



RAVI SUNDARAM

Director

WORK EXPERIENCE

- Mr. Ravi Sundaram has about 30 years experience as a consulting engineer in India and abroad. He started his career with **McClelland International Limited** (USA), a worldwide reputed geotechnical company. He was based in the Company's Office at Dammam, Saudi Arabia and worked on the Company's projects in Saudi Arabia, UAE, Qatar and UK.
- His international experience includes offshore & onshore soil investigation, geophysical tests, pile installation monitoring and pile drivability studies. He has conducted offshore and onshore pile load tests including a state-of-the-art instrumented pile load test in the Arabian Gulf.
- Mr. Ravi Sundaram is a founder director of [Cengrs Geotechnica Pvt. Ltd.](#) He directs all geotechnical consultancy services and geotechnical construction activities. He is in charge of soil investigation works including field works, laboratory testing and engineering studies. His fields of activities include pile foundations, grouting, foundation-strengthening and soil improvement. His responsibilities also include project and manpower planning, corporate administration and operational and financial controls on projects.
- His expertise includes boreholes through soil and rock, resistivity and seismic surveys, dynamic testing of soils, rammed stone columns, pressure grouting, bored piles and groundwater studies. He has been involved in developing engineering solutions to problems of collapsible soils, soft clays, expansive soils, weak rocks etc. on major projects in India and abroad. His special interests include offshore piles, instrumentation, artesian conditions and foundations for bridges, transmission towers and high rise buildings. He has published several technical papers that reflect his experience in geotechnical engineering practice.

EDUCATION

M.Tech, (Soil Mechanics & Foundation Engineering) Indian Institute of Technology (IIT), Delhi, India	1980
B.Tech., Civil Engineering Indian Institute of Technology (IIT), Delhi, India	1978

QUALIFICATIONS

- Certified Internal Auditor, "*Laboratory Management System*", ISO/IEC: 17025-2005.
- Attended Training Program on "*Technical Writing*", McClelland Suhaimi Ltd., Saudi Arabia, 1982.
- Attended Training Program on "*Waste Management*" McClelland Suhaimi Ltd., Saudi Arabia, 1983.

PROFESSIONAL AFFILIATIONS

- Fellow, Indian Geotechnical Society (IGS), New Delhi.
- Member, Indian Roads Congress.
- Member, International Society of Soil Mech. & Found. Engg. (ISSMFE) and Association of Consulting Civil Engineers India (ACCE)
- Donor Fellow and Member of Governing Board, [Bhoovigyan Vikas Foundation](#), a think-tank on Earth Protection and Environment related issues
- Elected Member of Executive Committee of IGS, Delhi Chapter during 1987-88, 2003-2005, and Co-Chairman for the year 1995-96 & 2005-2009.
- Editor, Newsletter, IGS Delhi Chapter, 2007-2009.
- Elected Executive Member Association of Consulting Civil Engineers, Delhi Local Centre, 1997 - 1999.
- Editor, Newsletter of IGS Delhi Chapter 2007-09.
- Elected Chairman, [Indian Geotechnical Society Delhi Chapter](#) during 2009-11.



PUBLICATIONS for list of publications, click [here](#)

AWARDS

- Awarded IGS-Shri A.G. Dastidar Biennial Prize for the paper on Ground Improvement in 1994-95 for the paper entitled "**Small Diameter Rammed Stone Columns in Fine Sand**".
- Indian Geotechnical Society Delhi Chapter was awarded the Best Chapter Award for the year 2010 under his Chairmanship.

COURSES, LECTURES AND SEMINARS

- Organized a Short Course on "*Site Investigation Practices*" under the aegis of IGS Delhi Chapter in 1993.
- Jt. Organizing Secretary (Hospitality), 13th International Conference on Soil Mechanics and Geotechnical Engineering, New Delhi 1994.
- Member, Organizing Committee, IGC-1996, Golden Jubilee Conference of IGS.
- Delivered a lecture on "Ensuring Reliability of Foundation Design through Modern Geotechnical Investigation Practices" at Quality Assurance and Reliability Seminar QUARS2000 organized by Association of Consulting Civil Engineers at Coimbatore in 2000.
- Presented a paper on "Use of Electrical Resistivity Tests for Geotechnical Investigations for Bridges" at Indian Roads Congress (IRC) Conference at Tiruvanthapuram in 2002.
- Delivered a Lecture on "*Modern Geotechnical Testing Techniques for Ground Improvement*" in Short Course on Ground Improvement Techniques conducted by IIT Madras in 2004.
- Delivered a Lecture on "Geotechnical Investigations: Field and Lab Testing" at NTPC Management Trainee Induction Program in 2005.
- Coordinator, Expert Committee formed to finalize constitution for IGS Delhi Chapter Annual Awards for Excellence in Geotechnical Engineering, 2005.
- Coordinator – Industry Interaction, Sixth International Congress on Environmental Geotechnics (6ICEG), New Delhi, 2010.
- Delivered a lecture on "*Geotechnics of Artesian Flow*" at University of New South Wales @ ADFA, Canberra, Australia, December 2010.
- Chairman, Organizing Committee, Third Indian Young Geotechnical Engineers Conference, March 2011.

AREAS OF INTEREST

- Load Tests: Piles, soils.
- Ground Improvement: Stone Columns/gravel piles, dynamic compaction, cement grouting.
- Regional Soils: Alluvium, Dune Sands, Laterites, coastal deposits, gravel/boulder deposits.
- Foundation Strengthening & Rehabilitation of Distressed Foundations
- Foundations under Artesian Conditions.
- Geophysical Investigations: Electrical Resistivity Test (ERT), Spectral Analysis of Surface Waves (SASW) Method, Crosshole Seismic Test (CHST), Downhole Seismic Test (DHST), Seismic Refraction Test (SRT).
- Quality Management in Geotechnical Laboratory
- Geotechnical Quality Assurance: Compaction Control of fill & for roads
- Pile Integrity Test (PIT), Pile Installation monitoring.
- Authored a book titled "*Retrieving the Lost Paradise: Celebrating the Earth Day*", published by Northern Book Centre, New Delhi.

IMPLEMENTATION OF ADVANCED / MODERN IN-SITU TESTING TECHNIQUES

- To promote and use Advanced Testing Techniques like Pressuremeter tests, Static cone penetration tests on the projects, analyze data by various methods for generating recommendations with **higher factor of reliability**.



- In projects, where pile foundation was envisaged based upon SPT and laboratory test data, open foundations were adopted based upon assessment of settlements as computed from pressuremeter test and static cone penetration tests data – resulting in substantial cost saving on the projects.
- Implementing geophysical methods of Investigation in difficult site conditions like bouldary deposit, analyzing data with good degree of reliability. The technique resulted in great cost and time saving on site investigations.

CONTRIBUTIONS TO GEOTECHNICAL ENGINEERING PRACTICE

- Foundation Strengthening, Ground Improvement by using innovative approaches
- Evolved techniques for foundation strengthening of existing structures by various methods like grouting with piles for confinement, by providing piles and needle beam concept for multi-storeyed housing complex.
- Evolved small dia gravel piles based upon stone column concept and used it on various projects with loose alluvium deposits and structures like tanks, retaining walls etc.