



Dr. Raghu Natarajan (1940-2020)

Dr. Raghu Natarajan was born in the city of Mannargudi, India in 1940. He completed his undergraduate studies in mechanical engineering with honors at the Banaras Hindu University in Banaras, India in 1963. Thereafter, he relocated to Bombay, India to attend the Indian Institute of Technology (IIT) where he graduated with a M.Tech degree in 1965. To this day, IIT is regarded worldwide as one of the best engineering schools on par with M.I.T. and other institutions. Being the consummate scholar, Raghu went on to obtain his PhD degree in mechanical engineering at the University of London, London, UK in 1971.

Following his academic studies, he obtained a faculty position in 1965 at IIT's Delhi campus where he earned the rank of full professor. Although having reached the pinnacle at IIT, Raghu sought new challenges and moved to North America, first at a sabbatical post at the University of Ottawa (1981-1982) and following as an associate professor in the department of mechanical engineering in 1984. He then joined for a short year in 1989 Mankato State University in Minnesota, before finally returning and settling in the city of Chicago in 1990. In Chicago, he served in the faculties of three of its storied higher education institutions: the Illinois Institute of Technology, the University of Illinois at Chicago (UIC) and his home institution of Rush University Medical Center. In 1985 he worked closely with Dr. Gunnar Anderson and Dr. Farid Amirouche and started a weekly group meeting on the basis to advance spine research and building a research lab for graduate students. As a full-time faculty and researcher in the Department of Orthopedic Surgery at Rush University, he was instrumental in restructuring the biomechanics research vision at Rush and taught spine courses for graduate students. He supervised and mentored a large number of masters and PhD students. He was instrumental in course developments at UIC for the biomechanics focus area. He also served as a key principal investigator in Rush's landmark NIH program grant focusing on intervertebral disc degeneration. Always with an open door for his students and colleagues, with a kind and very patient personality, he focused his research efforts in computational modeling of biomechanics phenomena in the field of orthopedics, most notably spinal biomechanics. His models of the lumbar spine and disc poroelasticity have been extensively used in the spine simulation community.

Raghu was often regarded as one of the gurus of spine finite element modelling. His collaborative outreach was truly international and broad – his footprint was immense. Dr. Kazu Hasegawa, Director of the Niigata Spine Surgery Center in Japan, noted “Professor Natarajan was

a genuine international scientist and a true gentleman.” Dr. Jamie R. Williams, Vice President of Robson Forensic, and a former graduate student of his, fondly remembered Raghu as a “kind and gracious teacher and mentor. He was instrumental in my professional development. He was never too busy to answer a question, but he expected that you had invested time and effort in finding potential solutions first on your own. I was blessed to have known him and learned from him.” Many of his former students echoed the same sentiments when remembering him. Raghu’s legacy of research excellence, mentorship, teaching and friendship will continue to live on in all those he touched. He was a true scholar and a gentleman who led by example.

Raghu was a member of various organizations/societies. Most notably, he was very fond of the International Society for the Study of the Lumbar Spine (ISSL). He was a member since 2002 but started attending its annual meetings way before his induction.

Above all his accomplishments, Raghu was most proud of his family. Raghu enjoyed traveling with his wife of 53 years, Chitra. Together, they traveled the world. They had two children, Rupa and Arvind. They are currently successes in their own respective fields as a chemical engineer in the refining industry and as an analyst in the healthcare industry, respectively.

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