



University of Missouri

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## Greener buildings

### Are buildings puzzles or systems?

Story by Tara Ballenger

For decades, engineers and designers have thought of buildings as jigsaw puzzles: Parts — from windows and floors to pipes and electrical wiring — are pieced together to form a structure. But Robert Reed, associate research professor in the College of Engineering and co-chair of MU's Center for Sustainable Energy, thinks that needs to change.



Rather than puzzles, Reed says, buildings are much more like living organisms — each piece affects other pieces, and buildings' quality depends on how well the elements work together. "Buildings are designed and constructed by specialty people — engineers, architects, electricians. But buildings are a total system," says Reed.

The need for more collaboration in design and construction was the theme of the second annual Greening Midwest Communities conference in Jefferson City, Mo. in October 2011. Sponsored by the Center for Sustainable Energy and several Home Builders Association chapters across the Missouri, the conference featured presentations from architects, engineers, real estate brokers and horticulturalists from the public and private sectors.

"It's not just about being 'green,'" says Reed. "We want buildings that are highly efficient, comfortable and that will last."

Michael Goldschmidt, assistant professor in the architectural studies department in the

College of Human Environmental Science, gave a presentation on how architects can collaborate with building contractors and clients to design homes that optimize indoor air quality. Goldschmidt, who is also a housing and environmental design specialist with MU extension, works with engineers to create buildings that incorporate technologies such as solar energy in ways that help the environment and leave homeowners satisfied and comfortable.

The university's role in bringing together the disparate sectors lends credibility to the concept of collaboration in the building process, Reed says. "For too long, we've all been in our separate worlds," he says. "It's time for a new model."

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