

USICB Prof. David Bainbridge Receives Prestigious Award

Cutting Energy Costs in Half, Solar Pioneer Changes Attitudes One Bale at a Time

Portland, Oregon – July 12, 2004 - Associate Professor David Bainbridge, of the US International College of Business at Alliant International University (AIU), has received the American Solar Energy Society's Passive Solar Pioneer Award honoring innovative work on environmentally responsive buildings and direct use of solar energy for ventilation, heating, cooling and lighting.

Bainbridge was an early proponent of straw bale building, a technique that provides the super-insulation needed for high-performance solar buildings at modest cost. Because of these advantages, straw bale buildings in Mongolia are now providing energy savings of 80%-plus and the technique is catching on worldwide.

Bainbridge, a prolific author and researcher who consulted widely for commercial and home builders, notes, "In the 1970's we thought it was about energy. Now we know that it's really about comfort and productivity. Occupants love environmentally responsive buildings. People who live in them stay healthier, work harder, and are more secure. The commercial and industrial paybacks can often be measured in months rather than years."

In his sustainable management courses at AIU's US International College of Business (USICB), Bainbridge introduces students to what he calls "the world's only safe nuclear reactor" – the sun. In his popular solar lab, students wrestle with window placement, orientation, thermal mass, and insulation as they construct, monitor, and refine a model solar home. After completing this course they are no longer the 'barbarians' that the Greek writer Aeschylus described, "Though they had eyes to see, they saw to no avail... They lacked the knowledge of houses.... turned to face the sun..."

"It is just a matter of time before *all* new homes and buildings will be designed to suit their local environment and utilize solar energy," Bainbridge predicts. "We have seen the peak of world oil production, and we are starting to count the true cost of our energy choices. As accounting improves, we will move to cost-effective techniques that directly use the sun in solar daylighting, natural ventilation, natural cooling, and natural heating. In most cases, it is possible to do this at no additional cost."

A study by the Davis Energy Group, which built an optimized tract home, showed that solar energy could actually cost *less* than a traditionally built home. A solar home that cost less to build reduced seasonal heating and cooling bills by 70%, while one costing slightly more to build reduced energy use for heating and cooling more than 90%.

Propelled by economics, concerns about global warming and more attractive buildings, attitudes *are* changing – but perhaps not fast enough. While the Green Building Council's membership has leapt from 300 to 4,000 in just over four years, Bainbridge worries that “a complex set of perverse economic incentives still encourage most builders to do the wrong thing. The underlying reasons are short-term profit and widespread ignorance about passive solar applications.”

“One of the obstacles is the fact that environmentally responsive buildings are too simple to build. They require no special materials or equipment,” Bainbridge explains. “Often design alone can create the desired savings and comfort, but this means that there is no marketing drive to adopt this approach. Instead we see millions spent on solar technology that is much less cost effective - although it's still desirable.”

Thus, the construction industry has gotten a slow start. With an investment of less than .5% in research and development, it lags far behind other industries' pace of innovation: electronics invests 4-7%, semiconductors invest 11-14% or biotechnology invests 13-15%.

“In the 1950's one of the champions of solar design and development was the Libby Owens Ford glass company,” notes Bainbridge. “Today it should be Anderson, Marvin, Republic, and the other window manufacturers; but they have not yet picked up the ball. This will change; and I know that my students will be part of that change. I remain committed to changing the way the world builds. I hope to return to a meeting of the American Solar Energy Society in to see one of them receiving this same award.”

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The true cost of oil: <http://magma.nationalgeographic.com/ngm/0406/feature5/>

For more on the award and Mr. Bainbridge, see:

Solar Pioneer Award: www.ases.org/about_ases/awards/passive_pioneer.htm

David Bainbridge: www.alliant.edu/faculty/bainbridge.htm

Bainbridge on Building:

www.sustainableenergy.org/resources/technologies/solar_passive.htm

US International College of Business at AIU: <http://www.alliant.edu/usicb/>

For more information on environmentally responsive building, see:

Society of Building Science Educators: www.sbse.org

United States Society for Ecological Economics (founding member): www.ussee.org

International Society for Industrial Ecology: www.is4ie.org

Builders without Borders: www.builderswithoutborders.org

California Straw Building Association www.strawbuilding.org

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