

National Institute of Technology, Tiruchirappalli: Performa for CV of Dr.K.Muthukkumaran

Curriculum Vitae



Brief Profile: Dr. K. Muthukkumaran is currently Professor in Civil Engineering at National Institute of Technology, Tiruchirappalli, India. He obtained Ph.D. in Soil-Structure Interaction and Marine Geotechnical Engineering from Indian Institute Technology Madras in 2005. He has published more than 150 papers in international and national journals and conferences. He has completed 5 R & D (including ISRO - **Chandrayaan- 2** Mission project) & 70 major consultancy projects in Geotechnical Engineering and published two patent including “**Moon Soil**” (A Method for Manufacture of Highland Lunar Soil Simulant). He has guided 10 PhD scholars and 6 more are in progress, 5 MS (by research) and more than 45 M.Tech. students in Geotechnical and allied research areas. He is the **Founder Chairman** of Indian Geotechnical Society (IGS-Trichy) Trichy Chapter. He is a member of Technical Committee (TC-301 on “**Preservation of Historic Sites**”) of International Society for Soil Mechanics and Geotechnical Engineering. Prof. Muthukkumaran area of research is in geotechnical engineering, which includes pile foundation, soil-structure interaction, marine geotechnics & foundations, field instrumentation, geotechnical physical modeling, ground improvement and forensic geotechnical engineering. He has received DST Young Scientist Award, IGS- Smt. Indra Joshi Biennial Award and Keynote Paper Award – GEOMATE Conference 2015 at Osaka, Japan. He is an **Associate Editor** of Australian journal of Civil Engineering and serving editorial board member of several journals. Prof. Muthukkumaran has significant administrative contribution as Estate Officer, Associate Dean (Planning and Development), Member of Buildings and Works Committee and Member of **Board of Governors (BoG)** of National Institute of Technology, Tiruchirappalli and Member of Buildings and Works Committee, IIM Trichy.

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1. Name : Dr. K. Muthukkumaran
2. Designation : Professor
3. Office Address : C8, Department of Civil Engineering
4. Telephone (Direct) (Optional): 0431 - 2503168
Telephone: Extn (Optional):
Mobile (Optional): 9443651836
5. Email (Primary): kmk@nitt.edu Email (Secondary): drkmk@gmail.com
6. Field(s) of Specialization : Geotechnical Engineering

7. Employment Profile

Job Title	Employer	From	To
IIT-Madras, India	Project Associate Gr-I	August 2000	December 2000
OEO, Saudi Arabia (Saudi Aramco Projects)	Senior Geotechnical Engineer	January 2005	June 2006
National Institute of Technology (NIT), Tiruchirappalli, India	Lecturer	22.06.2006	05.11.2008
National Institute of Technology (NIT), Tiruchirappalli, India	Assistant Professor	06.11.2008	05.11.2011
National Institute of Technology (NIT), Tiruchirappalli, India	Associate Professor	06.11.2011	11.03.2018
National Institute of Technology (NIT), Tiruchirappalli, India	Professor	12.03.2018	Till date

8. Academic Qualifications (From Highest Degree to High School):

Examination	Board / University	Year	Division/ Grade	Subjects
Ph.D.	Indian Institute of Technology Madras (IITM)	2001-2004		Geotechnical Engineering (Soil-Structure Interaction)
M.E.	CEG, Anna University Chennai	1998 -2000	First	Soil Mechanics and Foundation Engineering
B.E.	Annamalai University	1994 -1998	First	Civil & Structural Engineering
HSC	PAAHSc School, Punalvasal	1992-1994	First	Bio-Maths

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9. Academic/Administrative Responsibilities within the University

Position	Faculty/Department/Centre/Institution	From	To
Lab In-Charge	Geotechnical Lab – Civil Engineering	2006	2017
Programme Coordinator	M.Tech. - Construction Technology and Management (L&T Course)	2014	2016
Class Committee Chairman	M.Tech. – Environmental Engineering	2012 2019	2013 Till date
Class Committee Chairman	M.Tech. – Structural Engineering	2018	2019
Faculty Advisor	Civil Engineering Association	2015	2016
Member	Institute Development Committee - Guest House & Security	2008	2010
Member	Estate Maintenance Committee	2011	2012
Member	Institute Industry Interaction Committee	2013	2015
Member	Smart Campus Development Committee	2013	2015
Associate Dean	Planning and Development	2015	2017
Estate Officer	NIT, Trichy	2015	2017
Core Committee Member	NBA Visit	2018	2019
Core Committee Member	Convocation	2018	2019
Core Committee Member	Institute Day	2018	2019
Member BOG	NIT, Trichy	2017	2019
Member BWC	NIT, Trichy	2017	2019
Coordinator	TEQIP (Department)	2019	Till date
Programme Coordinator	M.Tech. Geotechnical Engineering	2020	Till Date
Chairman	Transport Advisory Committee	2021	Till date

10. Academic/Administrative Responsibilities outside the University

Position	Institution	From	To
Member BoS	Anna University, Chennai	2017	2018
Member BoS	NIT Puducherry	2018	2019
Member BoS	Pondicherry University	2019	Till date
Member BoS	Gandhigram University	2018	Till date
Member Faculty Selection Committee	NIT Surat		
Member Faculty Selection	NIT Puducherry	2020	2022

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Committee			
Member Faculty Selection Committee	BRAIT, A & N Islands	2018	
Member Selection Committee (CAO, FAO &AO)	IIM, Trichy	2018	2021
Member BWC	IIM, Trichy	2017	Till date
Member	AICET Inspection Committee	2018	Till Date
Founder Chairman	Indian Geotechnical Society, Trichy Chapter. http://www.igstrichy.in/	2014	Till date
International Advisory Member	Soil Structure Interaction Group http://ssige.org/31/Archive.aspx	2014	Till date
Associate Editor	Journal of Innovative Infrastructure Solutions	2014	2020
Technical Committee Member (TC-04) for Geotechnical Investigation	Indian Geotechnical Society, New Delhi.	2015	2018
Technical Committee Member (TC-102) for In-Situ Testing	International Society for Soil Mechanics and Geotechnical Engineering (ISSMGE)	2016	2018
Elected Executive Committee Member	Indian Geotechnical Society, New Delhi. http://www.igs.org.in/igs-election-2016.html	2017	2018
Technical Committee Member (TC-301) for Preservation of Historic Sites	International Society for Soil Mechanics and Geotechnical Engineering (ISSMGE) https://www.issmge.org/committees/technical-committees/impact-on-society/historic-sites	2018	Till date
Expert Committee Member and Chairman	Anna University college Appellation Committee- Anna University, Chennai	2019	Till date
Associate Editor	Australian Journal of Civil Engineering	2021	Till date

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11. Awards, Associateships etc.

Year of Award	Name of the Award	Awarding Organization
2004	IGS-SMT INDRA JOSHI BIENNIAL PRICE AWARD	National/International Conferences, IGC – 2004, Warangal
2007	Young Scientist Award	Department of Science and Technology (DST)
2015	Keynote Paper Award	GEOMATE Conference 2015 at Osaka, Japan
2016	YGE Award for the Best Paper	IGS Kochi Chapter
2016	NIT Trichy Achiever Award – for research publications	NIT, Trichy
2016, 2017 & 2018	NIT Trichy Achiever Award – for consultancy projects	NIT, Trichy
2018	NIT Trichy Achiever Award – for research projects	NIT, Trichy
2018	NIT Trichy Achiever Award – for maximum citation	NIT, Trichy
2018	BHARAT VIKAS AWARD	Institute of Self Reliance, Bhubaneswar
2020	International Scientist Awards on Engineering	VDGOOD
2022	NIT Trichy Best Performer Award for 2021	NIT, Trichy

12. Fellowships

Year of Award	Name of the Fellowship	Awarding Organization	From (Month/Year)	To (Month/Year)

13. Details of Academic Work

(i) Curriculum Development

M.Tech. Geotechnical Engineering:

1. Curriculum and Syllabus for M.Tech Geotechnical Engineering

Laboratory Development:

1. Developed a *Computational Geotechnical Engineering Laboratory*, which includes PLAXIS 3D and PLAXIS Foundations, PLAXIS 2D, FLAC 3D, STAAD-Foundation, Oasys and etc. (**Cost: Rs. 25.0 lakhs**).
2. Developed a *Soil Dynamics Laboratory*, which includes cyclic triaxial equipment, bender element, spectral analysis of surface wave (SASW), Light weight deflectometer (LWD) (**Cost: 60 lakhs**)

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3. Developed a ***Dynamic Soil-Structure Interaction Laboratory***, which includes dynamic actuators, 48 channels data acquisition system along with various sensors and transducers. (**Cost: Rs. 30 lakhs**).
4. Developed a ***state-of-the-art geotechnical lab*** for undergraduate including all new digital/ microprocessor based equipment (**Cost: 50 lakhs**)
5. Purchased many field Equipment like SPT, CPT, Field vane shear, inclinometer, earth resistivity, LWD, SASW, GPR and etc. (**Cost: Rs.50 lakhs**)

(ii) Courses taught at Postgraduate and Undergraduate levels

Undergraduates:

Geotechnical Engineering –I
 Geotechnical Engineering – II
 Advanced Foundation Engineering
 Geotechnical Earthquake Engineering
 Soil Dynamics and Machine Foundation

Postgraduates:

Geomechanics – Theory and Practices
 Applied Soil Mechanics
 Foundation Analysis and Design
 Analysis of Deep Foundation
 Ground Improvement Techniques
 Soil Exploration and Field Tests
 Soil Structure Interaction

(iii) Projects guided at Postgraduate level

MS (By Research) Projects:

Name of the Scholar	Title of thesis	Year of Award
Ms. V. Anusudha	Study on Behavior of Copper Slag - Lime Treated Weak Soil under Static and Dynamic Loading	Dec'2016
Mr. S. Keerthi Raaj	Effective use of PVD in railway embankment construction at Nagapatinam – a case study	Dec'2016
Mr. M.Vinoth Kumar	Analysis of Vertical Sand Drain for Railway construction at Nagapattinam – A Case Study	June' 2017
Ms. R. Sindhuja	Performance Evaluation of Sisal Fibre Reinforced Expansive Soil under Static and Dynamic Loads	June'2018
Mr. Nandhagopal A. R.	Effect of rock-socketing on laterally loaded piles in the proximity of sloping ground	June'2021

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M.Tech Projects:

Name of the Scholar	Title of thesis	Year of Award
Ms.P.Sheethalakhmi	Soil-structure interaction of laterally loaded piles on sloping ground	2007
Mr.C. Senthil Kumar	Soil-structure interaction of laterally loaded pile groups on sloping ground	2008
Mr. B. Aravind Kumar	Soil-structure interaction of laterally loaded batter piles on sloping ground	2008
Mr.V. Prasath	Optimization of gravel for flexible pavement construction	2008
Mr.K.S. Arun	FE analysis of fixed offshore platform including soil structure interaction study	2009
Mr. Denzil Fernandez	Effect of lime stabilization on single pile pullout capacity	2009
Mr. G.Sandeep	FE analysis of a berthing structure with tie rod	2009
Mr. D.Sathyanarayanan	Dynamic analysis of fixed offshore platform including soil-structure interaction study	2010
Mr. M. Gokula Kirishnan	Effect of slope of lateral load capacity of pile under passive loading	2010
Ms. I.P.Subha	Effect of earthquake induced lateral soil movement on lateral load pile capacity	2010
Mr. Gireesha N T	Study on soil structure interface strength property	2011
Mr. Harish	Study on expansive soils and its improvement	2011
Mr. Mathusuthan Reddy	Performances of reinforced earthen embankment under seismic condition	2011
Mr. R.Veeravisagan	Lunar soil Simulant	2012
Mr. B. Jagadheeswaran	Investigation of pile behaviour under combined loading including lateral soil movement	2012
Mr. Adarshi. P.R	Effect of wheel load on underground tunnels	2012
Mr. V. Satish Durgakumar	Bearing capacity improvement using natural geotextiles	2013
Mr. K. Gowtham Kumar	Use of geotextiles in railway embankment to improve the life of the blast on soft clay soils	2013

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Mr. Jose Joseph	Stabilization of bentonite clay using industrial waste	2013
Mr. Amy Susan George	Study on removal of heavy metals by Microorganism	2014
Mr. Uppu Prapulla Kumar	Effect of seawater intrusion on soil and water characteristics – A case study of Velankannai Area	2014
Mr. Ajitha R	Analysis of heavy metals in Urban soils of Tuticorin	2014
Mr. Shashank B S	Investigation of Microorganism Treated weak soils under dynamic loading	2014
Mr. Aravind G	Study on weak soil improvement by tyre chips	2014
Mr. Swarvana Ganguly	Swell and Shrink behaviour of stabilizer treated expansive soil	2014
Mr. Swapnil M. S.	Effect of Geo-Foam on soft ground bearing capacity and lateral earth pressure	2015
Mr. Gurunath Gudura	Stabilization of expansive soils by GGBS	2015
Mr. Hitesh Kumar	Pile behaviour on liquefiable soils	2015
Ms. Devahi. P	Effect of heavy metals on swelling soil behaviour	2015
Mr. Krishna Kumar Kharwar	Effect of paper mill waste on strength development of soft soil and stabilization	2016
Mr. Koneti Narendra	Effect of ground granulated blast furnace slag on stabilized embankment soils under seismic load	2016
Mr. Jatoth Jithender	Evaluation of resilient modulus based on laboratory and field test results	2016
Mr. Vignesh Kumar R	Behaviour of e-waste plastic stabilized weak soil under cyclic loading	2016
Mr. Sudheer Dasari	Evaluation of interface shear strength of landfill liner system and stability analysis of municipal solid waste landfill	2016
Bantupalli Sai Venkatesh	Effect of sea water on geoenvironmental properties of soils	2016
Mr. Rallabandi Sai Sasi Sekhar	Feasibility and Productivity studies of Precast Construction for Buildings	2019
Mr. Subash Andey	Use of Precast Foundation in Transmission	2019

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	Lines	
Mr. Karthi. M	E-Waste –Soil-Georeinforcement Interaction study for Reinforced Earth- Wall Applications	2019
Mr. VVG Sai Aditya	Cycle time analysis & optimization of resources, cost and time involved in marine piling construction	2020
Mr. Yagnya Prasad Pradhan	Seismic performance evaluation of e-waste-georeinforced embankment and pavement	2020
Mr. Akshay Bagal	Use of geotechnical investigation in bidding phase of EPC projects	2021
Ms. Janapala Greeshma Reddy	Design of Offshore soil-gas pipeline interaction and suitable strategizes adopted for risk mitigation in India	2022
Mr. S. Rohith	Behaviour of soft soil improved by prefabricated vertical drains under seismic loading	2022
Ms. Suriseti Kalyani Lakshmi	Performance Evaluation of geocell reinforced soil with electric waste as infill materials	2022
Mr. Bytha Aravind Kumar	Rock mass rating for pile drilling in rocks	2022
Mr. Santhosh Kumar J	Study the soil strength degradation of clayey and sandy soil in the offshore wind turbine monopile foundation subjected to torsional effect	2022
Ms. Sreelakshmi	Laboratory study of soil desaturation by microbial methods for liquefaction mitigation	2022

(iv) Other contribution(s)

14. Details of Major R&D Projects

Title of Project	Funding Agency	Duration		Status
		From	To	Ongoing/ Completed
Non-Linear Soil-Structure Interaction of Piles on Sloping Ground	Department of Science and Technology (DST)	2007	2010	Completed
Evaluation of Geotechnical Properties of Lunar Soil Simulant (LSS) for Chandrayaan- 2 Mission- Lunar Terrain Test Facility	ISRO –ISAC, Bangalore	Sep'2011	April' 2012	Completed
Study on External Dump Slope Stabilization/ Drainage System for	NLC, Neyveli	Feb'2012	Dec' 2012	Completed

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Mine – II, NLC				
Slope stability analysis and design for Mine-1A, NLC	NLC, Neyveli	June'2012	Dec' 2012	Completed
Characterization of Lunar Soil Simulant for Evaluating Design Criteria of Lunar Structures	ISRO – RESPOND	Sep'2018	March'2022	Completed

15. Number of PhDs guided

Name of the PhD Scholar	Title of PhD Thesis	Role(Supervisor/ Co-Supervisor)	Year of Award
Mrs.N.Almas Begum	Soil-structure interaction of laterally loaded single piles and pile group on sloping ground	Supervisor	Nov' 2010
Mrs. P.V.Premalatha	Effect of tie rod anchor on laterally loaded berthing structure	Co-Supervisor	Aug' 2012
Mr. M.Murugan	Performance of FRP strengthened RC piles subjected to static and cyclic lateral loads	Co-Supervisor	Feb' 2014
Mr. Deendyal	Laterally loaded piles in clayey soils with sloping ground	Co-Supervisor	Oct'2016
Mr. Prakash, A.R.	Behaviour of rock socketed monopile subjected to lateral load	Supervisor	Feb' 2018
Mrs. Kayalvizhi. S. K.	Experimental studies on raker pile group response on sloping ground under lateral load	Supervisor	Synopsis Submitted
Ms. S. Anu	Deciphering of frozen music from building architecture through transformation processes and vice-versa	Supervisor	August'2021
Mr. S. Sivaraman	Axial and lateral load capacity analysis of piles considering consolidation effect of soft clay	Supervisor	June'2021
Mr. U. Umanath	Pervious Concrete Pile – an Alternative Approach to Improve Soft Clay	Supervisor	March' 2022
Mr. I. Venu Gopal ISAC-ISRO	Characterization of Lunar Soil Simulant with Reference to Lunar Structure Foundation Systems	Supervisor	June'2021
Mr. Paladi Rajendra Kumar	Parametric studies of rock slope stability by finite element method – a case study	Supervisor	On going

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Mr. Prabu T	Characterization of Lunar Soil Simulant for Evaluating Design Criteria of Lunar Structures	Supervisor	Synopsis Submitted
Mr. Jegatheeswaran B	Offshore geotechnical Engineering	Supervisor	On going
Ms. Devahi	Environmental Geotechnical Engineering	Co-Supervisor	On going
Mr. S. Praveen	Earthquake geotechnical/liquefaction analysis	Supervisor	On going
Ms. Rima Das (PMRF)	Earthquake geotechnical engineering	Supervisor	On going
Ms. P Seethalakshmi	Soil-Structure Interaction	Supervisor	On going
Mr. A. Vetrivelvan	Ground Improvement & Pile foundation	Supervisor	On going

16. Participation in Workshops/ Symposia/ Conferences/ Colloquia /Seminars/ Schools etc. (mentioning the role)

Date (s)	Title of Activity	Level of Event (International/ National/ Local)	Role (Participant/ Speaker/ Chairperson, Paper presenter, Any other)	Event Organized by	Venue
15-19, September 2003	The Sixth International Conference on Coastal and Port Engineering in Developing Countries (COPEDEC-2003)	International	Paper Presenter	COPEDEC	Colombo, Sri Lanka.
2004	5 th International Conference on Case History in Geotechnical Engineering	International	Paper Presenter	University of Missouri	University of Missouri – Rolla, UAS.
2007	8 th Pacific Conference on Earthquake Engineering	International	Paper Presenter	NTU, Singapore.	NTU, Singapore.
29-31, May 2013	18 th Southeast Asian Geotechnical &	International	Paper Presenter	NUS Singapore	NUS Singapore

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	Inaugural AGSSEA Conference,				
25-30, May 2014	GeoShanghai-2014 China	International	Paper Presenter	Tongji University	Tongji University, Shanghai, China
09-13, November 2015	15 th ARC conference on Soil Mechanics and Geotechnical Engineering	International	Paper Presenter	ISSMGE	Fukuoka, Japan
16-18, November 2015	GEOMATE-2015 Conference	International	Paper Presenter	GEOMATE	Osaka, Japan
14-21, July 2017	GeoMEast-2017 Conference	International	Paper Presenter	GeoMEast	Sharm-El-Sheikh, Egypt
16-17, August 2017	Coastal Reservoir Special Session - International Association for Coastal Reservoir Research	International	Paper Presenter	IACRR	Kuala Lumpur, Malaysia.

17. Workshops/ Symposia/ Conferences/ Colloquia/Seminars Organized (as Chairman/ Organizing Secretary/ Convenor / Co-Convenor)

Title of Activity	Level of Event (International/ National/ Local)	Date (s)	Role	Venue
One day workshop on Geotechnical investigation and decision making in foundations	National	23.10.2017	Coordinator	NIT Trichy
Two-day workshop on Roll of Geotechnical Engineering on Infrastructure Development	National	29.04.2013 to 30.04.2013	Coordinator	NIT Trichy
Short term course on Reliability Analysis and Design of Sub-structures	National	03.10.2013 to 04.10.2013	Coordinator	NIT Trichy
Two-day workshop on challenges in geotechnical investigation and foundation design	National	14.02.2014 to 15.02.2014	Coordinator	NIT Trichy
Two-day International Workshop on Health Monitoring of Civil Engineering Structures	International	04.11.2014 to 05.11.2014	Coordinator	NIT Trichy

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Short term course on subsurface investigations for pavements and buildings	National	10.03.2016 to 12.03.2016	Coordinator	NIT Trichy
Terzaghi memorial one day seminar on Engineering on Soft Ground	National	01.10.2016	Coordinator	NIT Trichy
Pre-conference Workshop on Plaxis 2D and 3D	National	08.03.2017 to 09.03.2017	Coordinator	NIT Trichy
6 th Indian Young Geotechnical Engineers Conference	National	10.03.2017 to 11.03.2017	Chairman	NIT Trichy
Terzaghi memorial one day seminar on Dynamics of soils and foundations	National	14.10.2017	Coordinator	NIT Trichy
One-week short term course on Advanced Geotechnical Engineering – Theory and Practices	National	27.11.2017 to 01.12.2017	Coordinator	NIT Trichy
Two-day workshop on Recent Trends in Geotechnical Engineering	National	07.06.2019 to 08.06.2019	Coordinator	NIT Trichy
One-week GIAN Course on “Seismic Soil-Pile Interaction”	International	05.08.2019 to 09.08.2019	Coordinator	NIT Trichy
International webinar on Geotechnical engineering towards preservation of historic structures	International	07.01.2021	Chairman	NIT Trichy
Pre-conference Workshop on Geotechnical engineering challenges: academia industry perspective	International	15.12.2021	Coordinator	NIT Trichy
Indian Geotechnical Conference – IGC-2021	International	16.12.2021 to 18.12.2021	Chairman	NIT Trichy

18. Invited Talks delivered

Topic	Date	Inviting Organization
Port and Harbour Structures	Sep'2004	Vellore Institute of Technology (VIT) – Vellore
Geotechnical Aspects for Civil Engineering Structures	18.09.2006	Govt. Polytechnic Aranthangi
Non-linear soil structure interaction of piles on sloping ground	Nov' 2007	Queensland University of Technology (QUT), Australia
Know your soil	24.03.2009	Civil Engineering Federation of

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		Tiruchirappalli (CEFTRON-2009)0
Earthquake Resistance Structures	05.06.2009	Pudukkottai District Collector under Disaster Risk Management Programme (DRMP), Pudukkottai District
Geotechnical investigation	13.05.2010	Oxford Engineering College, Trichy
Performance of Ground and Buildings during Earthquakes	25.03.2010	Periyar Maniammani University, Vallam, Thanjavur
Earthquake induced lateral soil movement on lateral pile capacity	05.10.2010	VLB Janakiammal College of Engineering and Technology, Coimbatore
Geotechnical earthquake engineering	23.12.2010	Periyar Maniammani University, Vallam, Thanjavur
Pile foundations	10.09.2011	Institute of Engineers India (IEI), Trichy chapter
Foundation Piling-Sustainable Construction Keynote Lecture	25.01.2012	JJ College of Engineering and Technology, Trichy
Recent advancement in ground improvement techniques - Keynote Lecture	27.09.2012	Noorul Islam Univesrity, Inida
Performance of lateral pile under Earthquake induced lateral soil movement - Keynote Lecture	20.02.2013	Sun College of Engineering and technology, Erachakulam, Kanyakumari
Foundation Engineering – an overview	12.10.2013	RVS School of Engineering and Technology, Dindigul
Measurement of Aquifer Parameters	25.10.2013 to 26.10.2013	NIT Trichy
Assessment of Pile Failures due to Excessive Settlement during Pile Load Test	06.12.2013 to 07.12.2013	NIT Trichy
Ground Improvement Techniques for Highways	05.02.2014	Karur College of Engineering Karur
Soil Stabilization for Highway Project	20.02.2014	Thiagarajar College of Engineering, Madurai
Assessment of pile failures and strengthening of RC pile using FRP	03.03.2014	CARE School of Engineering, Trichy
Soil Sampling for Engineering Analysis	12.03.2014	NIT Calicut
Fibre Reinforced Polymer (FRP) Strengthened Reinforced Concrete Piles Under Lateral Loads	04.04.2014	JNTU, IIT Hyderabad and IGS Hyderabad
Finite Element theory and application in geotechnical Engineering	21.04.2014	Division of Soil Mechanics and Foundation Engineering,

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(Material modeling of soil behaviour)		Department of Civil Engineering, College of Engineering Guindy, Anna University, Chennai
Soil and Foundation Engineering	08.08.2014	Kalasalingam University
Pile Foundation	26.08.2014	Karunya University, Coimbatore
Innovation in Civil Engineering	19.09.2014	University College of Engineering, Nagercoil. (A Constituent college of Anna University Chennai)
Performance monitoring of a berthing structure under service condition & Forensic investigation of a berthing structure under seismic condition – a field study	04.10.2014 to 05.10.2014	Builders Association of India, Tirunelveli Centre
Advance in Geotechnical Engineering – Performance monitoring of geotechnical constructions - Keynote lecture	10.10.2014	SASTRA University, Thanjavur
Challenges in Geotechnical Investigations – Keynote lecture	17.12.2014	JNTU Kakinada (IGC-2014)
Later Load Capacity Enhancement of RC Piles using FRP under Static and Cyclic Loads - Keynote lecture	07.01.2015	Coimbatore Institute of Technology (CIT)
Soil Strength at Construction Site	03.02.2015	National College Trichy
Performance of Ground and Buildings during Earthquakes. and Recent advancement in ground improvement techniques	14.02.2015	Kongunadu College of Engineering & Technology, Thottiam
Long and short term mitigations of earthquake	17.02.2015	Sri Shakthi Institute of Engineering and Technology Coimbatore
Disaster mitigation - foundation perspective	26.02.2015	Bharathidasan Institute of Technology Anna University, Trichy
Concreting in Pile Foundation	24.10.2015	Peace Social Welfare Mission, Nagercoil
Behaviour of laterally loaded rock socketed pile in multi-layered soil-rock profile	14.11.2015	Fukuoka University, Japan
FRP Strengthened Reinforced Concrete Piles under Static Lateral Loads – A Field Study – Keynote lecture	16.11.2015 to 18.11.2015	GEOMATE, Osaka, Japan
Soil Mechanics- Soil Classification and shear strength	02.12.2015	Ramco Institute of Technology, Rajapalayam

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Evaluation of interface shear strength of composite liner system and stability analysis for a landfill lining system	27.02.2016	SASTRA University, Thanjavur
Performance of FRP Strengthened/ Retrofitted RC Piles Subjected to Lateral Loads	06.04.2016 to 07.04.2016	Karunya University, Coimbatore
Pile Foundation Theory and Practices	13.06.2016 to 18.06.2016	Bannari Amman Institute of Technology
Earthquake soil structure interaction analysis	02.09.2016	Kalasalingam University
Exposure and Job Opportunities in Civil & Geotechnical Engineering	17.09.2016	Knowledge Institute of Technology Salem
Research Avenues in geotechnical Engineering	24.09.2016	Erode Sengunthar Engineering College
Assessment of pile failures due to excessive settlement during pile load test	06.12.2016	SASTRA University, Thanjavur
Research Opportunities in Geotechnical Engineering	21.01.2017	College of Engineering Trikaripur, Kerala
Criteria and failures of a few foundation structures – related case studies	04.02.2017	ISRO Bangalore
Challenges in Geotechnical Investigation	18.02.2017	Vignan's Foundation for Science Technology & Research University (VFSTRU), Guntur
Instrumented Pile Load Tests For Both Vertical And Horizontal Load In Soft Marine Clay	27.05.2017	SVNIT, Surat
Modernization of ports – Innovation in pile foundation	16.02.2018	IIT Madras
Modern construction material for RC Strengthened/ Retrofitted – Role of Fibre Reinforcement	21.05.2018	Valliammai Engineering College, Chennai
Analysis of Rock-Socketed Monopiles Under Lateral Load	30.05.2018	Ram Caddsys, Chennai at Delhi
Special Course on “Analysis and Design of Pile Foundation”	28.09.2018 to 29.09.2018	MEPCO Schlenk Engineering College, Sivakasi
Dynamic Soil-pile interaction	06.10.2018	K.S.Rangasamy College of Technology Tiruchengode
Piles in Soft Clay field Experiences	03.05.2020	IGS Guntur Chapter
Monopile concept-a	22.06.2020	Shri Vishnu Engineering College

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Sustainable foundation Technology for heavy Civil infra projects		for Women (Autonomous)
Performance Monitoring of a Berthing Structure Under Service Condition	06.07.2020	Bannari Amman Institute of Technology
FRP Strengthened Reinforced Concrete Piles for Cyclic Loads	11.07.2020	Andhra University College of Engineering (A)
Monopile concept – a sustainable foundation technology for heavy civil infra projects	27.07.2020	Kakatiya Institute of Technology & Science Warangal
Sisal Natural Fibre - Innovative Solution for Expansive Soil	03.08.2020	Sethu Institute of Technology (Autonomous)
Modelling of Soil Behaviour – Basics for Plaxis Beginners	18.08.2020	Organized by RAM Caddy,
FEM Application in Geotechnical Engineering - Theory	20.08.2020	Shri Vishnu Engineering College for Women (Autonomous)
FEM Application in Geotechnical Engineering - Practices	21.08.2020	Shri Vishnu Engineering College for Women (Autonomous)
Earthquake induced geotechnical failures	10.09.2020	Dr.N.G.P. Institute of Technology
Pile foundation – an overview	17.12.2020	Velalar College of Engineering and Technology (Autonomous)
Caissons: Types, Construction, Bearing capacity and Depth of Foundation: Tilts and shifts: Precautionary measures and remedial methods for rectification	03.02.2021	Andhra University College of Engineering Andhra University, Visakhapatnam
Design of components of caissons; lateral stability of caissons	03.02.2021	Andhra University College of Engineering Andhra University, Visakhapatnam
Piles in Soft Clay – field instrumented pile responses	22.03.2021	Coimbatore Institute of Technology (CIT).
Monopile concept for heavy Civil infra projects	23.03.2021	Coimbatore Institute of Technology (CIT).
Design principles of components of well foundations and Lateral stability analysis of well foundations	25.03.2021	Andhra University College of Engineering Andhra University, Visakhapatnam
Lateral load capacity of FRP encased Piles	26.03.2021	Andhra University College of Engineering Andhra University, Visakhapatnam
Geotechnical Distress – Identification and		

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Evaluation A Case Study	22 nd May, 2021	Indian Geotechnical Society – Thanjavur Chapter and SASTRA Deemed to be University
FRP Strengthened RCC Piles under Cyclic Lateral Loads	10 th June, 2021	Sri Venkateswara College of Engineering
Waves, Vibrations and Seismic Structural failures	23 rd August, 2021	Karpagam College of Engineering, Coimbatore
Modelling and analysis of Laterally loaded piles in layered soil	23 rd March, 2022	E & ICT Academy NIT Warangal

19. Membership of Learned Societies

Type of Membership (Ordinary Member/ Honorary Member / Life Member)	Organization	Membership No. with date
Life Fellow	Institute of Engineers, India (IEI)	F-1273104
Donor Member	Indian Geotechnical Society (IGS) (DM-54)	DM-54
Life Member	International Society for Soil Mechanics and Geotechnical Engineering (ISSMGE) (IND14DM-0054)	IND14DM-0054
Life Member	Indian Society for Technical Education (ISTE) (LM-51650)	LM-51650
Life Member	Indian Society of Earthquake Technology (ISET, LM 1775)	LM 1775
Aff. Member	American Society of Civil Engineers (ASCE) (M. ID 11987887)	M. ID 11987887
Member	Indian Road Congress (IRC) (M-34165)	M-34165
Member	Deep Foundation Institute (DFI)	

20. Academic Foreign Visits

Country	Duration of Visit	Programme
Colombo, Sri Lanka.	15-19, September 2003	The Sixth International Conference on Coastal and Port Engineering in Developing Countries

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		(COPEDEC-2003)
University of Missouri – Rolla, UAS.	2004	5 th International Conference on Case History in Geotechnical Engineering
NTU, Singapore.	2007	8 th Pacific Conference on Earthquake Engineering
Queensland University of Technology (QUT), Australia	2007	Short term post-doctoral research fellow in soil-structure interaction
Singapore	29-31, May 2013	18 th Southeast Asian Geotechnical & Inaugural AGSSEA Conference,
Tongji University, Shanghai, China	25-30, May 2014	GeoShanghai-2014 China
Fukuoka, Japan	09-13, November 2015	15 th ARC conference on Soil Mechanics and Geotechnical Engineering
Osaka, Japan	16-18, November 2015	GEOMATE-2015 Conference
Sharm-El-Sheikh, Egypt	14-21, July 2017	GeoMEast-2017 Conference
Kuala Lumpur, Malaysia.	16-17, August 2017	Coastal Reservoir Special Session - International Association for Coastal Reservoir Research

21. Publications

(A) Refereed Research Journals:

Author(s)	Title of Paper	Journal	Volume (No.)	Page numbers	Year	Impact Factor of the Journal (Optional)
Muthukkumaran K Sundaravadivelu R	Numerical modeling of dredging effect on berthing structure	International Journal of ACTA Geotechnica	Vol.2, No.4	249-259	2007	5.80
Muthukkumaran K Sundaravadivelu R	Effect of dredging on open type berthing structure- A numerical study	Indian Geotechnical Journal	Vol.37, No.4	283-300	2007	1.393
Muthukkumaran K Sundaravadivelu R Gandhi S R	Effect of dredging and axial load on a berthing structure	International Journal of Geoenvironment Case Histories	Vol.1, Issue-2	73-88	2007	
Muthukkumaran K Sundaravadivelu R Gandhi S R	Effect of slope on p-y curves due to surcharge load	Soils and Foundations	Vol.48, No.3,	361-369	2008	3.098

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Almas Begum N Sheethalakshmi P Muthukkumaran K	Lateral load capacity of single pile located at slope crest	Indian Geotechnical Journal	Vol.38, No.3	279-295	2008	1.393
Senthamilkumar S Natarajan C Muthukkumaran K	Field study on engineering properties of soil deposit in (Nagapattinam) coastal area for liquefaction analysis	Journal of Institution of Engineers, India	Vol. 88,	30-36	2008	0.961
Almas Begum N Muthukkumaran K	Experimental investigation on single model pile in sloping ground under lateral load	International Journal of Geotechnical Engineering	Vol.3, No.1,	133-146	2009	1.740
Senthamilkumar S Natarajan C Muthukkumaran K	Multilinear Regression Analysis for Seismic Response and Engineering Properties of Liquefiable Coromandel Coastal Soil Deposits	International Journal of Geotechnical and Geological Engineering	Vol.27, No.3,	439-453	2009	1.781
Muthukkumaran K	Effect of liquid waste on the index and engineering behaviour of cohesive soils	Indian Geotechnical Journal	Vol.40, No. 3	195-200	2010	1.393
Almas Begum N Muthukkumaran K	Finite element analysis of laterally loaded piles on sloping ground	Indian Geotechnical Journal	Vol.41, No.3,	155-161	2011	1.393
Muthukkumaran K Subha I P	Effect of earthquake induced lateral soil movement on pile behaviour	International Journal of Geotechnical Earthquake Engineering	Vol. 2, No.2,	71-90	2011	0.50
Harishkumar K Muthukkumaran K	Study on swelling soil behaviour and its improvements	International Journal of Earth Sciences and Engineering	Vol.04, No.06	19-25	2011	
Giressha N T Muthukkumaran K	Study on soil structure interface strength property	International Journal of Earth Sciences and Engineering	Vol. 04, No.06	89-93	2011	
Murugan M Natarajan C Muthukkumaran K	Behavior of Laterally Loaded Piles in Cohesionless Soils	International Journal of Earth Sciences and Engineering	Vol.04, No.06	104-06	2011	
Premalatha P V Muthukkumaran K Jayabalan P	Distribution of lateral load among the Piles of a	International Journal of Earth Sciences and Engineering	Vol.04, No.06	1129-1138	2011	

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	Berthing Structure					
Premalatha P V Muthukkumaran K Jayabalan P	Effect of dredging and tie-rod anchor on the behavior of berthing structure	International Journal of Engineering Science and Technology	Vol 3, No 6	5099-5115	2011	8.843
Muthukkumaran K Gokul Krishnan	Three dimensional analysis of piles on sloping ground subjected to passive load induced by surcharge	International Journal of Engineering and Technology Innovation	Vol 2, No 3	31-47	2012	1.271
Murugan M Natarajan C Muthukkumaran K	Compressive behavior of concrete cylinders confined with glass and carbon fibre reinforced polymers	International Journal of Structural and Civil Engineering Research	02	69-76	2013	0.850
Murugan M Muthukkumaran K Natarajan C	Compressive behavior of concrete cubes confined with glass and carbon fibre reinforced polymers	International Journal of Engineering and Science	03,	2618-2626	2013	6.79
Muthukkumaran K	Effect of slope and loading direction on laterally loaded piles in cohesionless soil	International Journal of Geomechanics, ASCE	Vol.14, No.1,	1-7	2014	2.450
Kanmani S Gandhimathi R Muthukkumaran K	Bioclogging in porous media: influence in reduction of hydraulic conductivity and organic contaminants during synthetic leachate permeation	Journal of Environmental Health Science and Engineering			2014	3.433
Muthukkumaran K Jose Joseph	Utilization of Industrial waste in the stabilization of Montmorillonite rich expansive soils	Soil Behaviour and Geomechanics, Geotechnical Special Publication	No. 236	224-233	2014	
Muthukkumaran K Aravind Kumar B	Effect of raker piles in lateral load capacity of laterally load pile group	Soil Behaviour and Geomechanics, Geotechnical Special Publication	No. 236	776-785	2014	
Murugan M Natarajan C Muthukkumaran K	Experimental investigation on GFRP strengthened RC piles under	International Journal of Forensic Engineering	Vol. 2, No. 1	15-28	2014	

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	lateral loads					
Muthukkumaran K Arun K S	Effect of seabed slope on pile behaviour of fixed offshore platform under lateral forces	Journal of Ocean Engineering and Marine Energy	Vol. 1, No.3	223-236	2015	2.321
Muthukkumaran K Almas Begum N	Experimental investigation of single model pile subjected lateral load in sloping ground	International Journal of Geotechnical and Geological Engineering	Vol.33, No.4,	935-946	2015	1.781
Deendayal R Muthukkumaran K Sitharam T G	Response of laterally loaded pile in soft clay on sloping ground	International Journal of Geotechnical Engineering	Vol.10, No.1	10-22	2015	1.740
Premalatha P V Muthukkumaran K Jayabalan P	Experimental Study on behaviour of piles in berthing structure	Proceedings of the Institution of Civil Engineers - Maritime Engineering	Vol. 168, No.4	182-193	2015	
Prakash A R Muthukkumaran K	Effect of Horizontal Load on Socketed Pile	International Journal of Earth Science and Engineering	Vol. 8, No.3	1407-1410	2015	
Deendayal R Muthukkumaran K Sitharam T G	Dynamic Response of Single Pile Located in Soft Clay underlay by Sand	International Journal of GEOMATE	Vol. 11	2563-2567	2016	0.920
Deendayal R Sitharam T G Muthukkumaran K	Effect of earthquake on a single pile located in sloping ground	International Journal of Geotechnical Earthquake Engineering	Vol. 7, No.1	55-71	2016	0.50
Muthukkumaran K Prakash A R	Behaviour of laterally loaded socketed pile in multi-layered soil-rock profile	JGS-SP	Vol. 3, No. 2	51-55	2016	
Muthukkumaran K Shashank B S	Durability of microbially induced calcite precipitation (MICP) treated cohesionless soils	JGS-SP	Vol. 2, No. 56	1946-1949	2016	
Muthukkumaran K Keerthi Raaj S Vinoth Kumar M	Assessment of pile failures due to excessive settlement during pile load test	JGS-SP	Vol. 2, No. 73	2520-2524	2016	
Jegatheeswaran B Muthukkumaran K	Behavior of pile due to combined loading with lateral soil	International Journal of Geo-Engineering	Vol. 7, Issue 1	1-10	2016	2.15

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	movement					
Sindhujha R Muthukkumaran K	Behaviour of Problematic Soil Stabilized with Sisal Fibers	International Journal of Earth Science and Engineering	Vol. 9, No.6		2016	
Vinothkumar M Muthukkumaran K	Slope Stability Evaluation of Railway Embankment by Limit Equilibrium and Finite Element Method	International Journal of Earth Science and Engineering	Vol. 9, No.6		2016	
Murugan M Natarajan C Muthukkumaran K	Review on the behaviour of laterally loaded piles	Advances in Natural and Applied Sciences	Vol.10, No. 7	379-386	2016	0.340
Murugan M Natarajan C Muthukkumaran K	Shear modulus of soil based on surface roughness of construction materials	Advances in Natural and Applied Sciences	Vol.10, No. 7	386-392	2016	0.340
Murugan M Muthukkumaran K Natarajan C	FRP-Strengthened RC Piles. I: Piles under Static Lateral Loads	Journal of Performance of Constructed Facilities, ASCE	Vol.31, issue 3		2017	1.542
Murugan M Muthukkumaran K Natarajan C	FRP-Strengthened RC Piles. II: Piles under Cyclic Lateral Loads	Journal of Performance of Constructed Facilities, ASCE	Vol.31, issue 3		2017	1.542
Deendayal R Muthukkumaran K Sitharam T G	Development of non-dimension p-y curves for laterally loaded piles in sloping ground	Indian Geotechnical Journal	Vol.47, No. 1	47-56	2017	1.393
Deendayal R Muthukkumaran K Sitharam T G	Effect of Slope on p-y Curves for Laterally Loaded Piles in Soft Clay	International Journal of Geotechnical and Geological Engineering			2018	1.781
Deendayal R Muthukkumaran K Sitharam T G	Behavior of a laterally loaded single pile located on sloping ground: An Experimental investigation	International Journal of Geomechanics, ASCE			2019	2.450
Deendayal R Muthukkumaran K Sitharam T G	Analysis of laterally loaded group of piles located on sloping ground	International Journal of Geotechnical Engineering	14(5)	580-588	2020	1.740
Anu Sendhi Muthukkumaran K PunniyamoorthyM	Deciphering the frozen music in building architecture	Multimedia Tools and Applications	79	13501–13532	2020	2.575

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Veerapandian S A Sangeetha G	and vice-versa process					
Muthukkumaran K Sentamil Selvan S	Stabilization of Montmorillonite- Rich Bentonite Clay Using Neem Leaves Ash	International Journal of Geosynthetics and Ground Engineering	6	11	2020	2.26
Muthukkumaran K Anusudha V	Study on behaviour of copper slag – lime treated clay under static and dynamic loading	Journal of Materials in Civil Engineering, ASCE	32(8)		2020	3.266
Venugopal I Muthukkumaran K Annadurai M Prabu T Anbazhagan S	Study on Geomechanical Properties of Lunar Soil Simulant (LSS- ISAC-1) for Chandrayaan Mission	Advances in Space Research	66	2711– 2721	2020	2.611
Nandhagopal A R Muthukkumaran K	Effect of Rock- Socketing on Laterally Loaded Piles Installed in the Proximity of Sloping Ground	International Journal of Geomechanics, ASCE	21(2)		2020	2.450
Sivaraman S Muthukkumaran K	Non-Linear Performance Analysis of Free Head Piles in Consolidating Soil Subjected to Lateral Loads	Engineering Science and Technology, an International Journal	24(2)	449-457	2020	4.360
Venugopal I Muthukkumaran K Sriram K V Anbazhagan S Prabu T Arivazhagan S Sanjay Kumar Shukla	Invention of Indian Moon Soil (Lunar Highland Soil Simulant) for Chandrayaan Missions	International of Geosynthetics and Ground Engineering	6		2020	2.260
Venugopal I, Prabu T Muthukkumaran K Annadurai M	Development of a Novel Lunar Highland Soil Simulant (LSS- ISAC-1) and Its Geotechnical Properties for Chandrayaan Missions	Planetary and Space Science	194		2020	2.085
Muthukkumaran K Nandhagopal A R	Evaluation of Pavement Stripping	Indian Geotechnical Journal	51(1)	197– 204	2020	1.393

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Umanath U	using Ground Penetrating Radar – A Case Study					
Anu Sendhi Muthukkumaran K Punniyamorthy M Veerapandian S A Sangeetha G	A methodology for the transformation of architectural forms into music and vice-versa for the enhancement of the musical and architectural libraries	Multimedia Tools and Applications	80(1)	1-26	2021	2.757
Prakash A R Muthukkumaran K	Estimation of lateral capacity of rock socketed piles in layered soil-rock profile	International Journal of Geo-Engineering	12:11		2021	2.15
Premalatha, P V Muthukkumaran K Jayabalan P	Effect of tie rod anchor on the behaviour of Berthing Structures	Maritime Engineering, ICE London	174 (4)	102-111	2021	3.203
Anbazhagan S Venugopal I Arivazhagan C Chinnamuthu C Paramasivam C R Nagesh G Kannan S A Shamarao Chandra babu V Annadurai M Muthukkumaran K Ramesh V J	Lunar Soil Simulant (LSS-ISAC-1) for ISRO's Lunar Exploration Programme	ICARUS	366	114511	2021	3.508
Umanath U Muthukkumaran K	Assessment of Innovative Dented Sheet Liner on the Improvement of Hydraulic Properties of Pervious Concrete Pile	Engineering Science and Technology, an International Journal	26	100996	2021	4.360
Kayalvizhi S K Muthukkumaran K	Development of Non-Dimensional Design Chart Incorporating the Effect of Raker Piles in Pile Groups under Lateral Load	International Journal of Civil Engineering	20	169–183	2021	2.081
Prabu T Venugopal I Muthukkumaran K	Assessment of Shear Strength and Compressibility Characteristics of a	Planetary and Space Science	209	105354	2021	2.085

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	Newly Developed Lunar Highland Soil Simulant (LSS-ISAC-1) for Chandrayaan Lander and Rover Missions					
Prabu T Muthukkumaran K Venugopal I	Assessment of geotechnical properties of lunar soil simulant's for lunar missions	Indian Journal of Engineering and Materials Sciences, CSIR-NISCAIR	Vol. 28	317-329	2021	0.615
Sivaraman S Muthukkumaran K	Consolidation Effect on Pile Capacity Assessment based on Instrumented Field Pile Load Test	Arabian Journal for Science and Engineering	47	4913–4927	2021	2.334
Devahi P Deendayal Rathod Muthukkumaran K	Building Material Synthesization using Municipal Solid Waste Incineration Ash: A State-of-the-Art Review	Environmental Technology Reviews	Vol. 11 (1)	33-48	2022	4.056
Prabu T Muthukkumaran K Venugopal I	Assessment of Dynamic Properties of a New Lunar Highland Soil Simulant (LSS-ISAC-1) Developed for Chandrayaan Missions	Soil Dynamics and Earthquake Engineering	155		2022	3.718
Muthukkumaran K Sindhujha R Anusudha V	Effect of Alkali Treated Sisal Fibre on Expansive Clay	Ground Improvement, ICE London			2022	
Kayalvizhi K Muthukkumaran K & Sanjay Kumar Shukla	Experimental study on evaluating the lateral load capacity of raker pile in sloping ground	Australian Journal of Civil Engineering			2022	3.283
Prabu T Muthukkumaran K Venugopal I	Assessment of Low Gravity Effect on Bearing Capacity and Slope Stability of the New Lunar Highland Soil Simulant (LSS-ISAC-1) for Futuristic Moon Habitation	Advances in Space Research			2022	2.611

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(B) Conferences/Workshops/Symposia Proceedings

International Conferences:

Author(s)	Title of Abstract/ Paper	Title of the Proceedings	Page numbers	Conference Theme	Venue	Year
Sundaravadivelu, R., Gandhi, S.R., Muthukkumaran, K. and Trivedi, A.P.	Effect of mudslide on pile due to dredging in open type berthing structure	The Inaugural International Conference on Port and Maritime R&D and Technology	445-451	Port and Maritime	Singapore	29-31 Oct 2001
Muthukkumaran, K., Sundaravadivelu, R. and Gandhi, S.R	Stability of coastline during dredging in open type pile supported structures	The 10 th International Conference on Maritime Association of the Mediterranean 2002 (IMAM- 2002)	Paper No. 142	Port and Maritime	NTUA, Athens, Greece	13-17 May 2002
Muthukkumaran, K., Sundaravadivelu, R. and Gandhi, S.R	Effect of surcharge loading on single pile in sloping ground	International Conference on Ship and Ocean Technology SHOT – 2002	Paper No: 11	Marine Materials and Ocean Engineering	IIT Kharagpur, India	Dec 2002
Muthukkumaran, K., Sundaravadivelu, R. and Gandhi, S.R	Effect of slope on berthing structure under seismic condition- A field study	The Sixth International Conference on Coastal and Port Engineering in Developing Countries	Paper No.29	Coastal and Port Engineerin g	Colombo, Sri Lanka	15-19 Sep 2003
Muthukkumaran, K., Sundaravadivelu, R. and Gandhi, S.R	Lateral movement of weak soil slope and its effect on pile supported coastal structures	The Sixth International Conference on Coastal and Port Engineering in Developing Countries	Paper No.31	Coastal and Port Engineerin g	Colombo, Sri Lanka	15-19 Sep 2003
Muthukkumaran, K., Sundaravadivelu, R. and Gandhi, S.R	Effect of sloping ground on single pile load deflection behaviour under surcharge load	The 13 th World Conference on Earthquake Engineering	Paper No.2147	Earthquake Engineerin g	Vancouver Convention and Exhibition Center, Canada	1-6, Aug 2004
Muthukkumaran, K., Sundaravadivelu, R., Gandhi, S.R	Monitoring of lateral deflection in a berthing structure	The Fifth International Conference on	Paper No. 5.35	Geotechnic al Engineerin	New York, USA	13-17, April 2004

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	during dredging- A case study	Case Histories in Geotechnical Engineering		g		
Muthukkumaran, K. and Sundaravadivelu, R.	Effect of slope on p-y curves; under passive loading	The 10 th International Conference on Piling and Foundations	Paper No. 040.	Piling and Foundations	Amsterdam, UK	May 31 – June 2, 2006
Muthukkumaran, K	Numerical modeling for dredging effect of berthing structure on marine soils	First Sri Lankan Geotechnical Society International Conference on Soil and Rock Engineering	Paper No 3420	Geotechnical Engineering	Colombo	Aug 2007
Muthukkumaran, K., & Seethalakshmi, P	Effect of slope on p-y curves due to lateral soil movements	First Sri Lankan Geotechnical Society International Conference on Soil and Rock Engineering	Paper No 3410	Geotechnical Engineering	Colombo	Aug 2007
Muthukkumaran, K	Effect of Slope on Berthing Structure under Lateral Soil Movement– A Numerical Study	8 th Pacific Conference on Earthquake Engineering	Paper No. 283	Earthquake Engineering	Singapore	Dec 2007
Almas Begum, N. and Muthukkumaran, K	Effect of Lateral Load on Piles Embedded in Sandy Slope	International Workshop on Earthquake hazards and Mitigation	359-369	Earthquake Engineering	IIT Guwahati, India	Dec 2007
Senthamilkumar, S., Natarajan, C. and Muthukkumaran, K	Empirical Correlation of Liquefaction Induced Settlement of Coromandel Coastal Sand Deposits	International Workshop on Earthquake hazards and Mitigation	370-377	Earthquake Engineering	IIT Guwahati, India	Dec 2007
Muthukkumaran, K. and Almas Begum, N	Effect of Ground Slope on Pile Foundation under Passive Loading	2 nd BGA International Conference on Foundation Engineering (ICOF-2008)	Paper No. 445	Foundation Engineering	Scotland	24-27 June 2008
Almas Begum, N. and Muthukkumaran, K	Numerical Modeling for Laterally Loaded Piles on Sloping Ground	The 12 th International Conference on International Association for Computer	3368-3375	Advances in Geomechanics	Goa, India	1-6 Oct, 2008

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		Methods and Advances in Geomechanics				
Muthukkumaran, K.	Modified Approach for Estimation of p-y Curves in Sloping Ground under Surcharge Load	6 th Asian Young Geotechnical Engineers Conference	145-156	Geotechnical Engineers	IISc Bangalore	Dec 15-16, 2008
Almas Begum, N Senthil Kumar, C and Muthukkumaran, K	Behaviour of Pile Groups Subjected to Lateral Load	International Conference in Ocean Engineering (ICOE-2009)	656-665	Ocean Engineering	IIT Madras, India	Feb 1-5, 2009
Arun K.S and Muthukkumaran, K	Finite Element Analyses of Fixed Offshore Platform Including Soil-Structure Interaction Study	International Conference in Ocean Engineering (ICOE-2009)	194-204	Ocean Engineering	IIT Madras, India	Feb 1-5, 2009
P.V. Premalatha, G.Sandeep, P.Jayabalan, and K. Muthukkumaran	Numerical Modelling and Analysis of A Berthing Structure with Tie Rod	International Conference in Ocean Engineering (ICOE-2009)	647-655	Ocean Engineering	IIT Madras, India	Feb 1-5, 2009
Senthamilkumar, S., Natarajan, C., Ilamparuthi, K. and Muthukkumaran, K	Liquefaction Potential Index Based Lateral Spread Empirical Modal	International Conference on Recent Advances in Geotechnical Earthquake Engineering and Soil Dynamics		Geotechnical Earthquake Engineering	SAN diego, CA	May 24-29, 2010
Muthukkumaran, K. and Gokul Krishnan	Effect of Seabed Slope on Offshore Pile Lateral Behaviour under Static Wave Force	29 th International Conference on Ocean Offshore and Arctic Engineering (OMAE-2010), ASME	Paper No. OMAE 2010-21164	Ocean Offshore and Arctic Engineering	Shanghai, China	June 6-11, 2010
Muthukkumaran, K.	Investigation of Geotechnical Failures and Documentation	Proceedings of the First INDO-US Forensic Engineering Workshop, ASCE Publication	52-59	Forensic Engineering	NIT, Trichy, India	Dec 15-17, 2010
P. V. Premalatha, K. Muthukkumaran, and P. Jayabalan	Behaviour of piles supported berthing structure under lateral loads	Proceedings of the Pan-Am CGS Geotechnical	Paper No. 1075	Geotechnical Engineering	Toronto, Ontario, Canada	Oct 2-6, 2011

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		Conference (14 th Pan-American Conference on Soil Mechanics and Geotechnical Engineering)				
M.Murugan, C.Natarajan and K. Muthukkumaran	Response of single pile in cohesionless soil subjected to both vertical and horizontal loads	International Conference on intelligent science and technology		science and technology	Nagercoil, Tamil Nadu, India	Mar 24- 25 2011
Muthukkumaran, K., B. Madhusudan Reddy	Finite Element Analysis of Earthen Embankment Constructed on Soft Ground under Static and Seismic Loading	Proceeding of the 15 th World Conference of Earthquake Engineering		Earthquake Engineering	Lisboa, Portugal	24-28 Sep 2012
Muthukkumaran, K., C. Natarajan and M.Murugan	Strengthening of RC piles subjected to lateral loads using GFRP composites	Strengthening of RC piles subjected to lateral loads using GFRP composites	923-928	Geotechnical Engineering	Singapore	29-31 May 2013
Muthukkumaran, K., B. Madhusudan Reddy	Analysis of Earthen Embankment Constructed on Soft Ground under Static and Seismic Loading	Proceeding of Sixth International Geotechnical Symposium on Disaster Mitigation in Special Geo environmental Condition	177-180	Geotechnical Engineering	IIT Madras, India	21-23 Jan 2015
Devahi P and Muthukkumaran, K	Effect of Heavy Metals on the Swelling Properties of Expansive Soil	Proceedings of the First International Conference on Sustainable Practices in Civil Engineering	23-29	Geotechnical Engineering	Coimbatore, India	16-18 April 2015
A. R. Prakash, K. Muthukkumaran	Behaviour of Monopile under Axial Load in Marine Clay Soil	Proceedings of the International Conference on Innovations and Advances in Civil Engineering Towards Green		Geotechnical Engineering	Coimbatore, India	April 28-30, 2014

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		and Sustainable Systems				
Muthukkumaran, K., Murugan, M and Natarajan, C.	FRP Strengthened Reinforced Concrete Piles under Static Lateral Loads – A Field Study	Proceedings of the 5 th International Conference on Geotechnique, Construction Materials and Environment, (GEOMATE-2015)	25-32	Geotechnical Engineering	Osaka, Japan	Nov 16-18, 2015
Deendayal Rathod, K. Muthukkumaran and T.G. Sitharam	Dynamic Response of Single Pile Located in Soft Clay underlay by Sand	Proceedings of the 5 th International Conference on Geotechnique, Construction Materials and Environment, (GEOMATE-2015)	471-474	Geotechnical Engineering	Osaka, Japan	Nov 16-18, 2015
A. R. Prakash, K. Muthukkumaran	Effect of free standing height on rock socketed pile under lateral load	Proceedings of the Deep Foundation Institute on Deep Foundations Technologies for Infrastructure Development in India 2015	Paper No. 26	Deep Foundations	IISc Bangalore, India	29-30, Sep 2015
S. Keerthi Raaj, K. Muthukkumaran	Numerical and Theoretical Analysis of Consolidation of Soft Clay Installed With PVD at Nagapattinam - A Case Study	Proceedings of the Deep Foundation Institute on Deep Foundations Technologies for Infrastructure Development in India 2015	Paper No. 29	Deep Foundations	IISc Bangalore, India	29-30, Sep 2015
Deendayal, R, K. Muthukkumaran and T.G. Sitharam	Behaviour of Laterally Loaded 1-g Single Model Pile in Soft Clay with Sloping Ground	Proceedings of the 19 th International Conference on Soil Mechanics and Geotechnical	915-918	Geotechnical Engineering	Seoul	

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		Engineering				
Prabu, T., Venugopal, I. and Muthukkumaran, K.	Geotechnical Properties of Lunar Soil Simulations	Proceedings of the 7th International Conference on Recent Advances in Geotechnical Earthquake Engineering and Soil Dynamics	73-82	Geotechnical Earthquake Engineering	IISc Bangalore, India	2021
Umanath, U., Nandhagopal, A.R. and Muthukkumaran, K	Accelerating the Consolidation of Soft Clay Soil Using Pervious Concrete Pile	Proceedings of the 7th International Conference on Recent Advances in Geotechnical Earthquake Engineering and Soil Dynamics	123-131	Geotechnical Earthquake Engineering	IISc Bangalore, India	2021

National Conferences:

Author(s)	Title of Abstract/ Paper	Title of the Proceedings	Page numbers	Conference Theme	Venue	Year
Stalin, V.K., Muthukkumaran, K. and Karthikeyan, A.	Effect of liquid waste on the index and Engineering Behaviour of Soils	IGC-2000 Millenium Conference	229-230	Geotechnical Engineering	Mumbai	
Muthukkumaran, K., Sundaravadivelu, R. and Gandhi, S.R,	Behaviour of single pile in sloping ground under surcharge loading	IGC – 2002	441-444	Geotechnical Engineering	Allahabad	
Muthukkumaran, K., Sundaravadivelu, R. and Gandhi, S.R	Behaviour of berthing structure under changing slope in seismic condition- A case study	workshop on Forensic Geotechnical Engineering, IGS-FGE 2003	135-139	Geotechnical Engineering	Chennai	
Muthukkumaran, K., Sundaravadivelu, R. and Gandhi, S.R,	Effect of sloping ground on single pile load deflection curve	IGC – 2003	137-140	Geotechnical Engineering	IIT Roorkee	
Muthukkumaran, K., Sundaravadivelu, R. and Gandhi, S.R	Behaviour of instrumented pile under vertical loading – a field investigation	IGC – 2004	347-350	Geotechnical Engineering	NIT Warangal	Dec 17-19
Senthil Kumar, C., Muthukkumaran, K	Effect of relative density on pile	IGC – 2008	133-136	Geotechnical	IISc Bangalore	Dec 17-19,

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	group lateral load capacity			Engineering		2008
Aravind Kumar, B., Muthukkumar, K,	Behaviour of raker piles under lateral load	IGC – 2008	137-140		IISc Bangalore	Dec 17-19, 2008
G.Sandeep, P.V.Premalatha, P.Jayabalan and K.Muthukumar	Strengthening of Berthing Structure	National Conference on failure studies and remedial measures to concrete structures	190-199	Geotechnical Engineering	Tiruchengode	19-20 Dec 2008
Prasath, V., Muthukkumar, K,	Optimal use of gravel in low-cost flexible pavement	IGC – 2008	206-209	Geotechnical Engineering	IISc Bangalore	Dec 17-19, 2008
Senthamilkumar, S., Natarajan, C., Muthukkumar, K. and Ilamparuthi, K.	Study on influence of local soil conditions on ground motion amplification	IGC – 2009	57-61	Geotechnical Engineering	Guntur	Dec 16-19, 2009
Arun, K.S. and Muthukkumar, K,	Effect of soil-pile interaction on fixed offshore platform behaviour	IGC – 2009	139-143	Geotechnical Engineering	Guntur	Dec 16-19, 2009
Denzil Fernandez and Muthukkumar, K,	Effect of lime stabilisation on single pile pullout capacity	IGC – 2009	476-479	Geotechnical Engineering	Guntur	Dec 16-19, 2009
Varenya Kumar, D.M., Madhuri Murali, Sindhuja Ganesh and Muthukkumar, K,	Behaviour of composite piles under lateral load	IGC – 2009	747-750	Geotechnical Engineering	Guntur.	Dec 16-19, 2009,
Gokula Krishnan, M., Sathyanarayanan, D., Subha, I.P. and Muthukkumar, K,	Behaviour of an open type berthing structure under earthquake condition –a numerical approach	IGC – 2009	553-557	Geotechnical Engineering	Guntur	Dec 16-19, 2009,
Premalatha, P.V., Muthukkumar, K. and Jayabalan, P,	Analysing the optimum length of tie rod anchor for a berthing structure	IGC – 2009	127-130		Guntur	Dec 16-19, 2009,
Muthukkumar, K. and Sathyanarayanan, D,	Effect of Seabed Slope on Offshore Pile Lateral Behaviour under Wave Force	IGC-2010	683-686	Geotechnical Engineering Geotechnical Engineering	IIT Bombay	Dec 16-18, 2010

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				g		
Muthukkumaran, K. and Subha, I.P,	Effect of Earthquake Induced Lateral Soil Movement on Piles in Sloping Ground	IGC-2010	209-212	Geotechnical Engineering	IIT Bombay	Dec 16-18, 2010
M. Murugan, C. Natarajan and K.Muthukkumaran,	Response of Laterally Loaded Long Free-Head Pile in Cohesionless Soil	National Conference on Modern Trends in Civil Engineering NCMTC – '11),		Geotechnical Engineering	Tiruchendur, Tamil Nadu, India.	1 st April, 2011
M.Murugan, C.Natarajan and K.Muthukkumaran	Response of Laterally Loaded Single Pile in Sandy Soil	National Conference on Recent Trends in Civil & Mechanical Engineering		Civil & Mechanical Engineering	Tiruchirappalli, Tamil Nadu, India	April 8-9, 2011
M.Murugan, C.Natarajan and K.Muthukkumaran,	Seismic Retrofit of Structural Pile Foundation	National Conference on Earthquake and structural Engineering (NCESE -2011)		Earthquake and structural Engineering	Coimbatore, Tamil Nadu, India	Sep 15-16, 2011
Adarsh, P. R., Muthukkumaran, K.,	Effect of wheel load on underground tunnels	RDCE 12		Geotechnical Engineering	SRM University, Chennai	March 21-22
Adarsh, P. R., Muthukkumaran, K	Experimental study of wheel load over tunnels	NCRAG'12	25	Geotechnical Engineering	GCT, Coimbatore	April 20 2012
Jegatheeswaran, B., Muthukkumaran, K	Effect of length and diameter on the lateral capacity of pile in cohesive and cohesionless soils	RDCE 12		Geotechnical Engineering	SRM University, Chennai	March 21-22, 2012
Jegatheeswaran, B., Muthukkumaran, K	Behaviour of a pile with lateral and surcharge loading	NCRAG'12	25	Geotechnical Engineering	GCT, Coimbatore	April 20 2012
Veeravisagan, B., Muthukkumaran, K	Simulation of geotechnical properties of lunar soil	NCRAG'12	32-33	Geotechnical Engineering	GCT, Coimbatore	April 20 2012
M.Murugan, C.Natarajan and K.Muthukkumaran	Behaviour of interfaces between glass fibre reinforced polymer and sandy soil	Pre Workshop cum National Conference on Geosynthetics: Present and Future		Geosynthetics	BIT, Erode, India	Feb 3-4, 2012

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		Perspectives				
M.Murugan, C.Natarajan and K.Muthukkumaran	Behaviour of interfaces between carbon fibre reinforced polymer and sandy soil	National Conference on Recent Advancements in Geotechnical Engineering (NCRAG'12)		Geotechnic al Engineerin g	GCT, Coimbator e	20 April, 2012
M.Murugan, C.Natarajan and K.Muthukkumaran	Behaviour of interfaces between glass fibre reinforced polymer and gravel soil	Proceedings of Indian Geotechnical Conference (IGC-2012)	588-591	Geotechnic al Engineerin g	Delhi	Dec 13-15, 2012
B. Jegatheeswaran and K.Muthukkumaran	Behaviour of pile due to lateral soil movement under the influence of surcharge load	Proceedings of Indian Geotechnical Conference (IGC-2012)	321 - 324	Geotechnic al Engineerin g	Delhi	Dec 13-15, 2012
M.Murugan, C.Natarajan and K.Muthukkumaran	Short-term durability test on FRP composite under various environmental conditions	National Conference on Recent Advancement in Geotechnical Engineering		Geotechnic al Engineerin g	GCT, Coimbator e	April, 2013
B. S. Shashank and K. Muthukkumaran	Properties of microorganisms treated cohesionless soils	Proceedings of Indian Geotechnical Conference IGC-2014	663-669	Geotechnic al Engineerin g	Kakinada, India	Dec 18-20, 2014
Amy Susan George and K. Muthukkumaran	Immobilization of lead in soils by <i>bacillus cereus</i> bioaugmentation and sludge amendment	Proceedings of Indian Geotechnical Conference IGC-2014	1175- 1184	Geotechnic al Engineerin g	Kakinada, India	Dec 18-20, 2014
Deendayal, K. Muthukkumaran, and T.G. Sitharam	Experimental investigation of single model pile in clay slope under lateral load	Proceedings of Indian Geotechnical Conference IGC-2014	1595- 1599	Geotechnic al Engineerin g	Kakinada, India	Dec 18-20, 2014
Prapulla Kumar Uppu and K. Muthukkumaran	Detection of seawater intrusion using resistivity survey and hydrochemical analysis- a case study	Proceedings of Indian Geotechnical Conference IGC-2014	1873- 1877	Geotechnic al Engineerin g	Kakinada, India	Dec 18-20, 2014
A. R. Prakash and K. Muthukkumaran	Behaviour of monopile under axial load in soft marine clay	Proceedings of Indian Geotechnical Conference	1937- 1940	Geotechnic al Engineerin g	Kakinada, India	Dec 18-20, 2014

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		IGC-2014				
A. R. Prakash, K. Muthukkumaran	Elastic analysis of socketed pile subjected to lateral load	Proceedings of the National Conference on Recent Advancements in Geotechnical Engineering	31-33	Geotechnical Engineering	Coimbatore Tamil Nadu, India	April 22, 2014
A. R. Prakash, K. Muthukkumaran	A. R. Prakash, K. Muthukkumaran	Proceedings of the National Conference on Advancements in Materials, Construction & Sustainable Environment	215-217	Materials, Construction	Krishnankoil, Tamil Nadu, India	29 Mar 2014
A. R. Prakash, K. Muthukkumaran	Lateral response of socketed pile in Cohesionless soil	Proceedings of Indian Geotechnical Conference (IGC-2015)	68	Geotechnical Engineering	Pune, India	17-19 Dec 2015
V. Anusudha, K. Muthukkumaran	Utilization of copper slag for stabilization of clay soil	Proceedings of Indian Geotechnical Conference (IGC-2015)	398	Geotechnical Engineering	Pune, India	17-19 Dec 2015
S. Keerthi Raaj, K. Muthukkumaran	Effective use of PVD in railway embankment construction at Nagapattaman- A Case study	Proceedings of Indian Geotechnical Conference (IGC-2015)	399	Geotechnical Engineering	Pune, India	17-19 Dec 2015
Nandhagopal A R and Muthukkumaran K	Numerical Study on the Effect of Slope and Loading Direction on Laterally Loaded Piles on Sand	Proceedings of Indian Geotechnical Conference (IGC-2019)	565-575	Geotechnical Engineering	Surat, India	19-21, Dec 2019
Nandhagopal A R and Muthukkumaran K	Numerical Study on the Effect of Rock-Socketing on Laterally Loaded Piles in the Proximity of Sloping Ground” Proceedings of Indian Geotechnical Conference (IGC-2020)	Proceedings of Indian Geotechnical Conference (IGC-2020)	243–253	Geotechnical Engineering	Vizag, India	17-19, Dec 2020

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Rajendra Kumar P and Muthukkumaran K	Numerical Analysis on Stability Assessment of Left Bank Rock Slopes, Polavaram Irrigation Tunnel	Proceedings of Indian Geotechnical Conference (IGC-2020)	Paper No: 246	Geotechnical Engineering	Vizag, India	17-19, Dec 2020
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(C) Books Chapters & Monographs

Author(s)	Title of Book/Monograph	Name of Publishers	Year of Publication	ISSN/ISBN Number
Muthukkumaran, K. and Subha, I.P.	Earthquake Soil-Structure Interaction	VDM Publishing Company, Germany	2010	978-3-639-21612-7
Muthukkumaran, K and Gokul Khrishnan	Numerical Methods in Geotechnical Engineering	Taylor and Francis	2010	978-0-415-59239-0
Prakash, A. R and Muthukkumaran, K	Sustainable Civil Infrastructures - Soil dynamic and Soil-Structure Interaction for Resilient Infrastructure	Springer Nature	2017	978-3-319-63542-2 & 978-3-319-63543-9
Deendayal Rathod, Muthukkumaran, K. and Sitharam, T.G.	Sustainable Civil Infrastructures - Soil dynamic and Soil-Structure Interaction for Resilient Infrastructure	Springer Nature	2017	978-3-319-63542-2 & 978-3-319-63543-9
Sivaraman, S. and Muthukkumaran, K.	Sustainable Civil Infrastructures - Soil dynamic and Soil-Structure Interaction for Resilient Infrastructure	Springer Nature	2017	978-3-319-63542-2 & 978-3-319-63543-9
Manivannan Vinothkumar and Muthukkumaran, K.	Sustainable Civil Infrastructures - Soil dynamic and Soil-Structure Interaction for Resilient Infrastructure	Springer Nature	2017	978-3-319-63542-2 & 978-3-319-63543-9
Muthukkumaran, K., Prabu, T. and Venugopal, I.	Latest Developments in Geotechnical Earthquake Engineering and Soil Dynamics	Springer Nature	2021	978-981-16-1468-2

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22. Project Details List:

MAJOR CONSULTANCY PROJECTS:

Sl. No.	Title	Sponsoring Agency & Amount	Status
1.	Geotechnical investigations and suitable foundation recommendation for BHEL Expansion Works at Trichy and Thirumayam, Tamilnadu	BHEL-Trichy (Rs. 2.5 Lakh)	Completed (2009 & 2010)
2.	Safe Barrier Design for Open Mining at Mine-II, Neyveli, India	NLC, Neyveli (Rs. 2.5 Lakh)	Completed (2009)
3.	Geotechnical investigations and foundation design for fish landing centers at varies places in the East Coast of Tamilnadu under Tsunami Project Implementation	Tsunami Project Implementation Division funded by World Bank (Rs. 3.0 Lakh)	Completed (2010)
4.	Geotechnical Investigations and foundation recommendation including pile design for Tamilnadu Slum Clearance Board work in Trichy and Madurai division	Tamilnadu Slum Clearance Board (Rs. 3.0 Lakh)	Completed (2010 & 2011)
5.	Estimation of dynamic soil properties for cooler design for Ultratech Cement Plant at Ariyalur	Ultratech Cement Limited (Rs. 2.0 Lakh)	Completed (2011)
6.	Detailed Geotechnical investigation and foundation recommendation for Yathri Nivas, Srirangam Temple	PWD Trichy (Rs. 2.0 Lakh)	Completed (2012)
7.	Detailed Geotechnical investigation and foundation recommendation for IOCL Mounded Storage at Cochin Bottling	IOCL-Cochin (Rs. 3.0 Lakh)	Completed (2012)
8.	Detailed Geotechnical investigation and foundation recommendation for the proposed new Naval Land at Rameswaram	Naval Board (Rs. 4.5 Lakh)	Completed (2012)
9.	Detailed Geotechnical investigation and foundation recommendation for the proposed new Naval Land at Nagappattinam	Naval Board (Rs. 7.5 Lakh)	Completed (2012)
10.	Detailed Geotechnical investigation and suitable ground improvement recommendation including PVD design for the proposed Railway B.G. line alignment between Nagappattinam and Thiruthuraiipoondi	Southern Railway (Rs. 3.0 Lakh)	Completed (2014)
11.	Forensic geotechnical investigation for failed costal diaphragm wall at	Tamilnadu Fisheries Department	Completed (2014)

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	Nagappattinam fishing harbor	(Rs. 3.25Lakh)	
12.	Analysis and design of pile foundation for the proposed CPCL oil storage tank at Nagappattinam	CPCL (Rs. 3.0 Lakh)	Completed (2014)
13.	Geotechnical investigations and foundation recommendation for the proposed New IIM Trichy campus	IIM Trichy (Rs. 5.64 Lakh)	Completed (2014)
14.	Geotechnical investigation for the proposed buildings and diaphragm wall at Modasalodai site in Cuddalore district	Tamilnadu Fisheries Department (Rs. 2.42 Lakh)	Completed (2014)
15.	Geotechnical investigation and foundation recommendation for the proposed facilities for submarine rockets RGB-12 & RGB-60 at HAPP Trichy	Military Engineering Services/ Garrison Engineering (Rs. 2.67 Lakh)	Completed (2014)
16.	Detailed Geotechnical investigation and foundation design for the proposed Construction of Dwelling Units at Thimmarayachamuthiram, and Melapandamangalam, Trichy.	Tamilnadu Slum Clearance Board, Trichy (Rs. 2.24 Lakh)	Completed (2014)
17.	Design of Sand drains and performance monitoring of railway embankment between Nagappattinam and Thiruthurai poondi, Ch. 18000 to 23000	Southern Railway Tiruchchirappalli (Rs. 5.0 Lakh)	Completed (2014)
18.	Design of Prefabricated Vertical Drains and performance monitoring of railway embankment between Nagappattinam and Thiruthurai poondi, Ch. 13000 to 18000	Southern Railway Tiruchchirappalli (Rs. 4.0 Lakh)	Completed (2014)
19.	Detailed Geotechnical investigation and foundation recommendation for the proposed construction at Ezhimala, Kerala for Indian Naval Academy (Phase-II work)	Naval Board / M/s. Mukesh Associates, Salem (Rs. 5.89 Lakh)	Completed (2015)
20.	Detailed geotechnical investigation and pile foundation analysis and design of the proposed Hi-Tech Gowdon at Nagappattinam project including ground improvement	Tamilnadu Civil Supply Corporation (TNCSC) (14.8 lakh)	Completed (2015)
21.	Geotechnical investigation and foundation recommendation for the proposed buildings at various locations in the Kumbakonam Municipality	The Commissioner Kumbakonam Municipality (4.4 lakhs)	Completed (2015)
22.	Geotechnical Investigation and foundation recommendation for the Proposed Construction of subway	Southern Railway Tiruchchirappalli (2.02 lakhs)	Completed (2015)

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23.	Soil suitability study for embankment formation of NH67	Madhucon Projects Ltd. (2.15 lakhs)	Completed (2015)
24.	Geotechnical investigation and foundation recommendation-BHEL project	BHEL Trichy (5.5 lakhs)	Completed (2015)
25.	Geotechnical investigation and foundation recommendation-Duraisamipuram, Vannarapettai , Sambathottam and Ariyalur	Tamilnadu Slum Clearance Board, Trichy (Rs. 8.6 lakhs)	Completed (2015 & 2016)
26.	Geotechnical Investigation and pile analysis for proposed erection of seamless communication tower by Fishing Harbour division	Fishing Harbour project division, Chennai (Rs. 2.6 lakhs)	Completed (2016)
27.	Subgrade soil suitability and soil stabilization study for Air Force Station Sular	Garrison Engineer, Military Engineering Service (Rs. 4.0 lakhs)	Completed (2016)
28.	Geotechnical investigation and foundation recommendation- Narimedu in Pudukkottai Town	Tamilnadu Slum Clearance Board, Trichy (Rs. 5.15 lakhs)	Completed (2017)
29.	Geotechnical consultancy for Trichy Airport expansion work	AAI-Trichy (Rs.11.87 lakhs)	Completed (2018)
30.	Geotechnical investigation and foundation recommendation for Tamilnadu Slum Clearance Board projects at Melur and Theni	Tamilnadu Slum Clearance Board, Trichy (Rs. 3.45 lakhs)	Completed (2018)
31.	Geotechnical consultancy for Madurai Airport expansion work	AAI-Madurai (Rs. 8.75 lakhs)	Completed (2018)
32.	Investigation of Cochin Airport Runway, Taxiway, Apron pavement stripping due to flood using GPR	Cochin Airport (Rs. 5.9 lakhs)	Completed (2019)
33.	Geotechnical consultancy Services for Coimbatore Airport expansion work	AAI-Coimbatore (Rs. 43.84 lakhs)	Completed (2019)
34.	Detailed field study based on the Ground Penetration Radar for the Proposed Construction New Taxi-Links at Cochin International Airport, Cochin.	Cochin International Airport, Cochin. (Rs. 5.9 lakhs)	Completed (2020)
35.	Evaluation of Physico-Mechanical Parameters for SVP-88 - MECL Veeranam Project	Mineral Exploration Corporation Limited (Rs. 4.72 lakhs)	Completed (2020)
36.	Design of Pile foundation for the proposed construction of 64 Tenements at Jailpettai Phase II at Trichy	Tamilnadu Slum Clearance Board, Trichy (Rs. 2.36 lakhs)	Completed (2020)

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37.	Geotechnical consultant for the proposed LOKICHAR-LAMU crude oil pipeline Project at Kenya (International consultancy Project)	SGS Kenya (Rs. 18.05 lakhs)	Completed (2020)
38.	Geotechnical investigation and foundation recommendation for the proposed construction of new ROB at km 20/600-700 near Karaikal town	Southern Railway, Tiruchirappalli (Rs. 3.24 lakhs)	Completed (2020)
39.	Geotechnical investigation and foundation recommendation for the proposed construction of a High level bridge between Edayathumangalam and Kilikoodu across Coleroon River	Highways Department, Project Division, Trichy. (Rs. 7.5 lakhs)	Completed (2020)
40.	Geotechnical consultancy Services for Madurai Airport expansion work	AAI-Madurai (Rs. 19.0 lakhs)	Completed (2020)
41.	Geotechnical investigation and recommendation of soil design parameters for the proposed Heritage Impact Assessment study for Redevelopment of MOAT in Thanjavur City Municipal Corporation under Smart city program Thanjavur	Thanjavur Smart City Limited, Thanjavur (Rs. 4.0 lakhs)	Completed (2021)
42.	Geotechnical Consultancy Work for High Speed Rail Project Vadodara Gujarat MAHSR – C6 (Vadodara – Ahmedabad Project) -	L&T Transportation Infrastructure Engg. (Rs. 5.0 lakhs)	Completed (2021)
43.	Ground Penetrating Radar (GPR) Study for surface crack assessment on the Runway at Chennai Airport	AAI-Chennai Airport (Rs. 5.0 lakhs)	Completed (2021)
44.	Geophysical investigation study for the proposed rough quarry mining at Puthunaduvalur village, Perambalur	A. Kaliyaperumal, Perambalur District (Rs. 2.3 lakhs)	Completed (2021)
45.	Comprehensive Scientific Study for the stability of structures falling within 45m of proposed inland mining of M/s IREL (India) Limited located at Manavalakurichi	M/s IREL (India) Limited (Rs. 10.3 lakhs)	Completed (2022)
46.	Geotechnical consultancy Services for Madurai Airport work	AAI-Madurai (Rs. 9 lakhs)	Ongoing
47.	Comprehensive Scientific Study for the stability of structures falling within 45m of proposed inland mining of M/s IREL (India) Limited located at Chavara, Kollam, Kerala	M/s IREL (India) Limited (Rs. 13.75 lakhs)	Ongoing
48.	Proof checking of design and drawings of ground improvement works for the MSB block of Numaligarh Refinery Expansion project, Numaligarh, Assam	L & T GeoStructure (Rs. 6.0 lakhs)	Ongoing

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49.	Inspection and Quality check at Cauvery Old Bridge RHS (Padalur –Trichy Section of NH45 – Package VI	Trichy Padalur Tollways Private Limited (Rs. 7.67 lakhs)	Ongoing
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PATENT:

- 1) I Venugopal, S A Kannan, Shamrao, Chandra Babu, Prof S Anbazhagan, Dr. S Arivazhagan, C R Paramasivam, M Chinnamuthu and **Dr. K Muthukkumaran** (2020) “*A Method for Manufacture of Highland Lunar Soil Simulant*” Patent Number 336998, granted on May 18, 2020.
- 2) **Muthukkumaran, K** and Umanath, U. (2020) “*A Mold for Casting Pervious Concrete Pile and Method*” Indian Patent Application Number 202041011873, Journal No. 19/2020, published on May 08, 2020.