How Mahatma Gandhi’s Life Inspired Me
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I am deeply privileged to deliver this lecture on the occasion of 145th anniversary of Mahatma Gandhi, fondly known as the Father of India, my birth nation, and Gandhi Jayanti celebration in my adopted nation Singapore.

The imagination about Mahatma Gandhi in most peoples’ mind is that he was a person of principle, not after quick success. He was an epitome of simplicity, leading by personal example, ahimsa methods for independence and changing mindsets of people, inclusive philosophy, patience, humility, and pursuer of truth.

Relating to him has a special meaning for me. I drew unconventional inferences and inspiration from his life journey, especially to navigate the testing times of my life. It is common perception that the life of a university professor is filled with tranquility! You may be surprised if I say that it does have periods of excitement and lows. Perhaps it is an understatement for the (global) success of an academic at a world class university in a dynamic, competitive world! I would imagine that it is the same for people in diverse walks of life in our fast paced, changing world.

Thanks to Singapore print and digital media (especially Tabla!) for placing a spotlight on me on the occasion of media giant Thomson Reuter’s inclusion of my name among the World’s Most Influential Scientific Minds. Which led me, trained as a materials engineer to face you all and try out something which I have never done before i.e. address a gathering without power point slides (engineer in the shoes of an orator with social studies training! Engineers are yet to make a name for themselves in public speaking)

Let us take a time travel to 1960s, a period when smart phones, internet search engines and digital social media are yet to be conceived. The only media available then was printed
newspapers and a few magazines. I was born in 1965 in an idyllic village of ~ 1000 families with one public primary school, one public secondary school, one Government Junior College and one community library. Most families were involved in agriculture growing paddy and ground nuts as alternate crops except for my father and his fellow teachers involved in education. Natural water from rains, canals and ponds were plentiful. Milk supply, vegetables and provisions supply were an ancillary source of income for some families. Bullock carts and cycles (most eco-friendly) were the main mode of transport. And there was an industrial marvel i.e. a rice mill. Until I was 16 years old it was the one and only industrial marvel I came across just as all other children in that idyllic village. So the rice mill is the source of modern amazement! During the peak season we could enjoy the freshly made ‘atukulu or beaten rice or poha or aval’ produced at the rice mill. For spiritual guidance there was a temple, a masque and a church for every faith. During the festive seasons the whole community flocked to puppet shows, a tradition originated in 3000 BC, and there was nothing else for entertainment, not even a cinema. The first time I saw an animated version of Mahatma Gandhi was in a puppet show. I read about Gandhi in story books at the community library my father used to take me along everyday evening after the school.

Community and my mother, a devout follower, expected me to be clean (by bathing), fasting and wear clean clothes for prayers. As a child fasting was not easy for me to practice especially when there were so many mouthwatering titbits around and loving village people with you. I was reminded that Mahatma’s fasts lasted days and on several occasions as long as 21 days. That gave me determination to fast until I visited my favorite deities in our village as well as neighboring villages which are several kilometers away. My practices made my mother proud, who used to narrate about my small doings to all her known people. Their appreciative looks gave me further determination to be disciplined even under difficult situations. In subsequent years, during long train journeys I would abstain from food until I had a chance to bathe. In a way I imbibed the determination not to give into the needs of body as well as mind from the practices and achievements of Gandhiji’s.
In 1981 for the first time I came out of the comfort of our sweet home and went to a big city Visakhapatnam for my undergraduate studies in engineering at the Andhra University. Sir Richard Attenborough’s film Gandhi was released in 1982. In that film Ben Kingsley acted elegantly as Gandhi. At the same period the other English language movie I saw was Star Wars: The Empire Strikes Back! As you can imagine my mind was stretched from the relevant past to the distant imaginary future.

Self-reliance is a core strategy of Gandhiji. Upon my graduation I started working in Bangalore for a high technology company, Hindustan Aeronautics Limited (HAL) mainly involved in the licensed manufacturing of aero-planes. I took personal interest in indigenously developing technologies with the encouragement of Dr CG Krishnadas Nair, who later became the Chairman of HAL. This was accomplished after the usual office working hours i.e. working in wee hours of nights, which gave immense satisfaction.

Ghandhiji’s simple and profound message ‘be the change you want to see in the world’ was helpful to me to pursue things unconventionally but with passion and purpose. Generations of leading researchers in the world grew up with the perception that impactful research and thought leadership is centered in select developed countries of Europe and USA. There is a need to change this perception so that more from the lower income countries can participate in the scientific research and innovation enabled progress. Unlike my friends and classmates I came to the then developing East after my PhD degree from the University of Cambridge. Over the years I provided world-over recognized thought leadership and new directions in nanomaterials from Singapore. Four years ago I authored a book entitled The Changing Face of Innovation to give confidence to the younger generations, especially in emerging countries. I write Op’eds and media articles to open up complex knowledge for discussions, access and consumption by the general public. I teamed up with the engineering thought leaders around the world to found the Global Engineering Deans Council organization to share the best practices among the growing number of engineering education providers, to relate the engineering profession to the needs of respective societies, and to train the next generation of engineers and innovators.
Lead by example (washing toilets) and picking the right issue (salt) to rally and motivate the people: At various universities during the career most professors’ research gives way to academic managerial functions. Pursuing quality research while contributing to the management of the university is necessary to maximize the limited resources with which various universities need to progress. Drawing the inspiration from Gandhiji I could implement it well and contribute to the global recognition and rise of National University of Singapore, Faculty of Engineering by motivating colleagues. There are millions of researchers around the world with limited resources. A simple, flexible and elegant nanotechnology platform which I propagated worldwide enabled scores of researchers around the world to pursue their creative and innovative ideas for delivering clean air, water, energy, food and improved healthcare sustainably. Gandhiji foresaw the issue of sustainability. As early as 1930s he said that Earth has enough resources to meet the needs of humankind but not enough for the greed.

Gandhiji’s simplicity and approach “I do not accept my views to be accepted all of a sudden”. I have been practicing minimalist approach at home and office. People who visit us at home always ask did we just move in or in the process of moving out! People who visit me in office puzzle to see only a few items as opposed to stereotyped university professor’s desk. My students, friends and hosts around the world enjoy the company of curious, easy going person in me!

I hope to help researchers and students who lack resources and confidence by lowering the barriers for innovation "so that many others can participate in the process of innovation effectively and meaningfully". I hope to give confidence to others who otherwise would not conceive of becoming influential and impactful scientific minds in the world." I hope to share experiences and strategies so that diverse engineering education providers and universities around the world can make a difference in respective ways.

Three years ago together with one of my many well-wishers Dr RMVGK Rao (formerly with National Aeronautical Laboratories) I visited Mahatma Gandhi Ashram in Sabarmati, Gujarat. It is my delight to see how the Ashram is presently involved in a number of activities that serves to both preserve the history of Gandhi and the freedom struggle and
also to promote and educate people in the great philosophies, values and teachings of Gandhi. Gandhi was asked to give a message to the people of India. To which he responded “My life is my message”.