew of students handled the major public weekend after the contests ended, and the disassembly of the house.

The Results
Among the 10 separate contests, ISU tied for third in market viability, fourth in communications, fifth in engineering and sixth in net metering, and placed 12th overall.

“T eams scored points for producing as much or more energy than it used.”

“Many people said it was one of the few houses they could imagine living in, and our market viability score really underscores that,” said Cardinal-Pett.

What’s Next
Even with the competition over, the Interlock House will continue to educate students and the public about energy efficiency and sustainable design. The Iowa Department of Natural Resources has purchased the home for use as an interpretive center at Honey Creek Resort State Park in southern Iowa. ISU will have access to the building for energy performance monitoring.

Read more of this story at www.design.iastate.edu/stories.php?CID=310.
The Martins also helped plan a World Aids Day event that drew a crowd of 1,000. “By American standards, planning for the event started late. But my Ghanaian counterpart assured me, ‘It will come off.’ And so it did!” Tammi said. “It is a privilege to witness the blossoming of a new leader who decided to be a part of ‘something bigger’ and had the drive and conviction to make it happen.”

With their return to the US approaching, the Martins are focused on what they still hope to accomplish, and what they will leave behind. “I would like to more fully establish the sustainability of the projects we started,” Tammi said. “I hope that when we climb on the plane for America, I will feel certain that the projects that prove most beneficial will continue on without our oversight.”

Chris hopes they will have helped colleagues and students develop the leadership skills necessary to move forward on their own. “It is very important that people learn to develop their own ideas and solutions. When they do, they then must learn to follow through,” he said. “That way, they gain ownership of the project and the pride that goes with it; when you have ownership, you will take care of it and sustain it.”

Read more of this story, including an in-depth Q&A with Chris and Tammi, at www.design.iastate.edu/stories.php?ARTICLEID=312.

Iowa State alumni Chris (BFA 1990 Craft Design) and Tammi (Smith) (BS 1989 Hotel & Restaurant Management) Martin have been Peace Corps volunteers in Ghana since June 2008, and will return to the US in August.

Chris is on a two-year leave from his position as an ISU associate professor of art and design, and Tammi previously was an administrative specialist for the ISU Center for Crops Utilization Research.

They are stationed in Donkorkrom, a town of about 5,000 people that is the district capital of the Afram Plains in southeastern Ghana. They live in a two-bedroom apartment attached to the back of the local headmaster’s house and teach visual arts (Chris) and computer literacy (Tammi) at Donkorkrom Agric (Agricultural) Senior High School.

The Martins each receive a stipend of $120 per month, which is meant to ensure they live reasonably close to the same level as average Ghanaians.

“There’s no night life, so we spend most of our money on food, as well as phone credits,” Chris said. Cell phones are widespread in Ghana; they call their parents several times a month (it costs less than calling Ghana from the US) and stay in touch with family and friends back home via email and their blog, http://chrismartinfurniture.blogspot.com.

What becomes clear from reading the Martins’ blog posts and in phone and email exchanges is that they are quite frustrated by the dysfunctional educational system, an overall lack of leadership and accountability, and the apparent acceptance of Ghanaians that this is just the way things are.

While they fulfill their teaching responsibilities, the Martins have found more success in extracurricular activities, including development of a school newspaper, school garden, English club, entrepreneurship club, and a “healthy life” club focused on HIV/AIDS, malaria and tuberculosis education and prevention.

“We find our greatest satisfaction with these because the projects are strictly voluntary. We get to work with the students who really care, are engaged, and want to make a difference,” Chris said.

He is particularly excited about a recent project to make wallets out of discarded plastic water sachets.

“Twenty years ago, Ghanaians got their food in a vegetable-based wrapping like a banana leaf. When they finished eating, they tossed the wrapper on the ground, where goats ate it or it biodegraded,” Chris explained. “Now everything comes in plastic. They buy a bag of water to drink and continue to toss the packaging on the ground.”

“When I first got here, I said I was going to figure out what to do with it,” he continued. “So I taught my students to make wallets. We shipped 240 to friends and family, who are going to try to sell them. All profits will return to the school.”

Tammi is creating a marketing plan, and Chris is setting up an entrepreneurship club for students and teachers to learn how to run a small business. “We’re trying to figure out how to make it sustainable. Where will this enterprise go once I am gone? What are other projects that could be profitable for the school?”

The Martins also helped plan a World Aids Day event that drew a crowd of 1,000. “By American standards, planning for the event started late. But my Ghanaian counterpart assured me, ‘It will come off.’ And so it did!” Tammi said. “It is a privilege to witness the blossoming of a new leader who decided to be a part of ‘something bigger’ and had the drive and conviction to make it happen.”

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Chris hopes they will have helped colleagues and students develop the leadership skills necessary to move forward on their own.

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As she tells it, Pia Schneider has had a “life-long love story” with Italy. Born in Winterthur, Switzerland, she holds dual Swiss-Italian citizenship and is a licensed architect in both countries. For almost a decade, she has taught classes for the College of Design in Ames and in Rome, and since 2007, she has been resident director of the college’s Rome Program.

As a child, Schneider accompanied her father on trips through France and Italy, sparking her interest in architecture, art and culture. “My father always dragged us kids into any public building, especially churches. He loved architecture, and he loved to sketch. I think I fulfilled his dream (of being an architect) while he worked as a banker—after all, he did work in Switzerland!”

While earning her first degree in architecture from the ETH, Swiss Institute of Technology, Zurich, Schneider spent a year living and working in Rome on an unpaid internship. She was attracted most by the city’s history and architecture.

“When I first arrived in Rome, I felt the city, the surrounding architecture, was like a giant movie set and I could literally step back in time … I wanted to learn from the architecture of the past, and I wondered also how modern architecture can be inserted in such a dense historical context,” she said.

Following completion of her schooling at ETH, Schneider earned master’s degrees in architecture from the Harvard Graduate School of Design and SCI-Arc in Los Angeles and has spent the past 15 years traveling, living and working in Switzerland, Italy and the US.

Through a friend in Los Angeles who had connections with Iowa State, Schneider was invited to participate in studio critiques at the College of Design in 1999. About the same time, the college was seeking a new program leader for its interior design classes in Rome. Schneider’s varied professional background and international experience made her a good fit.

Since 2000, she has taught Rome Program studios in interior design, architecture and landscape architecture, as well as classes in drawing, urban development, and the history of Italian design.

“I’m passionate about design in general, and I don’t see a great difference in designing an interior space or a city/landscape. You can design a living room like a landscape and a landscape like an interior space. Rules of design belong to all the fields.”

In 2007, Schneider became the resident director of the College of Design Rome Program. As director, she handles administrative, safety, legal and immigration issues as well as program planning and marketing, housing, accounting and staff management. She continues to teach, and leads student field trips to places like Milan, Venice, Pompeii and Paestum, or even France or Switzerland.

Studying in Rome allows students “to discover another culture, another way of thinking and seeing the world, to discover another personal and professional self,” Schneider said. “Having an international experience also helps students prepare better for a career in a global market, and with a good Rome project in their portfolio, their chances of getting a good job increase quite a bit.”

Schneider also remains a self-employed architect. In the past five years, she has been especially engaged with sustainable architecture. She conducted a research trip through Austria, Italy and Switzerland in 2007 to document the latest “zero-energy” houses—homes designed to yield a zero net annual energy bill. She is planning to build one for a client next summer on the Island of Giglio off the coast of Tuscany.

Schneider is also passionate about historic preservation. She has remodeled nearly 30 apartments in and around Rome, often trying to modernize certain elements while retaining important features from the past.

Her latest project involves working with municipal officials of a small town in the Swiss Alps to save a number of 300-year-old wood livestock stables, no longer in use and often falling apart. “These beautiful old barns are an important testament to the integral relationship between landscape, architecture and agriculture,” she said.

All of this, in addition to raising two sons (Alessandro, 18, who is studying in London, and Leonardo, 16, a student at a classical lyceum in Rome), leaves Schneider with little “free” time. In those rare moments, she likes to read and write, or “go jogging in my lovely Garbatella neighborhood, a garden city from the early 1920s,” she said.

Read more of this story at www.design.iastate.edu/stories.php?ARTICLEID=311.
This past July 4, my family and I closed the door to our home in Pittsburgh for the last time, and drove to a new life in Iowa. The spectacular fireworks that we saw along the way were a perfect match for the “emotional fireworks” that stormed my mind.

Six months later, the end of the year is a good opportunity to reflect on how that early mix of expectations translates into specific opportunities and challenges unfolding in our College of Design.

I’m proud and honored to be a member of this community. I’m well aware of the strong commitment to academic excellence that is part of our college’s legacy at Iowa State University. It is my goal to further develop and enrich it so our institution becomes an indispensable resource when addressing the pressing challenges our society will face in the near and distant future.

The foundations for that future are the talented students who choose to enroll in our programs every year, the rigor and intellectual capacity of our faculty, a staff team committed to providing exceptional service, and the commitment of all of you—our alumni and friends—who contribute without reserve to the future of higher education in this country.

The strength stemming from these sources fuels the strategic planning process now underway. We will explore alternative paradigms in education, research, practice and outreach that take advantage of the unique set of disciplines we offer and maximize their interaction. I expect bold proposals that will enhance significantly our academic activities.

In addition, this integrative approach will allow us to more efficiently use our resources, which will be critical given the challenges presented by the recent economic turmoil. While there are signs that the national and international economy are improving, the state of Iowa continues to face considerable shortfalls in revenue, which has a dramatic impact on Iowa State University and the College of Design.

Iowa State University faced a $31 million reduction in base state appropriations for FY10 (July 1, 2009 – June 30, 2010). The College of Design’s portion of that cut totaled about $1.1 million. While a one-time infusion of ARRA (American Reinvestment and Recovery Act) softened the initial blow, those federal funds will run out at the end of June.

In addition, last October, Governor Culver announced a 10 percent mid-year reversion in state funding. This translated to a $24.5 million cut at the university and an approximately $650,000 reduction in the college’s current budget.

To cope with these budget challenges in the short term, Iowa State is

- implementing university-wide temporary layoffs/furloughs, requiring all employees to take a specified number of unpaid days off between November 2009 and June 2010
- temporarily reducing by 2 percent the university’s contribution to employees’ retirement accounts for the remainder of the fiscal year
- offering an early retirement incentive option to employees who are age 57 and older who have at least 10 years of service at Iowa State
- assessing students a $100 tuition surcharge for spring semester

You can read more about these measures at www.public.iastate.edu/~budget/updates.

These actions, however, account for only about 50 percent of the mid-year budget cut. To make up the rest, different units, including the College of Design, will use their cash reserves, and in some cases, reduce the number of classes offered and/or increase the teaching load of full-time faculty members.

In the long term, the college and university must look at ways to handle the full impact of both last year’s and this year’s budget reductions, in addition to any further adjustments made to state appropriations in the future. In round numbers, the College of Design expects to begin the FY11 fiscal year (July 1, 2010 – June 30, 2011) with a base operating budget that is at least $2 million less than in 2008.

I believe that only bold and innovative thinking can support the positive evolution of our academic offerings and help us cope with the future financial realities of public universities. In facing a crisis of this magnitude, however, we have no alternative but to innovate and take risks, and we all know that designers thrive in such an environment.

Alumni have a critical role to play in the future of this institution, and I personally value your experience and insights. I ask all of you to share your advice and creative thinking with us as we move forward.

When I consider the potential we offer in working together, I believe we have the capacity to meet these challenges head on and emerge a stronger College of Design, indisputably central to the mission of Iowa State University.

Sincerely,

Luis F. Rico-Gutierrez, Dean
Clark Colby, a fourth-year architecture student from Urbandale, received a $4,500 Benjamin A. Gilman International Scholarship to study in Italy this semester.

Colby is among the 56 architecture students participating in the ISU College of Design’s spring 2010 Rome Program. He is one of four Iowa State students awarded a Gilman scholarship this year.

Recipients are chosen by a competitive selection process and must use the award to defray costs such as program tuition, room and board, books, local transportation, insurance and international airfare. Award amounts vary according to length of stay and student need.

“The biggest concern for me, as well as many students, about studying abroad is cost,” Colby said. “This should not limit any of us from taking part in international study, as I feel it is one of the most beneficial experiences possible in a college education.

Colby holds two part-time jobs on campus to help meet his educational expenses. While acknowledging the value of study abroad, he was reluctant to increase his student loans to be able to go to Rome.

“The Gilman scholarship reduces the financial burden of studying abroad and will allow me to immerse myself in the architectural and cultural wonders of Italy and Rome.”

While on the Rome Program, Colby will have the opportunity to work on a studio project with a local Italian architecture firm. He also hopes to visit design firms in Europe and interview for a possible summer internship.

Upon their return to the US, scholarship recipients are required to carry out a special project that helps promote international education and/or the Gilman International Scholarship. For his project, Colby intends to create a fine-art photography exhibition documenting the architecture, environment, people and culture of Rome.

Clark Colby of Urbandale received a $4,500 Gilman International Scholarship to help fund his semester abroad on the Rome Program. Contributed photo.

In addition to improving his own photography skills, Colby hopes to help raise awareness of study-abroad programs and scholarships and to share his experiences in a visually exciting manner.

“I hope to capture powerful images that tell the story of my experiences abroad. At the same time, I hope to leave room for viewers to interact and feel as though they are a part of the story,” Colby said.

Students receive feedback on their portfolios from an Integer Group representative at the 2009 Explore Graphic Design event. Photo by Heather Sauer.

USGBC AWARDS

The Bridge Studio, developed and taught by Nadia Anderson, was one of five national winners of the US Green Building Council’s 2009 Excellence in Green Building Education Recognition Award in the higher education category.

SCI-TECH, taught by Jason Alread, Tom Leslie and Rob Whitehead, received an honorable mention in the same category.


Bridge Studio students Chris Cummings, Stephanie Wingate and Ryan Risse meet with intern Matthew Coen, center, from Jeffrey Morgan Architecture Studio. Photo by Nadia Anderson.

TOP 20 PROGRAM RANKINGS

Iowa State University’s programs in landscape architecture and architecture are ranked 11th and 18th in the nation respectively, according to a recent survey of practitioners published by DesignIntelligence.

The magazine’s annual report, “America’s Best Architecture and Design Schools,” is the only national college ranking survey that focuses exclusively on design. Rankings cover accredited programs in architecture, industrial design, interior design and landscape architecture.

ISU also made the list of “America’s World-Class Schools of Landscape Architecture.”

The Iowa State University Foundation presents this award to an Iowa State alumnus/a (42 years old or younger) who is making a continuing impact on the ISU community, is a member of the Order of the Knoll and is providing outstanding service, leadership and involvement in his/her community.

Topp was recognized at the ISU Foundation Governors Luncheon in October 2009.

Deeia M. Topp (BFA 1990 Interior Design), Sarasota, Fla., is a renowned interior designer and president of Deeia M. Topp Interiors in Sarasota. She is highly regarded for her creativity, professionalism and integrity in her field, with the ability to translate the personal tastes and wishes of her clients into reality. Her business focuses on custom residential projects and model homes for high-end builders.

Topp’s work has been honored with more than 50 regional Parade of Homes Awards and has been recognized 11 times by SRQ: Sarasota’s Premier Magazine, including seven Home of the Year awards.

Deeia M. Topp accepts her award from Steve Schuler, chairman of the ISU Foundation Board of Directors, left, and Dan Saftig, ISU Foundation president. Photo by David Gieseke.

A member of the College of Design’s Interior Design Advisory Board, Topp remains committed to the continuous improvement of the Iowa State interior design program, from the classroom to real-world practice.

Topp and her husband, John Sparling, established a scholarship to help interior design students study abroad as a part of the College of Design Rome Program.

Find more information on these and other events at www.design.iastate.edu/calendar.php.

JANUARY
21 ReLationShips: Embodiment Exhibition Reception
25 NOMA President R. Steven Lewis Lecture

FEBRUARY
26 Explore Graphic Design

MARCH
4-5 Career Days
11 Art and Design Rome Show Reception
15-19 Spring Break
28 Interior Design Senior Student Exhibition Reception

APRIL
5-9 Sunki Hong MFA Thesis Exhibition
12-17 BFA Senior Student Exhibition
16 Awards Day

MAY
8 Graduation Convocation
14 Alumni Days Reception

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Stay current on news and events in the College of Design! Share your e-mail address with us to receive the monthly Designotes electronic newsletter. This message contains information on alumni, faculty, students, programs and activities that may be of interest to you. The e-blast is sent the second Thursday of every month in HTML and text-only formats.

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All College of Design alumni are invited to join our group on LinkedIn. Network with one another and with college faculty and staff. Go to www.design.iastate.edu/alumni.php and click on the Design LinkedIn Group link.

CONTACT US
We encourage correspondence from alumni and friends via our online form at www.design.iastate.edu/alumniinfo.php, via email to designotes@iastate.edu, or mail to the college:

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R. Steven Lewis, president of the National Organization of Minority Architects (NOMA), will speak at Iowa State University this month as part of the university’s Martin Luther King Jr. celebration.

Lewis’ lecture, “Who Will Tell the Story? The Black Architects’ Epic Journey Toward Equal Opportunity,” will be at 8 p.m. Monday, Jan. 25, in the Memorial Union Great Hall. In his presentation, Lewis will describe the contributions of black architects to design, architecture, building technology and construction, and will highlight their struggle for recognition and representation. He will also meet with ISU students while on campus.

Lewis cofounded the Los Angeles-based RAW Architecture in 1984 and was with the firm 20 years. In 2004 he joined the US General Services Administration’s Office of the Chief Architect, where for four years he worked on the Design Excellence Program. He recently joined the Pasadena office of the engineering and construction company Parsons Corp.

In 2006, Lewis was named a Loeb Fellow at Harvard University, where his topic of study was race and the profession of architecture. For 2009-2010, Lewis is president of NOMA, an organization that promotes not only the value of expressing cultural identity through architecture and design but the importance of mentoring minorities in an underrepresented profession.

His visit is cosponsored by the ISU Department of Architecture, College of Design, Martin Luther King Jr. Holiday Planning Committee and Committee on Lectures (funded by the Government of the Student Body).