



**IIT MADRAS**

# Prof. Sampath Institute Chair Report 2021

# Prof. Sampath Institute Chair



Chairs are occupied by Professors who have distinguished themselves and been recognized by their peers for their research and/or technology development, and who have excelled in teaching and service to the Institute/nation/profession. It is intended to host the eminent expert Professors as Chair with various options for visits and engagement, suitable salary and benefits or honoraria, accommodation and varied endowment amounts as applicable. The achievements must therefore go beyond those that earned them the Professorship, and should demonstrate leadership in academia, industry and research.

Late Prof. Srinivasa Sampath (1925-1998) served as the professor at the Department of Electrical Engineering and Deputy Director at IIT Madras. He was instrumental in the academic development and growth of IIT Madras. Prof. Sampath specialized in the areas of electron tube design; servomechanisms and controls; electronic measurements; pulse techniques; television engineering and analogue, digital and hybrid computer techniques.

In 1981, Prof. Sampath became the Director of IIT Kanpur and brought instrumental changes in the field of computer sciences. He set-up the computer centre based on DEC 1090 system; established the UN Development Programme sponsored centre for Computer Aided Design in the interdisciplinary areas of Mechanical and Civil Engineering and Fluid Flow Systems.

Prof. Sampath played a pioneering role in ushering in modern technology in post-independent India working across academia, research and development laboratories, industry, and government. He was an excellent teacher and a role model to his students. He was a gifted speaker of exceptional calibre in the areas of education, technology, and spirituality.

**Prof. Ashok Jhunjunwala**  
Chair Occupant: Apr'2016 - Jun'2021

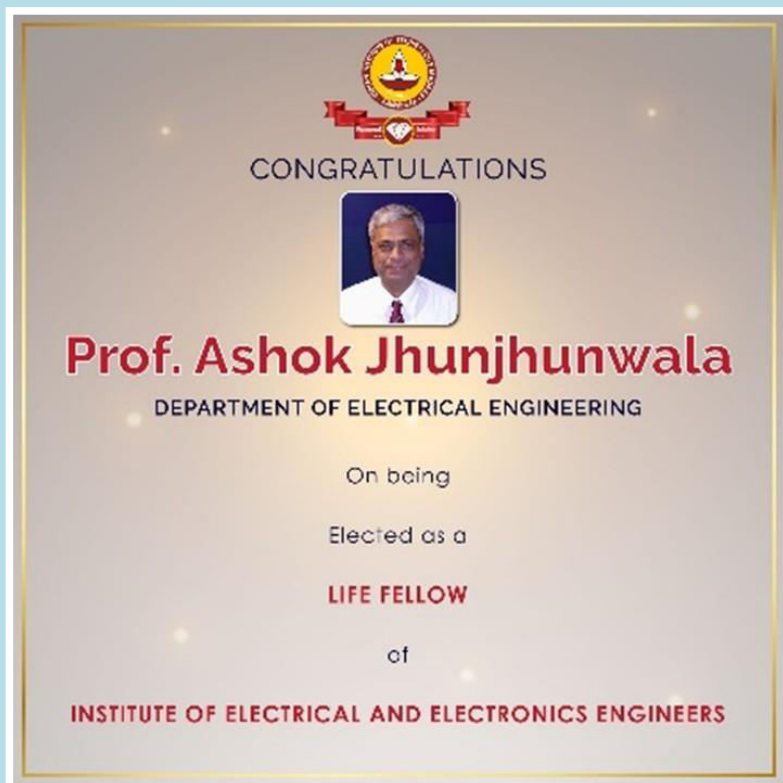
Ashok Jhunjunwala, Institute Professor at Indian Institute of Technology, Madras at Chennai, India. Following his B.Tech degree from IIT Kanpur, he obtained his MS and PhD from University of Maine, USA. He was an Assistant Professor at Washington State University, USA for a year and half and has been a faculty at IIT Madras since 1981. He has just completed one and half year of his services as Principal Advisor to Minister of Power, MNRE and Railways, Government of India, New Delhi.



# Academic

## Achievements/Awards

- ▶ Professor Jhunjhunwala is Member of National Academy of Engineering (NAE), USA and Fellow of IEEE and World Wireless Research Forum (WWRF). He is also a fellow of the four S&T academies in India, namely, INSA, NAS, IAS, INAE.
- ▶ Prof. Jhunjhunwala was conferred the highest civilian Honor, Padmashri in India.
- ▶ He has received a number of awards in India including Shanti-Swarup Bhatnagar Award, Vikram Sarabhai Research Award, H. K. Firodia Award, Millennium Medal at Indian Science Congress, UGC Hari Om Ashram Award, IETEs Ram LalaWadhwa Gold Medal, JC Bose fellowship, Dronacharya Award and Lifetime Achievement Award by TIE, Chennai among others.
- ▶ He has also received Silicon India Leadership Award in USA. He has also been conferred honorary doctorate by University of Maine, USA and Blekinge Institute of Technology, Sweden.



# Technology Contributions



Prof. Jhunjunwala is considered a pioneer in nurturing Industry-Academia interaction in India towards R&D, Innovation and Product Development. He conceived and built India's first university affiliated business park (IIT Madras Research Park). He has been developing products for masses; affordable yet technically advanced products in India, like Wireless in Local Loop, Remote health monitoring system, ATM, Solar-DC to homes, Affordable electric vehicles, etc.

TIE conferred him the title of Dronacharya for his contributions to the cause of entrepreneurship, as he incubated and nurtured more than 200 companies at IIT Madras. He heads the IITM Incubation Cell and Rural Technology and Business Incubator (RTBI). He leads the TeNeT group, which has worked closely with industry to create innovative affordable products in sectors like telecom, banking, renewable energy and electric vehicles. His strength has been in designing and developing products which are affordable to Indian people at large.

Dr. Jhunjunwala has made numerous technology contributions, which impacted the lives of people in India over the last twenty-five years. Setting up of IIT Madras Research Park at Chennai, a nationally pioneering initiative to promote Industry-Academia R&D collaboration. It has taken innovation to a new height as about 100 established industries and over 150 incubated startups work with IITM's faculty and students within the innovation system of IITMRP. All this has resulted in numerous cutting-edge products, technology and services, often overcoming barriers hitherto considered impossible to surpass, addressing critical problems of national and global importance.





Additionally, Prof Jhunjhunwala was also instrumental in driving India's startup revolution and has incubated 200+ deep-tech companies, driving innovation and entrepreneurship across India and the region.

World's fastest growing economy India imports most of its oil and is also home to the world's 10 most polluted cities. While converting its transport to electric vehicles (EVs) is the obvious step for the country, the costs of EVs today, requiring considerable subsidies to become affordable and viable, is a bottleneck for its spread in India. Dr. Jhunjhunwala and his group, including several incubated spin-out companies, have come up with multiple innovations to overcome this challenge.

As large number of Indian homes consume only about 0.5 to 3kWh of electric energy in a day (as opposed to 20 to 100 kWh in a developed economy), he has invented a solar-DC technology which uses a rooftop solar supplement with the grid to directly provide DC power in homes. This was to bring highest efficiency in situations where every Watt of power matters. Solar produces DC power, battery is charged using DC power and gives out DC power and most appliances like lights, fans and electronics uses DC power today. Eliminating frequent converters and associated costs and losses, Prof. Jhunjhunwala's team build a solar-DC product and its smaller size and weight has enabled such systems to provide power to close to 50,000 homes today in difficult terrains such as mountains and deserts, where power-grid is either absent or unreliable. This has played a major role in Indian Prime Minister's goal to deliver electricity to every home by Dec 2018.





# Other Positions Held

- ▶ Dr. Jhunjhunwala has been Chairman and member of various government committees and has been on boards of several education institutions in the country.
- ▶ He has been on the boards of a number of public and private companies and has driven comprehensive changes, especially in the area of technology, in these companies.
- ▶ He was a Director on the board of State Bank of India, Bharat Electronics Limited, HTL, NRDC, IDRBT, BIRAC, VSNL and BSNL as well as in Tata Communications, Mahindra Electric, Sasken, Tejas Networks, TTML, Intellect and Exicom.
- ▶ He is currently the Chairman of Technology Advisory Group of Securities Exchange Board of India and Chairperson of the board of Governors of educational institutes like IIIT Kottayam and College of Engineering, Trivandrum, Kerala.





# Thank you for **Your Support**

We are grateful to all the supporters of the "Prof. Sampath Institute Chair Professorship". Thank you for your generosity to IIT Madras and your continued support in nurturing the development of this premier academic and research institute. Surely this support demonstrates your commitment to reconnect to IIT Madras. Your contributions to the development of IIT Madras will be cherished forever.



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