



Saurabh Sinha



Prof. Saurabh Sinha is an electrical engineer, a researcher, and an educator. In 2007 Saurabh received the SAIEE (South African Institute of Electrical Engineers) *Engineer of the Year Award*. More recently, he received the 2010 *University of Pretoria Laureate Award*, the University's most esteemed alumni award.

For more than a decade, he has been with the University of Pretoria, where he currently leads the Electronics and Microelectronics Group. Together with his group, he conducts teaching at undergraduate and postgraduate levels, research and associated management tasks. He authored over 50 publications in peer-reviewed journals and at international conferences. Saurabh is the managing editor of the *SAIEE Africa Research Journal*.

Beyond his academic contributions, Saurabh serves as an industrial consultant for Business Enterprises at University of Pretoria (Pty) Ltd. Saurabh is engaged with a number of large-scale regional and international research projects; among others he is currently leading a national energy harvesting project.

Why did you choose to study the engineering field?

From a young age I had an interest in "taking things apart." The interest was initially with remote-controlled cars and later on with radio-controlled cars. As I grew up in an area where there was barren land, soil erosion was a problem. As I moved forward at school, I started to realize how differential equations can be related to the basics of motors (such as in the remote-controlled cars), and how the same set of generalized equations can represent physical phenomena such as soil erosion.

With time, I developed my quest towards linking mathematics and physics, and the field that converges the two was my natural choice: I studied engineering.

What do you love about engineering?

I studied engineering as a career choice at one point; it's currently a way-of-life. I engineer all I do, and the fact that I can do this is what I love about it.

What don't you like about engineering?

The fact that it is also a way-of-life! So what I love about it, is also what I don't like about it!



Whom do you admire, and why?

Being and living in South Africa, it's very hard to have many other choices, particularly as Nelson Mandela is one who remains close to us. Another person who comes to mind is Mahatma Gandhi, and an expression that comes to mind is *"Be the change you want to see in the world."* Ultimately this is closely related to what we strive for in the way we engineer the world, the resonance therefore becomes the reason.

How has the engineering field changed since you started?

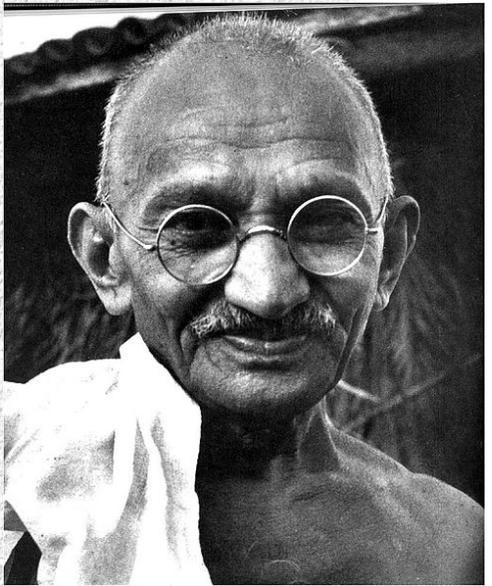
The rate of technical development! In particular, the power of computing has grown. This has catalyzed the way we engineer, and machine intelligence has developed.

What direction do you think that the engineering field is headed in the next 10 years?

The convergence between technologies and disciplines is picking up pace and it'll be beyond traditional engineering disciplines; the convergence and interactions with biological sciences, health sciences and in general life sciences is a natural next step. Ultimately engineering contributes towards humanity and I foresee this commitment renewing in the next decade.

What is the most important thing you have learned in the field?

Working in a team: locally, nationally, regionally and internationally. With the growth in communication networks, it's now much more common to work across boundaries. This enables us to understand the strengths and weakness of one another, and these become important people variables in solving technical or geographical design challenges!



Mahatma Gandhi



What advice would you give to recent graduates entering the field?

To see the profession in relation to the contribution it can make in the wider context of politics, economics and technology.

If you were not in the engineering field, what would you be doing?

I would be engineering in another field, or engineering another field.

Finish this sentence: "If I had more time, I would..."

If I had more time, I would optimize what I do, so I can do more!" :-)

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