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What inspired you to become an engineer?

I remember I used to say that I wanted to "draw bridges", and my father would respond, always striving for me to aim higher: "you know instead of just drawing them you could design them..."

"Being an academic in research is amazing. Being in Oxford is really inspiring. There are no boundaries to creativity."

What is your research area?

I have always been convinced that part of the response to today's societal challenges in the construction industry is a more rational use of steel in structures.

Emerging metals, such as new duplex stainless steel grades, characterized by remarkably high strength and ductility as well as long-lasting corrosion-resistant properties, can stretch the possibility of structural engineers' imagination. The use of these materials allows for highly optimized structures and leads to a reduction of raw material extraction and fewer environmental impacts over the structures' lifecycle.

Since my appointment at the University of Oxford, my research also focuses on parts of structures that can be manufactured using additive manufacturing. Through the use of additive manufacturing, complex geometries with re-entrant shapes, can nowadays be produced and one can reach extremely high levels of material's capacity utilization, never achieved before.

What is the best thing about your job?

My research makes me realize every day how incredible our profession is. It encompasses all disciplines of engineering. I enjoy being able to influence the way structures are designed and made, saving materials at source. It makes me feel like an essential cog of the wheel.

Being an academic in research is amazing. Being in Oxford is really inspiring. There are no boundaries to creativity. After just two months, I was already in the process of filing a patent. It can't only be me. Science, knowledge, learning, realization. It's here, in Oxford's atmosphere.

Why should young women choose engineering as a career?

I am a structural engineer. Structures can supply green energy (windmills), connect cities (bridges) or provide shelters (skyscrapers): as a structural engineer, you are at the source of everything.

What attributes and skills help you in your role?

Humour. I hope...

More seriously, I'm a very creative person. It has helped me find new ideas to try out, new theories to prove... and it worked out fine eventually.

What has been your proudest moment or highest achievement?

I'm still working on my sense of accomplishment.

I feel proud for my family, they worked their way up through time and space, from Italian expatriate coalminers to the highest level of English academia.

One day, maybe, I'll be proud of myself...

Have you experienced any gender-related challenges?

I think, today, men still don't quite understand how a woman-wife-mother can possibly be a structural engineer or a group leader... and I guess that leaves them a bit wordless? In fact, I never tell a newly met male person that I am a university professor or structural engineer because I have become tired of explaining how I combine everything.

Women have always looked after their children, picking up berries and tidying their cavern. But we evolved. We are evolving. Today, we can virtually be anyone!

"My top tip for girls considering Engineering?
Never stop dreaming. Today you can become virtually anyone you want."