

Dr. Praveen Jain – a Canadian treasure and brilliant inventor

By Margaret Torrance

In 1982, 24 year old Praveen Jain with an honours BEng in hand, moved from India to Canada to work under Dr. Shashi B. Dewan, Professor of Power Electronics, at the University of Toronto. There he earned his MASc and PhD degrees in 1984 and 1987 respectively. What he has achieved in his specialty of *power electronics* over the past 30 years, is astounding. He contributed in the design of power systems for Canadarm while working for Canadian Astronautics. Next he developed innovative power conversion systems for telecommunications at Nortel. This was followed by corporate consulting work at Astec, Freescale, General Electric and Intel, before he settled down at Queen's University. This is barely a glimpse of the biography of Dr. Jain. What I hope to give you is insight into the man – a gentle, passionate, creative, modest, “problem finder and solver” and educator.



After a most engaging interview with Dr. Jain, it was difficult to decide on which of his many passions I would focus. I chose two: his commitment to teaching and his role as an entrepreneur.

With 40 patents to his credit, Dr. Jain could have opted for a successful life in the corporate world, but instead chose a career in academia. Here he has the opportunity to work with young, energetic minds, who know no boundaries, will try anything and work 24 hours a day with excitement. As Dr. Jain puts it, “You guide them, give them ideas, make them go in different directions and then help them develop inventions.” With him, the students learn not only theory, but they also learn the practical aspects of applying and commercializing their work.

Commercialization can at times be challenging, as Dr. Jain acknowledges. While at Queen's, Dr. Jain has

founded two successful start-up companies, CHiL Semiconductor in the area of digital power controller chips for computers, and SPARQ Systems in the area of photovoltaic microinverters. In CHiL's early days, Dr. Jain discovered it was “very, very hard to raise \$2 million from Bay Street”, but Venture Capitalists from Boston learned of his research and asked “how much he needed to obtain his objective.”. He replied “\$12 million” and got it. Recently CHiL Semiconductor was bought by International Rectifier – another US company – for \$75 million.

The second company, SPARQ Systems – still in Canada – is recognized globally and has many large purchase orders for its product, but still faces difficulty in obtaining Canadian investment dollars to scale up the operation and manufacture its product. Current investment interest in SPARQ is coming from Taiwan, the US and Germany.

Dr. Jain, with the help of his research team, is an invention factory – he presently has 30 inventions in the works. He has a strong commitment to providing jobs for Canadians, and continues to seek Canadian investment in a challenging economic environment.

In 2010, Canada's top 100 corporate research spenders reduced R&D funding by \$1billion from 2009 levels, while the federal and provincial governments and venture funds providers have fewer resources to devote to commercializing.

In this challenging environment, Dr. Jain is doing his very best, to conduct research with innovation potential to benefit Canada and Canadians.

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