Nanotechnology and design: the nanostudio project

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According to the Interagency Working Group on Nanoscience, Engineering, and Technology, nanotechnology “is likely to change the way almost everything - from vaccines to computers to automobile tires to objects not yet imagined - is designed and made.” According to the Center for Nanoscale Science and Technology, it “will lead to fundamental changes in how we live and interact with our environment." If nanotechnology is going to change how we design and how we live, then a study of nanotechnology’s implications for architecture is clearly needed.

In this third year architecture studio at Ball State University we explored the architectural applications of nanotechnology. Nanotechnology, the manipulation of matter at the scale of a billionth of a meter, has the potential to transform the built environment in ways almost unimaginable today. Carbon nanotubes, for example, have been created that are 250 times stronger than steel, 10 times lighter, and transparent. Similar advances are occurring in glass, plastics and concrete. Our mission for this project was to imagine the potential of one of these revolutionary materials, and implement it in the design of a residence.

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Keywords: nanotechnology, nanomaterials, design, architecture, education