

# The Integrator



INCOSE North Star Chapter



Volume 5, Issue 5

October 2009

## North Star Newsletter

*INCOSE North Star Newsletter Communication*

Please submit comments and SE articles of interest to [Eileen.Arnold@BAEsystems.com](mailto:Eileen.Arnold@BAEsystems.com). Eileen Arnold, Editor

November Money magazine has an article on the 50 best jobs in America. Systems Engineering is rated #1! They are projecting a 44.6% growth in the next 10 years. Under "Pre-reqs" it has the following statement: "some jobs might also require certification as a certified systems engineering professional (CSEP)".

### WELCOME, NORTH STAR NEW MEMBERS!

First	Last	Company	Title
Sean	Burke	3M	Des Mgr
Paul	Kelsey	Stratasys	Sr. Mech Eng
Tim	Kramer	ATK	Sys Eng
Gordon	Perkins	Medtronic	Prin FW Eng
Michael	Preston	Eaton	Test Eng - Sr
Al	Sanders	LMCO	Staff Eng
John	Winkler	LMCO	Sys Eng Mgr

Systems Engineering at its Best!

### Solar Decathlon – Final Ratings

Two years ago in November, over 45 Universities from around the world sent proposals to the U.S. Department of Energy hoping to make it into the top 20 allowed to compete in the ten-category Solar Decathlon. Our own University of Minnesota made it in to the top 20, their first year to apply.

The final ratings for Solar Decathlon 2009 are in! The University of Minnesota achieved a respectful 5<sup>th</sup> place, with top honors in Engineering and Lighting Design. The University was specifically sited for their engineering and execution of high R-value (insulation),

*Continued on page 2*

## Chapter President's Corner

**Neill Radke, Eaton Corporation and John Palmer, U of Minnesota, 2009 Co-Presidents**

On September 19<sup>th</sup>, the North Star Chapter Leadership Team held a planning meeting to lay out the program for the coming year. At the meeting, the chapter leadership reviewed its 2009-2013 Strategic Goals and Objectives, and drafted the 2010 program plan, which consists of 10 monthly meetings, 2 social events, and semi-annual tutorials.

Within the Strategic Goals and Objectives, the North Star chapter mission is to encourage the appreciation for and growth of the Systems Engineering profession in the twin cities and surrounding region. Five-year goals were defined as follows:

1. Support SE related activities relative to INCOSE initiatives and vision
2. Create, maintain and grow a network of SE professionals who engage in activities that support the INCOSE North Star Chapter mission statement
3. Support SE related activities in other professional societies
4. Support SE related activities in local schools, colleges and universities
5. Provide financial support to organizations that promote SE principles and methods on a controlled and regular basis
6. Formally recognize individuals who contribute to the advancement of SE through their involvement in international, regional, and local INCOSE activities.

We believe the 2010 program captures these goals and look forward to another exciting year. To get involved, please contact:

[jpalm@usfamily.net](mailto:jpalm@usfamily.net) or [NeillBRadke@Eaton.com](mailto:NeillBRadke@Eaton.com)

North Star Chapter Website  
<http://www.incose.org/northstar>

integration of the solar panels into their architecture and their use of electrochromatic glass. They were recognized by the judges in the area of lighting design for achieving a total lighting budget of 500 watts for all lighting, both interior and exterior. They took third place for Appliance efficiency and Home Entertainment. Come hear more of the trails and tribulations at the November 12 North Star Chapter meeting!



The Engineering contest was further broken down into

**Functionality**—Will the home's energy systems function as intended?

**Efficiency**—Relative to conventional systems, how much energy will the house's systems save over the course of an entire year?

**Innovation**—Were any unique approaches used to solve design challenges? Do the proposed innovations have true market potential?

**Reliability**—How long are the systems expected to operate at a high level of performance? How much maintenance is required to keep them operating at a high level?

The Lighting Design contest was further broken down into:

**Electric Lighting Quality**—Are the lighted spaces rich and varied? Do they have adequate light for tasks? Do they have good color rendition? Are the luminaires attractive? Do they properly distribute light?

**Daylighting Quality**—Have human factors, such as physiology, perception, preferences, and behavior, been addressed? What are the effects of daylight on all materials, including furniture, artwork, and plants? Is the admission of direct and diffuse sunlight effectively controlled?

**Ease of Operation**—Is the operation of the manual and automatic lighting controls intuitive?

**Flexibility**—Can the lighting system accommodate all activities and aesthetic requirements in all seasons?

**Energy Efficiency**—Do the lighting controls help reduce lighting energy consumption throughout the year?

**Building Integration**—Have the lighting design and controls been effectively integrated into the building?

The following summaries are for the top three finishers:

**First Place: Team Germany (Technische Universität Darmstadt)**

The 2007 champions did it again! Team Germany focused on producing surplus energy by using the maximum overall building dimensions allowed, applying photo voltaics to every available surface, and pushing the envelope with new technologies. The team walked away with the Net Metering contest and performed well in several others, including Architecture, Lighting Design, Comfort Zone, and Hot Water. Demonstrating that they are true champions, members of Team Germany were extremely gracious in their victory and recognized the work of their peers.

**Second Place: University of Illinois at Urbana-Champaign**

Gable House was one of the first to be assembled and ran like clockwork the entire competition. The team set out to express its regional heritage and sought to create a synergy between old and new. Traditional techniques in homebuilding, along with great advances in technology, blended to create a house that performed exceptionally well in energy efficiency—as demonstrated by the team's results in all the objective contests. Focused on performance, this team also achieved elegant simplicity in design.

**Third Place: Team California (Santa Clara University, California College of the Arts)**

A winning spirit guided this team throughout the 2009 competition. Ranking in the top three of nearly every contest, Team California also excelled in some of the most prestigious subjective contests. It finished first in both the Architecture and Communications contests, achieved second in Engineering, and tied for third in Market Viability. Beautiful in every respect, Refract House broke out of the box and masterfully executed the melding of interior and exterior spaces while offering a consistent and high-quality learning experience to visitors.

**North Star's 2009 Meetings**

12 Nov	SE in Requirements Development	Lockheed Martin
12 Dec	Member Holiday Party + Guest	JAX