

## education

# “This material that starts out as cloth can be shaped to any form imaginable”

## interview



**ALPHONSO PELUSO,**  
STUDIO ASSOCIATE PROFESSOR  
OF ARCHITECTURE  
DIRECTOR OF DESIGN COMMUNICATIONS  
IIT ARCHITECTURE CHICAGO

**When did you start teaching composite materials at the IIT College of Architecture?**

**ALPHONSO PELUSO:** My students and I began working with composites in 2014. I was teaching a design studio titled “Design as a Performative Material Practice” and the focus was to design and build a full-scale temporary structure out of carbon fibre. The project was named the FIBERwave Pavilion, and it was quite well received. The project was written about in several architectural blogs including The Architect’s Newspaper. I should add that my students and I have only worked with carbon fibre.

**What is the place of composite materials in the training programme?**

**A.P.:** The topic is part of an ongoing elective seminar course that I teach each semester. Since the FIBERwave project, my students and I have completed a full-scale building facade panel made entirely out of carbon fibre called “carbonSKIN” and, last semester, they built a rolling sofa called “Rolling Vitruvius” for the annual SOFAexpo in Chicago.

**Do you think that incorporating composite materials in a project can change its nature?**

**A.P.:** Absolutely. This material that starts out as cloth can be shaped to any form imaginable, then when it is infused with resin and hardener, it becomes as strong as steel and is ultra lightweight. The design possibilities that this opens up for

Without getting ahead of the presentation that he will give at the Future of Composites in Construction trade show 20-22 June in Chicago, we asked Alphonso Peluso, Studio Associate Professor of Architecture and Director of Design Communications at IIT Architecture Chicago, a few questions about his approach to composite materials and how they are integrated into architectural studies.

architecture are unlike any material that has been used in buildings before.

**How do your students look at these new materials, for which there is little experience in architecture?**

**A.P.:** Initially, they view the material as very exotic. Typically, their go-to material is wood and acrylic and these materials are mostly used for making architectural models. So the fact that they will build something full scale out of this material that they have never worked with before is very exciting and intimidating at the same time. By making small-scale prototypes, they learn very quickly that working with carbon fibre requires a great deal of attention and craft.

**What do you think is the main interest of using architectural composites but also the main obstacles?**

**A.P.:** I think that currently the main interest is two things. The first is what do we do with it? Do we replace structural steel columns and beams with it? Do we make floors and ceilings out of it? Do we clad buildings with it? In these early stages of its use, the building industry does not know a whole lot about the material. The second is that the material is so lightweight and thin in relation to how strong it is. So what does that mean? Will this save money when building a building? Will it be easier to construct? How do we analyse the structure? As you can see, along with these interests comes a lot of questions. A few obstacles are fire safety, building codes and structural analysis. Once there are people

dedicated to working on and solving these obstacles, the use of composites in architecture will grow at a fast pace. □

**More information:**  
<http://arch.iit.edu/>



Carbon Fiber structure called ‘FIBERwave Pavilion’ designed by IIT Architecture students led by Alphonso Peluso 2014

## Focus

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