

Brief Profile of Dr. G. Venkatappa Rao

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.Date of Birth : May 18, 1945.

Dr. G.V.Rao has a distinguished career of over three decades (1975 – 2007) at the Indian Institute of Technology, Delhi. during which he served as Head, Civil Engineering Department and Dean (Student Affairs). He guided 24 Ph.D.s and over 100 M.Tech. Theses, while authoring over 200 research papers, many of which have won awards for Best Theses and Best Papers internationally.

At a time when the nation was content with merely the blueprint of the Nehruvian dream, Dr. Rao had the vision to realize the potential and the need for advanced, indigenous and environment friendly construction materials – jute and coir geotextiles, lime and fly ash. He set up the Geosynthetic Engineering Laboratory for quality testing and standardization, from scratch, the first and only one of its kind in the country. In 2006, he was the only Indian to feature in the „**142 names Geo**“ a world-wide compilation by the International Fabrics Association (IFAI) *of people who influence and continue to influence the geosynthetics arena*. His invaluable contributions have been recognized with over 25 prestigious awards, including the **CBIP-Jawaharlal Nehru Birth Centenary Award for outstanding contribution to Water Resources** (1994), **International Geosynthetic Society – Leadership and Recognition Award (2008)** to name a few. Dr. Rao authored over **10 reference books**, several standard text books and manuals and state- of-the art volumes for the IRC and CPCB. These books include *Principles of Transportation & Highway Engineering, Airport Engineering and Engineering with Geoynthetics* -- all published by Tata Mcgraw Hill Publishing co.

. He is an Honorary Fellow of the Indian Geotechnical Society, Fellow of the Indian National Academy of Engineering and the Institution Engineers (India). He served as President of the Indian Chapter of International Geosynthetics Society for two terms and was Member of the IGS Council. He is the Chairman of the Technical Committee, GeoAsia 16, scheduled to be held in New Delhi during Nov 2016.

He also served the Indian Geotechnical Society for over 5 years as its Honorary Secretary and Editor of the India Geotechnical Journal.

In August 2007 he relinquished his long standing service at IIT Delhi on VRS and moved over to Hyderabad. Dr. Rao is committed to accelerate the integrated development, expansion and modernization of infrastructure in India. He served as **Independent Director, Ircon International Ltd.** a public sector undertaking of the Ministry of Railways, GOI during the period 2010 to 2013. He was also associated as Distinguished Visiting Professor with GMR Institute of Technology, Rajam and KL University, Vijayawada, and as Honorary Professor at Osmania University College of Engineering, Hyderabad. At this University he successfully guided 2 Ph.D. theses.

Since leaving **IIT Delhi** he has founded the **Sai Master Geoenvironmental Services Pvt Ltd (SAGES)** and the **SAGES Testing, Training and Research Institute (STTRI)**.

He has documented his experiences in the form of the following books authored along with his students and colleagues, during the period 2007- 2015 :

Geosynthetics – An Introduction,
Geosynthetic Testing – A Laboratory Manual
Solid Waste Management and Engineered Land fills.
Advances in Geosynthetics
Earth Reinforcement – Design and
Construction, Geosynthetics in Railway Track
Highway Material Testing – A Manual
Ground Improvement for Infrastructure Development

To share his experiences he has been lecturing and organizing workshops, at various places in the country – Bengaluru, Calicut, Quillon, Tiruanathapuram, Vijayawada, Visakhapatnam, Tirupathi, Hyderabad-IIIT, IIT Hyderabad, Warangal, Shillong, Hyderabad R&B, Most recently he delivered the **Dr.K.L.Rao Memorial Lecture** instituted by the Institution of Engineers India at Ahmedabad, at its 31st

National Convention of Engineers and also felicitated as an Eminent Engineering personality. He was honoured by the International Geosynthetics Society (India Chapter) for initiating and nurturing Geosynthetics in India on the occasion of the Celebration 3-Decades of Geosynthetics, on 5th Nov. 2015. On the occasion of the Golden Jubilee celebrations of the IITDelhi Geotechnical Group, he was felicitated on Nov.6th, 2015. At the Invitation of Japan Chapter of the International Geosynthetics Society, he delivered an Invited presentation on *3-Decades of Geosynthetics in India*, on the 3rd Dec 2015, at Tokyo, Japan.

He is also a member of various **National Committees and consultant** to various Projects for - Dept of Roads & Buildings, Govt of A.P., Department of Irrigation, Govt of A.P., CSEB, Korba, NHPC, NHAI, NTPC, Gammon Infrastructure, KNR Constructions, Megha Engg, Indu Projects, IVRCL, L& T, GMR Airports, Jaipur Development Authority, and the Geosynthetic industry.

His recent consultancy works for the Govt of Andhra Pradesh, West Bengal State Power Distribution co, NHAI, , IRCON, HMDA, Jaipur Development Authority – include Restoration of RE wall at ORR Hyderabad, RE wall at Jaipur, Restoration of RE walls at Madurai, Design of Landslide mitigation structures at Darjeeling, Design checking of for NHAI, Geotechnical Investigation and Design of Ash filled/stabilized foundation for ROB at Visakhapatnam, Geotechnical Investigation and Earthen bund analysis for SST at Nellore, Geotech Investigation and design of earthen dam and construction at RGI Airport, Hyderabad for GMR.

Overall teaching and Research and consultancy experience of 45 years in geotechnical testing and evaluation, design of pavements and quality control check for UPSIDC, Delhi Development, Government of Haryana, Preparation fo DPRs for NH and Bridges. Overall consultancy Projects handled are over 600.

AWARDS

1. IGS-HEIC0 Gold Medal Award for the Best Paper on Rock Mechanics in 1981 (1982) (with Prof. T. Ramamurthy and K.S.Rao)
2. IGS-AIMIL Prize for the Best Paper in the Indian Geotechnical Journal in 1984 (1985) (with P.L.Juneja, Prof. S.K.Gulhati and Prof. Alam Singh)
3. IGS-Shamsher Prakash Prize for the Best Paper on "Soil Dynamics and Vibration Problems" in 1983-84 (1985) (with Prof. T. Ramamurthy, and Dr. C.P. Nag)

4. IGS-ONGC Prize for the Best Paper on Marine Geotechnical Engineering in 1985 (1986) (with Dr. A.M. Deshmukh and Prof. S.K.Gulhati, and Dr. S.L. Aggarwal)
5. IGS-HEICO Prize for the Best Paper on Rock Mechanics in 1985 (1986) (with Dr. S.D. Priest and Selva Kumar)
6. IGS-HEICO Prize for the Best Paper on Rock Mechanics in 1986, (1987) (with Dr. K.S.Rao and Prof. T. Ramamurthy)
7. IGC-ONGC Prize for the best paper on Marine Geotechnical Engineering in 1986 (with Dr. M. Datta and Prof. S.K. Gulhati) (1987)
8. IGS-Prof. Leonards Best Ph.D. Thesis Award awarded to "Strength and Deformation Behaviour of Sandstones" submitted by K.S.Rao and guided by Prof. G.V.Rao jointly with Prof. T.Ramamurthy (1988).
9. IGS-Prof.Leonards Best Ph.D. Thesis Award Awarded to "Strength Prediction of Anisotropic Rocks", submitted by Jagdeep Singh and guided by Prof.G.V. Rao jointly with Prof.T.Ramamurthy (1990)
10. IGS-HEICO Award for Best Paper on Rock Mechanics in 1989 (1990) with Dr. Jagdeep Singh and Prof.T.Ramamurthy
11. IGS-AIMIL Award for the Best Paper on "Instrumentation", in 1990 (with Dr.J.M.Kate and A.R.Katti)(1991)
12. **CBIP-Jawaharlal Nehru Birth Centenary Research Award for outstanding contribution to water resources sector (1994)**
13. IGS-Industrial Minerals and Chemicals Company Annual Prize for the best paper on Soil Stabilization (1993) (with Dr.J.M. Kate and Dr.F.H.Shamsher) (1994)
14. **IGS Annual Lecture Award 1995 - Lecture on "Geosynthetics in the Indian Environment" delivered in December IGC-95, in a Special Session, Bangalore**
15. Shri G.G. Dhanak Annual Lecture Award (1996) - by Indian Geotechnical Society, Baroda Chapter
16. **International Geosynthetics Society (India Chapter)-Tenax Award for Excellence in Geosynthetics (Rs.20,000/-, Citation and Memento), 1997**
17. IGS-Z-Tech (I) Pvt. Ltd. Annual Prize for the Best Paper on "Geosynthetics and Allied Construction Products", 1996
18. **IGS-Kuckelmann Award (2000) for Outstanding Contribution to Geotechnical Engineering**
19. **Indian Geotechnical Society - Prof. Dinesh Mohan Award for Outstanding Practice in Geotechnical Engineering, 2004**
20. **International Geosynthetics Society - Leadership and Service Award, Japan, 2006.**

21. **International Geosynthetic Society (Indian Chapter) and Central Board of Irrigation and Power – Life time contribution to development and promotion of Geosynthetics in India, 2006,**
22. **International Geosynthetics Society - 25th Anniversary Award, 2008,**
23. **Indian Geotechnical Society Delhi Chapter – Lefe Time Achievement Award, 2008.**
24. IRC-Bihar PWD Medal for the best paper presented in 2007.
25. **Eminent Engineer Award – conferred by the Institution of Engineers, India, at its 31st National Convention of Engineers, Ahmedabad, Sept.2015**
26. **Dr.K.L.Rao Memorial Lecture Award by the Institution of Engineers India, 2015**

SPECIAL RECOGNITIONS

1. By International Geosynthetics Society (India chapter) and the Central Board of Irrigation and Power - Dec. 1995 - on the occasion of a Decade of Geosynthetics in India
2. By the Indian Geotechnical Society (Delhi Chapter) - April 1996 - on the occasion of being Awarded the Best Chapter by the IGS
3. By the Indian Geotechnical Society (Kakinada Chapter)
4. By the International Geosynthetic Society (India Chapter) and the Central Board of Irrigation and Power – November 2006 – on the occasion of the Two Decades of Geosynthetics in India

Professor Rao has lectured widely all around the country as well as in other countries including Bangladesh, Germany, Japan, Korea, Kuwait, Nepal, Malaysia, Singapore, Sri Lanka, U.K. and U.S.A.

BOOKS

1. **The Indian Geoguide** (1986), IGS, New Delhi (Ed.)
2. **“Liveloading Surcharge behind Abuments”** – A State-of-the-Art (1984), Spl. Pub. No.8, Indian Roads Congress – T.Rama Murthy and G.V.Rao

3. **“Use of Geosynthetics in India – Experiences and Potential”** (1989), CBIP, New Delhi (Eds.) G.V.Rao and K.R.Saxena (Also Principal Author)
4. **“Engineering with Geosynthetics”** (1990), G.V.Rao and G.V.S.S,Raju (Eds), Tata McGraw Hill,New Delhi
5. **“Airport Engineering”** (1992), G.V.Rao, Tata McGraw Hill, New Delhi
6. **“Erosion Control with Geosynthetics”** (1990), G.V.Rao, CIGSI/CBIP, New Delhi
7. **“Principles of Transportation and Highway Engineering”** (1996), G.V.Rao, Tata McGraw Hill, New Delhi
8. **“Environmental Geotechnology with Geosynthetics”** (1996), The Asian Society for Environmental Geotechnology, CBIP, New Delhi, Eds. G.V.Rao and P.K.Banerjee
9. **State-of-the-Art Report on “Lime Soil Stabilization”** (2000), G.V.Rao and G.V.Ramana, Indian Roads Congress, Special Report No.1
10. **“Manual for Design Construction and Quality Control of Liners and Covers for Hazardous Waste Landfill”** G.V.Rao and Manoj Datta (2002), *Central Pollution Control Board*, Hazard Waste Management Series, HAZ WAMS/20/2001-02
11. **G.Venkatappa Rao (2007).Geosynthetics – An Introduction, SAGES, Hyderabad**
12. **Venkatappa Rao, G. and Goutham Pothal (2008). Geosynthetic Testing – A Laboratory Manual, SAGES, Hyderabad**
13. **Venkatappa Rao and Sasidhar, R.S. (2009).Solid Waste Management and Engineered Land fills, SAGES, Hyderabad**
14. **Venkatappa Rao , G. and Raju, G.V.S.S. (2012).Advances in Geosynthetics, SAGES, Hyderabad (ISBN 978-81-921790-3-2)**
15. **Venkatappa Rao, G., Jaswant Kumar, S. and Raju, G.V.S.S, (2012).Earth Reinforcement – Design and Construction, CBIP Pub. No. 314, New Delhi (ISBN 81-7336-321-8)**
16. **Venkatappa Rao, G. (2013). Geosynthetics in Railway Track, CBIP Pub. No. 319, New Delhi (ISBN 81-7336-326-9)**

17. **Venkatappa Rao, G. et al (2015) Highway Material Testing – A Manual, IK Publishers, New Delhi (ISBN 978-93-82332-65-7)**
18. **Venkatappa Rao, G. (2014) Ground Improvement Strategies for Infrastructure Development, SAGES, Hyderabad (ISBN 978-81-921790-4-9)**

PROCEEDINGS EDITED

19. VENKATAPPA RAO, G. with VARMA, C.V.J. and RAO, A.R.G. (Eds), (1995), “Ground Improvement with Geosynthetics”, CIGSI/CBIP, New Delhi
20. VENKATAPPA RAO, G. with VARMA, C.V.J. and RAO, A.R.G. (Eds), (1995), “Engineering with Geosynthetics”, CIGSI/CBIP, New Delhi
21. VENKATAPPA RAO, G. with VARMA, C.V.J. and RAO, A.R.G. (Eds), (1995), “Geosynthetics in Dam Engineering”, CIGSI/CBIP, New Delhi
22. VENKATAPPA RAO, G. with VARMA, C.V.J. (Eds), (1995), Proc. Workshop on “Role of Geosynthetics in Hill Area Development”, Gangtok, Sikkim, CBIP/CIGSI, New Delhi
23. VENKATAPPA RAO, G. with VARMA, C.V.J. (Eds), (1996), Proc. Workshop on “Engineering with Geosynthetics”, Chandigarh, CBIP/CIGSI, New Delhi
24. VENKATAPPA RAO, G. with VARMA, C.V.J. and VENKATACHALAM, K. (Eds), (1997), Bibliography – The Indian Contributions to Geosynthetics, CIGSI, CBIP New Delhi
25. VENKATAPPA RAO, G. with VARMA, C.V.J. and RAO, A.R.G. (Eds), (1997), “Directory of Geosynthetics in India”, CIGSI, CBIP, New Delhi
26. VENKATAPPA RAO, G. and KAUSHISH, S.P. (Eds), (2001), Geosynthetic Applications in Civil Engineering, CBIP Pub. No.283
27. VENKATAPPA RAO, G. with MATHUR, G.N. and CHAWLA, A.S. (Eds), (2003), “Case Histories of Geosynthetics in Infrastructure Projects, CBIP Pub. No.28
28. VENKATAPPA RAO, G., BANERJEE, P.K., SHAHU, J.T. and RAMANA, G.V. (Eds), (2004), “Geosynthetics – New Horizons”, Asian Books Pvt. Ltd., New Delhi.

29. **VENKATAPPA RAO, G.(Ed) (2006). "Geosynthetics – Recent Developments" Pub. No. 298, A Commemorative Volume for Two Decades of Geosynthetics in India, CBIP and IGS (India Chapter) Nov., 2006, New Delhi**
30. **VENKATAPPA RAO, G., MATHUR, G.N. and KANJLIA, V.K.(Eds) (2006). "Geosynthetics in India – Present and Future" Proc. International Seminar, IGS (India)**