Yes, Professor Joachim and a team of students created a full-scale synthetic biological chair made out of plant matter. It was a brilliant experiment—and just a small piece of evidence that biotechnology and architecture go hand in hand. The research team captured a bronze medal at the International Genetic Engineering Machine (iGEM) competition last October for this successful discovery.

Grow a Chair?
The Genetic Generation Seat, or Gen2Seat, combines mycelium blocks, or mushrooms, with genetically modified cellulose—acetobacter—to create a novel, sustainable biopolymer. Gallatin students Josue Ledesma, Jesse Hull, Justin Kim, and Greg Pucillo and Steinhardt student James Schwartz were part of the award-winning design team.

"A first of its kind, the Gen2Seat is a radical green alternative to IKEA furniture," explains Professor Joachim, copresident of Terreform ONE, a nonprofit design group that promotes green urban design. "We’re aiming to improve the material properties of cellulose by genetically engineering the strain to incorporate color, improve strength, and repel water. We hope to eventually use this material to build larger-scale objects."

Why Not Grow a House?
Professor Joachim’s most well-known project, Fab Tree Hubs, has been exhibited at the Museum of Modern Art. But it’s not just art and it’s definitely not science fiction. In a TED talk called "Don’t Build Your Home, Grow It," Professor Joachim presents his vision for sustainable, organic architecture and eco-friendly abodes grown from plants. It gets even more interesting when he speaks about his molecular cell biology lab and the experiments they are doing not only to grow veggie houses but also to grow meat houses made from pig cells. They are starting small, with the idea of producing shoes or belts made out of manufactured meat products grown in a test tube—with no sentient creatures actually harmed in the making of a new biological material.

Even Better, Let’s Grow a Community!
"Imagine pregrowing a village. It takes about seven to ten years, and everything is green," he says. "Start thinking about the future and what it would be like if architecture and biology became one."

His vision is stunning. He’s not talking about a few homes; he’s projecting 100 million homes. What would it actually mean for 100 million families to live in houses that actually make good use of carbon?

Professor Joachim was chosen by Wired for “The 2008 Smart List: 15 People the Next President Should Listen To,” and Rolling Stone recognized him as one of “The 100 People Who Are Changing America.” The recent iGEM award for the successful growth of the Gen2Seat is an acknowledgement of his team’s accomplishment of something rather incredible.

At NYU, Professor Joachim is currently teaching Green Design; Architecture and Urban Design Lab I and II; Ecological Transport, Infrastructure, and Building Design; and Think Big: Global Issues and Ecological Solutions.