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We Have Entered the Composite Age

An interview with Professor Anoush Poursartip
Aerospace Engineer, University of British Columbia

What is materials research?

The whole of human civilization has been defined by materials. We had the Stone Age, we had the Bronze Age, we had the Iron Age. And nowadays, your whole life is defined by the availability of materials around you to make your life as comfortable and as good and as safe as you have it. The ideal material is material that's infinitely strong and stiff and doesn't weigh anything and doesn't cost anything. That's what we want. We want really materials not to be an issue. With these new materials, planes can fly further with less fuel, carry more passengers, give you a much better passenger experience, and in general, lead to a much better experience to you as a consumer. Likewise, if you are a golfer, if you are a skier, if you want to buy a new car, these materials are changing your whole experience of that product.

Can you describe your research?

My biggest area of research and contribution has been that as you make things out of composite materials, the whole idea is to make the biggest structure you can. So you want to build, say a whole airplane wing, which is half a football field, in one step. And what we do is we create big computer simulation so that rather than build it and find out that it didn't work, we do it in a simulation – in a model – and we take all the risk out of the manufacturing process.

What are the practical applications of your research?

The work we do ends up in products that are real, that the common person uses, that the average person sees. And that makes it really exciting and meaningful to me. It is an astounding feeling to get on an airplane and feel that your software was used to design the manufacturing of this airplane; the feeling that you contributed to something real makes a huge difference to your motivation to your work the next day.