

CURRICULUM VITAE

Dr. K. MUTHUKKUMARAN



PROFESSOR

**Department of Civil Engineering
National Institute of Technology
Tiruchirappalli-620 015**

**Email: kmk@nitt.edu &
drkmknitt@gmail.com**

Mobile No: +91 9443651836

Phone: +91 431 2503168

Fax: +91 431 2500133

Web Page: http://www.nitt.edu/home/academics/departments/civil/faculty/associate_professors/km/

Google Scholar: https://scholar.google.co.in/citations?hl=en&user=L_3qRzIAAAAJ

Research Gate: https://www.researchgate.net/profile/Kasinathan_Muthukkumaran

Scopus Author ID: <https://www.scopus.com/authid/detail.uri?authorId=55496153700>

ORCID ID: <https://orcid.org/0000-0002-7664-7068>

**International Society for Soil Mechanics and Geotechnical Engineering (ISSMGE) –
Technical Committee Member (TC-102): 2016-18**

**International Society for Soil Mechanics and Geotechnical Engineering (ISSMGE) –
Technical Committee Member (TC-301): 2018-21(<https://www.issmge.org/>)**

Associate Editor: Journal of Innovative Infrastructure Solutions - Springer publication

International Advisory Member: Soil Structure Interaction Group, Egypt(<http://ssige.org/>)

**Elected National Executive Committee Member (2017-18): Indian Geotechnical Society,
New Delhi. (www.igs.org.in)**

**Founder Chairman: Indian Geotechnical Society, Trichy Chapter (2014 to till date)
(<http://www.igstrichy.org>)**

ACADEMIC PROFILE

Course	Board / University	Period of Study	Year of Passing
Ph.D. (Marine Geotechnical Engineering)	Indian Institute of Technology Madras (IITM), India	Jan' 2001 to Dec'2004	2005
M.E. (Soil Mechanics and Foundation Engineering)	Guindy Engineering College, Anna University Chennai, India	August 1998 to Jan' 2000	2000
B.E. (Civil & Structural Engg.)	Annamalai University, India	July 1994 to April 1998	1998

PROFESSIONAL EXPERIENCE:

Organization	Designation	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

ABROAD VISITS:

Country	Period of Visit		Purpose
	From	To	
Sri Lanka	14.09.2003	25.09.2003	To present research papers in the Sixth International Conference on Coastal and Port Engineering in Developing (COPEDOC-VI)
USA	12.04.2004	25.04.2004	To present a research paper in the Fifth International Conference on Case Histories in Geotechnical Engineering at University of Missouri Rolla, UAS
Saudi Arabia	January 2005	June 2006	Worked as a Senior Geotechnical Engineer in Osaimi Engineering Office (OEO) at Saudi Arabia (on Saudi ARAMCO Geotechnical projects)
Bahrain	10.12.2005	11.01.2006	Bahrain-Keller Ground improvement projects
Australia	02.11.2007	02.12.2007	Short term post-doctoral research fellow in soil-structure interaction at Queensland University of Technology (QUT)
Singapore	03.12.2007	09.12.2007	To present a research papers in the 8 th Pacific Conference on Earthquake Engineering at Nanyang Technological University (NTU) & 18th Southeast Asian Geotechnical & Inaugural AGSSEA Conference
Singapore	27.05.2013	03.06.2013	To present a research papers in the 18th Southeast Asian Geotechnical & Inaugural AGSSEA Conference at Singapore
Malaysia	30.05.2013	31.05.2013	University visit (Universiti Teknologi Malaysia, UTM)

China	25.05.2014	30.05.214	To present a research paper in the Geoshanghai - 2014 International Conference and visit to Tongji University – Shanghai
Japan	08.11.2015	20.11.2015	15th ARC Conference on Soil Mechanics and Geotechnical Engineering – Fukuoka Japan-India Joint workshop on “Geotechniques for resilient infrastructures”_ Fukuoka Keynote speaker and Session Chairman – GEOMATE Conference - Osaka
Egypt	14.07.2017	21.07.2017	GeoMEast-2017 conference held at Sharm-El-Sheikh, Egypt. Role: Presented technical papers and Session Chairman.
Malaysia	16.08.2017	17.08.2017	Coastal Reservoir Special Session - International Association for Coastal Reservoir Research held at Kuala Lumpur, Malaysia. Role: Special invitee for board meeting of IACRR.

PH.D. THESIS GUIDED:

Sl. No.	Name of the Scholar	Title of thesis	Date of Registration	Date of Award	Joint guidance with
1.	Mrs.N.Almas Begum	Soil-structure interaction of laterally loaded single piles and pile group on sloping ground	August 2006	Nov' 2010	NIL
2.	Mrs. P.V.Premalatha	Effect of tie rod anchor on laterally loaded berthing structure	January 2008	Aug' 2012	Prof. P. Jayabalan
3.	Mr. M.Murugan	Performance of FRP strengthened RC piles subjected to static and cyclic lateral loads	January 2010	Feb' 2014	Prof. C. Natarajan
4.	Mr. Deendyal	Laterally loaded piles in clayey soils with sloping ground	June 2011	Oct'2016	Prof. T.G.Sitharam, IISc- Bangalore
5.	Mr. Prakash, A.R.	Behaviour of Rock Socketed monopile subjected to lateral load	Aug' 2013	Feb' 2018	NIL

6.	Mrs. Kayalvizhi. S. K.	Effect of liquefaction potential on pile lateral capacity	Jan' 2014	On going	NIL
7.	Ms. S. Anu	Deciphering the dynamic architecture design from music	Feb'2015	On going	NIL
8.	Mr. S. Sivaraman	Axial and lateral load capacity analysis of pile considering time dependent behaviour of clay	Aug'2015	On going	NIL
9.	Mr. U. Umanath	Alternative approach of using pervious concrete pile to improve soft clay	Aug' 2016	On going	NIL
10.	Mr. I. Venu Gopal ISAC-ISRO	Lunar Soil Simulant for Chandrayaan – II Project	Aug'2016	On going	Dr. M. Annadurai, Distinguished Scientist Director, ISAC-ISRO, Bangalore
11.	Mr. Paladi Rajendra Kumar	Parametric studies of rock slope stability by finite element method – a case study	Jan'2017	On going	NIL
12.	Mr. Prabu T	Characterization of Lunar Soil Simulant for Evaluating Design Criteria of Lunar Structures	July'2019	On going	NIL
13.	Mr. Jegatheeswaran B	Offshore geotechnical Engineering	July'2019	On going	Dr. R. Manjula
14.	Ms. Devahi	Environmental Geotechnical Engineering	July'2019	On going	Dr. Deendayal
15.	Mr. S. Praveen	Earthquake geotechnical/ liquefaction analysis	Aug'2020	On going	Dr. Jenson Daniel, Prof. DBRAIT, Port Blair, Andaman

16	Ms. Rima Das	Earthquake geotechnical engineering	Aug'2020	On going	NIL
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MS (by research) THESIS GUIDED:

Sl. No.	Name of the Scholar	Title of thesis	Date of Registration	Date of Award	Joint guidance with
1.	Ms. V. Anusudha	Study on Behavior of Copper Slag - Lime Treated Weak Soil under Static and Dynamic Loading	August 2014	Dec'2016	NIL
2.	Mr. S. Keerthi Raaj	Effective use of PVD in railway embankment construction at Nagapatinam – a case study	August 2014	Dec'2016	NIL
3.	Mr. M.Vinoth Kumar	Analysis of Vertical Sand Drain for Railway construction at Nagapattinam – A Case Study	February 2015	June' 2017	NIL
4.	Ms. R. Sindhuja	Performance Evaluation of Sisal Fibre Reinforced Expansive Soil under Static and Dynamic Loads	February 2015	June'2018	NIL
5.	Mr. Nandhagopal A. R.	Rock Socketed monopile subjected to dynamic lateral load	Aug' 2018	ongoing	NIL

M.TECH THESIS GUIDED:

Sl. No.	Name of the Scholar	Title of thesis	Year of Award
1	Ms.P.Sheethalakhmi	Soil-structure interaction of laterally loaded piles on sloping ground	2007
2	Mr.C. Senthil Kumar	Soil-structure interaction of laterally loaded pile groups on sloping ground	2008
3	Mr. B. Aravind Kumar	Soil-structure interaction of laterally loaded batter piles on sloping ground	2008
4	Mr.V. Prasath	Optimization of gravel for flexible pavement construction	2008

5	Mr.K.S. Arun	FE analysis of fixed offshore platform including soil structure interaction study	2009
6	Mr. Denzil Fernandez	Effect of lime stabilization on single pile pullout capacity	2009
7	Mr. G.Sandeep	FE analysis of a berthing structure with tie rod	2009
8	Mr. D.Sathyanarayanan	Dynamic analysis of fixed offshore platform including soil-structure interaction study	2010
9	Mr. M. Gokula Kirishnan	Effect of slope of lateral load capacity of pile under passive loading	2010
10	Ms. I.P.Subha	Effect of earthquake induced lateral soil movement on lateral load pile capacity	2010
11	Mr. Gireesha N T	Study on soil structure interface strength property	2011
12	Mr. Harish	Study on expansive soils and its improvement	2011
13	Mr. Mathusuthan Reddy	Performances of reinforced earthen embankment under seismic condition	2011
14	Mr. R.Veeravisagan	Lunar soil Simulant	2012
15	Mr. B. Jagadheeswaran	Investigation of pile behaviour under combined loading including lateral soil movement	2012
16	Mr. Adarshi. P.R	Effect of wheel load on underground tunnels	2012
17	V. Satish Durgakumar	Bearing capacity improvement using natural geotextiles	2013
18	K. Gowtham Kumar	Use of geotextiles in railway embankment to improve the life of the blast on soft clay soils	2013
19	Jose Joseph	Stabilization of bentonite clay using industrial waste	2013
20	Amy Susan George	Study on removal of heavy metals by Microorganism	2014
21	Uppu Prapulla Kumar	Effect of seawater intrusion on soil and water characteristics – A case study of Velankannai Area	2014
22	Ajitha R	Analysis of heavy metals in Urban soils of Tuticorin	2014
23	Shashank B S	Investigation of Microorganism Treated weak soils under dynamic loading	2014
24	Aravind G	Study on weak soil improvement by tyre chips	2014

25	Swarvana Ganguly	Swell and Shrink behaviour of stabilizer treated expansive soil	2014
26	Swapnil M. S.	Effect of Geo-Foam on soft ground bearing capacity and lateral earth pressure	2015
27	Gurunath Gudura	Stabilization of expansive soils by GGBS	2015
28	Hitesh Kumar	Pile behaviour on liquefiable soils	2015
29	Devahi. P	Effect of heavy metals on swelling soil behaviour	2015
30	Krishna Kumar Kharwar	Effect of paper mill waste on strength development of soft soil and stabilization	2016
31	Koneti Narendra	Effect of ground granulated blast furnace slag on stabilized embankment soils under seismic load	2016
32	Jatoth Jithender	Evaluation of resilient modulus based on laboratory and field test results	2016
33	Vignesh Kumar R	Behaviour of e-waste plastic stabilized weak soil under cyclic loading	2016
34	Sudheer Dasari	Evaluation of interface shear strength of landfill liner system and stability analysis of municipal solid waste landfill	2016
35	Bantupalli Sai Venkatesh	Effect of sea water on geoenvironmental properties of soils	2016
36	Rallabandi Sai Sasi Sekhar	Feasibility and Productivity studies of Precast Construction for Buildings	2019
37	Subash Andey	Use of Precast Foundation in Transmission Lines	2019
38	Karthi. M	E-Waste –Soil-Georeinforcement Interaction study for Reinforced Earth- Wall Applications	2019
39	VVG Sai Aditya	Cycle time analysis & optimization of resources, cost and time involved in marine piling construction	2020
40	Yagnya Prasad Pradhan	Seismic performance evaluation of e-waste-georeinforced embankment and pavement	2020

COURSES TEACHING:

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
 Analysis of Deep Foundation
 Ground Improvement Techniques
 Soil Exploration and Field Tests
 Soil Structure Interaction

INTERNATIONAL CONFERENCES ATTENDED/ PAPER PRESENTED:

- The Sixth International Conference on Coastal and Port Engineering in Developing Countries (**COPEDEC-2003**), 15-19 September 2003, Colombo, **Sri Lanka**.
- Fifth International Conference on Case History in Geotechnical Engineering (2004), University of Missouri – Rolla, **UAS**.
- 8th Pacific Conference on Earthquake Engineering (2007), NTU, **Singapore**.
- 18th Southeast Asian Geotechnical & Inaugural AGSSEA Conference, 29-31, May 2013, **Singapore**
- GeoShanghai-2014 China & Tongji University, May 25-30, 2014 at Shanghai, **China**
- 15th ARC conference on Soil Mechanics and Geotechnical Engineering, November 09-13, 2015 at Fukuoka, **Japan**
- GEOMATE-2015 Conference, November 16-18, 2015 at Osaka, **Japan**
- GeoMEast-2017 Conference, July 14-21, 2017 at Sharm-El-Sheikh, **Egypt**.
- Coastal Reservoir Special Session - International Association for Coastal Reservoir Research, August 16-17, 2017 at Kuala Lumpur, **Malaysia**.

INVITED AND GUEST LECTURE DELIVERED:

Sl. No.	Topic	Programme	College/ Organizer
1.	Port and Harbour Structures	Faculty & Student Development Programme	Vellore Institute of Technology (VIT) – Vellore (Sep’2004)
2.	Geotechnical Aspects for Civil Engineering Structures	Faculty & Student Development Programme	Govt. Polytechnic Aranthangi (18th Sep’2006)
3.	Non-linear soil structure interaction of piles on sloping ground	TEQIP fellowship	Queensland University of Technology (QUT), Australia (Nov’ 2007)
4.	Know your soil	Civil Engineering Federation of Tiruchirappalli (CEFTRON-2009)	Civil Engineering Federation of Tiruchirappalli (CEFTRON-2009)

			(24th March 2009)
5.	Earthquake Resistance Structures	Disaster Risk Management Programme	Pudukkottai District Collector under Disaster Risk Management Programme (DRMP), Pudukkottai District (5th June 2009)
6.	Geotechnical investigation	“Failure of structures” Staff Development Programme	Oxford Engineering College, Trichy (13th May 2010)
7.	Performance of Ground and Buildings during Earthquakes	National Programme for Capacity Building of Architects in Earthquake Risk Management (NPCBAERM)	Periyar Maniammani University, Vallam, Thanjavur (25th March 2010)
8.	Earthquake induced lateral soil movement on lateral pile capacity	Applications of Finite Element Method in Earthquake Engineering	VLB Janakiammal College of Engineering and Technology, Coimbatore (5th October, 2010)
9.	Geotechnical earthquake engineering	Disaster Risk Management Programme	Periyar Maniammani University, Vallam, Thanjavur (23rd Dec’ 2010)
10.	Pile foundations	“Modern methods and materials” Institute of Engineers India (IEI), Trichy chapter	Institute of Engineers India (IEI), Trichy chapter (10th September, 2011)
11.	Foundation Piling-Sustainable Construction	Workshop on Sustainable Construction Technology (key note speaker)	JJ College of Engineering and Technology, Trichy (25th January 2012)
12.	Recent advancement in ground improvement techniques - - Keynote lecture	Intl. workshop on Recent Advances in Civil Engineering-2012 (key note speaker)	Noorul Islam Univesrity, Inida (27.09.2012)
13.	Performance of lateral pile under Earthquake induced lateral soil movement - Keynote lecture	4 th International joint Conference on Advances in Civil, Electrical and Mechanical Engineering (key note speaker)	Sun College of Engineering and technology, Erachakulam, Kanyakumari (20th February 2013)
14.	Foundation Engineering – an overview	Faculty & Student Development Programme	RVS School of Engineering and Technology, Dindigul (12th October 2013)
15.	Measurement of Aquifer Parameters	2 days Workshop on contaminant transport modeling	NIT Trichy (25th & 26th October, 2013)

16.	Assessment of Pile Failures due to Excessive Settlement during Pile Load Test	International workshop on Structural Life assessment and failure diagnosis	NIT Trichy (6 th and 7 th December, 2013)
17.	Ground Improvement Techniques For Highways	One day National level workshop on Highway Engineering	Karur College of Engineering Karur (5 th February 2014)
18.	Soil Stabilization for Highway Project	Faculty development program on innovative Practices in Highway Design, construction, maintenance and safety	Thiagarajar College of Engineering, Madurai (20 th February 2014)
19.	Assessment of pile failures and strengthening of RC pile using FRP	One day workshop on Repair and Rehabilitation of Structures	CARE School of Engineering, Trichy (3 rd March 2014)
20.	Soil Sampling for Engineering Analysis	National Workshop on Water, Air & soil sampling and Analysis	NIT Calicut (12 th March 2014)
21.	Fibre Reinforced Polymer (FRP) Strengthened Reinforced Concrete Piles Under Lateral Loads	Symposium on Geotechnical Applications-2014	JNTU, IIT Hyderabad and IGS Hyderabad (4 th April 2014)
22.	Finite Element theory and application in geotechnical Engineering (Material modeling of soil behaviour)	Faculty & Student Development Programme	Division of Soil Mechanics and Foundation Engineering, Department of Civil Engineering, College of Engineering Guindy, Anna University, Chennai (21 st April 2014)
23.	Soil and Foundation Engineering	Faculty Development Programme	KALASALINGAM UNIVERSITY (8 th August 2014)
24.	Pile Foundation	Faculty & Student Development Programme	Karunya University, Coimbatore (26 th August 2014)
25.	Innovation in Civil Engineering	National Level Technical Symposium and Workshop (AMONEC-14)	University College of Engineering, Nagercoil. (A Constituent college of Anna University Chennai) (19 th September 2014)
26.	Performance monitoring of a berthing structure under service condition & Forensic investigation of a berthing structure under seismic condition – a field study	Two day International workshop on Forensic Engineering	Builders Association of India, Tirunelveli Centre (4 th & 5 th October 2014)

27.	Advance in Geotechnical Engineering – Performance monitoring of geotechnical constructions - Keynote lecture	Two day National Conference on Advances in Soil, Water and Environmental Engineering (ASWEE 2014)	SASTRA University, Thanjavur (10th October 2014)
28.	Challenges in Geotechnical Investigations – Keynote lecture	Pre-conference workshop on Geotechnical Investigation - Indian Geotechnical Conference -2014	JNTU Kakinada (IGC-2014) (17th December 2014)
29.	Later Load Capacity Enhancement of RC Piles using FRP under Static and Cyclic Loads - Keynote lecture	International Conference on Advances in Civil Engineering Materials and Processes (ICACEMAP-2015)	Coimbatore Institute of Technology (CIT) (7th January 2015)
30.	Soil Strength at Construction Site	Faculty & Student Development Programme – Geology Association	National College Trichy (3rd February 2015)
31.	Performance of Ground and Buildings during Earthquakes. and Recent advancement in ground improvement techniques	One Day Seminar on Disaster Risk Mitigation & Sustainable Construction	Kongunadu College of Engineering & Technology, THOTTIAM (14th February 2015)
32.	Long and short term mitigations of earthquake	DST-SERB Sponsored National level workshop on Seismic Hazard Assessment and Mitigation Techniques	Sri Shakthi Institute of Engineering and Technology Coimbatore (17th February 2015)
33.	Disaster mitigation - foundation perspective	Building Material & Technology Promotion Council, Government of India Sponsored Training Program in “Cost Effective and Disaster management Techniques”	Bharathidasan Institute of Technology Anna University, Trichy (26th February 2015)
34.	Concreting in Pile Foundation	One Day Workshop on Advances in Concrete technology and Structures	Peace Social Welfare Mission, Nagercoil (24th October 2015)
35.	Behaviour of laterally loaded rock socketed pile in multi-layered soil-rock profile	Second Japan-India Workshop in Geotechnical Engineering - Geotechnics for Resilient Infrastructure	Fukuoka University, Japan (14th November 2015)
36.	FRP Strengthened Reinforced Concrete Piles under Static Lateral Loads – A Field Study – Keynote lecture	Fifth International Conference on Geotechnique, Construction Materials and Environment	GEOMATE, Osaka, Japan (16 to 18 November 2015)
37.	Soil Mechanics- Soil Classification and shear strength	Faculty Development Programme	Ramco Institute of Technology, Rajapalayam (2nd December 2015)

38.	Evaluation of interface shear strength of composite liner system and stability analysis for a landfill lining system	One day workshop on Environmental Geotechnology	SASTRA University, Thanjavur (27th February 2016)
39.	Performance of FRP Strengthened/ Retrofitted RC Piles Subjected to Lateral Loads	National Conference on Innovative Materials and Techniques in Civil Engineering	Karunya University, Coimbatore (April 6-7, 2016)
40.	Pile Foundation Theory and Practices	One week Short term training programme On Foundation engineering - Theory and practices	Bannari Amman Institute of Technology (13-18 June 2016)
41.	Earthquake soil structure interaction analysis	Two days national workshop on soil structure interaction problems and management	KALASALINGAM UNIVERSITY (2nd September 2016)
42.	Exposure and Job Opportunities in Civil & Geotechnical Engineering	One Day Workshop on Exposure and Job Opportunities in Geotechnical Engineering	KNOWLEDGE INSTITUTE OF TECHNOLOGY Salem (17th September 2016)
43.	Research Avenues in geotechnical Engineering	National level Technical Seminar On Research Avenues in Civil Engineering	Erode Sengunthar Engineering College (24th September 2016)
44.	Assessment of pile failures due to excessive settlement during pile load test	STTP on Forensic Geotechnical Engineering	SASTRA University, Thanjavur (6th December 2016)
45.	Research Opportunities in Geotechnical Engineering	Research Colloquium on Research Opportunities in Geotechnical Engineering	College of Engineering Trikaripur, Kerala (21st January 2017)
46.	Criteria and failures of a few foundation structures – related case studies	SSTP – Infrastructure Management	ISRO Bangalore (4th February 2017)
47.	Challenges in Geotechnical Investigation	One-day National Seminar on Geotechnical Investigations	Vignan's Foundation for Science Technology & Research University (VFSTRU), Guntur (18th February, 2017)
48.	Instrumented Pile Load Tests For Both Vertical And Horizontal Load In Soft Marine Clay	DFI Seminar on “Pile Foundations – Advances In Design And Construction Practices	SVNIT, Surat (27th May 2017)
49.	Modernization of ports – Innovation in pile foundation	Preconference workshop on Modernization of Ports –	IIT Madras (16th Feb'2018)

		International Conference in Ocean Engineering (ICOE - 2018)	
50.	Modern construction material for RC Strengthened/ Retrofitted – Role of Fibre Reinforcement	AICTE – ISTE Sponsored Programme on Modern Construction Materials and Construction Methods (21 -26, May 2018)	Valliammai Engineering College, Chennai (21 st May 2018)
51.	Analysis of Rock-Socketed Monopiles Under Lateral Load	PLAXIS User Meet	Ram Caddsys, Chennai at Delhi (30 th May 2018)
52.	Special Course on “Analysis and Design of Pile Foundation”	Special Course- 1 Credit	MEPCO Schlenk Engineering College, Sivakasi (28 th & 29 th , September 2018)
53.	Dynamic Soil-pile interaction	National Seminar on Emerging Trends in Soil Structure Interaction	K.S.Rangasamy College of Technology Tiruchengode (6 th October, 2018)

Workshop/Training Programmes/Summer/Winter Schools/Conferences organized

S.No	Title	Sponsoring authority	Duration
1	One day workshop on Geotechnical investigation and decision making in foundations	TEQIP	23 rd October 2007
2	Two day workshop on Roll of Geotechnical Engineering on Infrastructure Development	Self supported	29 th & 30 th April 2013
3	Short term course on Reliability Analysis and Design of Sub-structures	TEQIP-II	3 rd & 4 th , October 2013
4	Two day workshop on challenges in geotechnical investigation and foundation design	TEQIP-II & IGS- Trichy	14 th & 15 th February 2014
5	Two day International Workshop on Health Monitoring of Civil Engineering Structures	TEQIP-II & IGS- Trichy	4 th & 5 th November, 2014
6	Short term course on subsurface investigations for pavements and buildings	TEQIP-II & IGS- Trichy	10 th – 12 th March 2016
7	Terzaghi memorial one day seminar on Engineering on Soft Ground	NIT Trichy & IGS- Trichy	1 st October 2016
8.	Pre-conference Workshop on Plaxis 2D and 3D	Ram Caddsys, Chennai, NIT Trichy and IGS Trichy chapter	8 th and 9 th March 2017

9.	6 th Indian Young Geotechnical Engineers Conference	NIT Trichy and IGS Trichy chapter	10 th & 11 th March 2017
10.	Terzaghi memorial one day seminar on Dynamics of soils and foundations	NIT Trichy & IGS- Trichy	14 th October 2017
11.	One week short term course on Advanced Geotechnical Engineering – Theory and Practices	Self Supported	27 th November – 1 st December 2017
12.	Two day workshop on Recent Trends in Geotechnical Engineering	NIT Trichy & IGS- Trichy	7 th & 8 th June 2019
13	One week GiAN Course on “Seismic Soil-Pile Interaction”	MHRD-NIT Trichy	5 th to 9 th , August 2019

AWARDS/HONORS RECEIVED:

- GATE scholar (1998-2000), Anna University
- MHRD funded research scholar (2001-2004), Indian Institute of Technology, Madras
- **IGS-SMT INDRA JOSHI BIENNIAL PRICE AWARD** for the best paper published in National/International Conferences for the paper entitled “*Behaviour of Instrumented Pile under Vertical Load- A Field Study*” published in the proceeding of IGC-2004, Warangal
- Department of Science and Technology (DST) Fast Track **Young Scientist Award** (2007-2010)
- National Institute of Technology, Tiruchirappalli, NITT- TEQIP- 2007, funded short term Post **Doctoral Research follow at Queensland University of Technology, Australia**
- Appointed as **External Expert Reviewer of HUDCO (Tamil Nadu) Projects** by the Ministry of Housing and Urban Poverty Alleviation (MoHUPA)
- **Founder Chairman of Indian Geotechnical Society (IGS-Trichy) Trichy Chapter**
- **Keynote Paper Award** – GEOMATE Conference 2015 at Osaka, Japan
- **IGS Kochi Chapter YGE Award for the Best Paper on Deep Foundation for the paper entitled “Behaviour of laterally loaded socketed pile in multi-layered soil-rock profile”.**
- **Chairman** – Organizing committee of 6th Indian Young Geotechnical Engineers Conference
- **NIT Trichy Achiever Award – for research publications in 2016**
- **NIT Trichy Achiever Award – for consultancy projects in 2016,2017,2018**
- **NIT Trichy Achiever Award – for research projects in 2018**
- **NIT Trichy Achiever Award – for maximum citation in 2018**
- **Recipient of BHARAT VIKAS AWARD -2018**
- **Recipient of VDGGOOD International Scientist Awards on Engineering-2020**

RESEARCH PROJECTS:

Sl.No	Project Title	Funded By	Project Duration	Amount Rs. in lakhs	Status
1.	Non-Linear Soil-Structure Interaction of Piles on Sloping Ground	Department of Science and Technology (DST)	2007-2010	10.16	Completed
2.	Evaluation of Geotechnical Properties of Lunar Soil Simulant (LSS) for Chandrayaan- 2 Mission - Lunar Terrain Test Facility	ISRO –ISAC, Bangalore	Sep'2011 – April' 2012	3.97	Completed
3.	Study on External Dump Slope Stabilization/ Drainage System for Mine – II, NLC	NLC, Neyveli	Feb'2012 – Dec' 2012	12.75	Completed
4.	Slope stability analysis and design for Mine-1A, NLC	NLC, Neyveli	June'2012 –Dec' 2012	6.50	Completed
5.	Characterization of Lunar Soil Simulant for Evaluating Design Criteria of Lunar Structures	ISRO –RESPOND	Sep'2018 – Aug'2021	18.36	Ongoing
6.	Soil-Monopile-Wave Interaction study for monopile supported offshore wind turbine	SPARC-II, MHRD	48.26 lakh/2019		UK Partner Proposal under review (Proposal-Id : 2652)
7.	Geotechnical techniques for the preservation of monuments and historic sites in India	SPARC-II, MHRD	47.06 lakh/2019		Italy Partner Proposal under review (Proposal-Id : 2641)

MEMBERSHIP IN PROFESSIONAL SOCIETIES:

Organization	Year of Induction	Grade of Membership
American Society of Civil Engineers (ASCE) (<i>M. ID 11987887</i>)	2004	Member
Institute of Civil Engineers, London (ICE) (<i>M. ID 61930814</i>)	2005	Member
International Society for Soil Mechanics and Geotechnical Engineering (ISSMGE) (<i>IND14DM-0054</i>)	2014	Life Member
Indian Geotechnical Society (IGS) (<i>LM-2207, DM-54</i>)	2004/2013	Life Member/Donor Member
Indian Society for Technical Education (ISTE) (<i>LM-51650</i>)	2006	Life Member
Indian Road Congress (IRC) (<i>M-34165</i>)	2007	Member
Institute of Engineers, India (IEI) (<i>F-1273104</i>)	2009	Life fellow
Deep Foundation Institute (DFI)	2014	Life Member

ASSOCIATE EDITOR:

- Journal of Innovative Infrastructure Solutions, ISSN: 2364-4176 (print version), ISSN: 2364-4184 (electronic version), Springer Publication (2015-2019)

EDITORIAL BOARD MEMBER:

- Journal of Civil Engineering and Architecture (ISSN 1934-7359)

JOURNAL REVIEWER

- Geotechnical Testing Journal, **ASTM**
- International Journal of Geomechanics, **ASCE**
- Journal of Materials in Civil Engineering, **ASCE**
- Journal of Performance of Constructed Facilities, **ASCE**
- International Biodeterioration & Biodegradation, **Elsevier**
- Journal of Earthquake Engineering, **Taylor & Francis**
- Indian Geotechnical Journal, **Springer**
- Journal of The Institution of Engineers (India): Series A, **Springer**
- The Arabian Journal for Science and Engineering, **Springer**
- Geomechanics and Engineering, An International Journal, **Techno Press**
- International Journal of Naval Architecture and Ocean Engineering, **Elsevier**
- Bulletin of Engineering Geology and the Environment, **Springer**
- Journal of Ocean Engineering and Science, **Elsevier**
- Marine Georesources & Geotechnology, **Taylor & Francis**
- Applied Ocean Research, **Elsevier**
- Geomechanics and Geoengineering: An International Journal, **Taylor & Francis**
- Arabian Journal of Geosciences, **Springer**
- International Journal of Geosynthetics and Ground Engineering, **Springer**
- Innovative Infrastructure Solutions, **Springer**
- International Journal of Civil Engineering, **Springer**
- Earthquake Engineering and Engineering Vibration, **Springer**

OTHER ACTIVITIES

Laboratory Development:

- 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**).
- 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**)

- 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**).
- Developed a ***state of the art geotechnical lab*** for undergraduate including all new digital/ microprocessor based equipments (**Cost: 50 lakhs**)
- Purchased many field Equipments like SPT, CPT, Field vane shear, inclinometer, earth resistivity, LWD, SASW, GPR and etc (**Cost: Rs.50 lakhs**)

Administrative and Outside Activities:

- **Lab In-Charge**, Geotechnical Engineering Lab (2006 to 2017)
- **Programme Coordinator M.Tech.** Construction Technology and Management (L&T Course) (2014 to 2016)
- **Programme Coordinator M.Tech.** Geotechnical Engineering (2020 – till date)
- **Class Committee Chairman** of M.Tech. (EE) (2012-2013, 2019 to till date)
- **Class Committee Chairman** of M.Tech. (SE) (2018-2019)
- **Faculty Adviser**, Civil Engineering Association, NIT Trichy (2015-2016)
- **Member** of M.Tech Project Review Committee
- **Member** of Institute Development Committee (**Gust House & Security**) (2008-2010)
- **Member** of Estate Maintenance Committee (2011-2012)
- **Member** of Institute Industry Interaction Committee (2013 to 2015)
- **Member** of Smart Campus Development Committee (2013 to 2015)
- **Associate Dean (Planning and Development)** (2015 to 2017)
- **Estate Officer**, NIT Trichy (2015 to 2017)
- **Core Committee Member**, NBA visit (2018-2019)
- **Core Committee Member**, Convocation (2018-2019)
- **Core Committee Member**, Institute Day (2018-2019)
- **Member BoS**, Anna University Chennai
- **Member BoS**, NIT Puducherry
- **Member BoS**, Pondicherry University
- **Member BoS**, Gandhigram University
- **Member Faculty Selection Committee**, NIT Surat
- **Member Temp. Faculty Selection Committee**, NIT Puducherry
- **Member Faculty Selection Committee**, BRAIT, A & N Islands
- **Member Selection Committee** (CAO, FAO &AO), IIM Trichy
- **Member BWC, IIM Trichy** (Aug' 2017 to till date)
- **Member BOG, NIT Trichy** (Nov' 2017 to Nov'2019)
- **Member BWC, NIT Trichy** (Dec' 2017 to Nov'2019)
- **Member, AICET Inspection Committee** (2018 to till date)

MAJOR CONSULTANCY PROJECTS:

Sl. No.	Title	Sponsoring Agency	Status
1.	Geotechnical investigations and suitable foundation recommendation for BHEL Expansion Works at Trichy and Thirumayam, Tamilnadu	BHEL-Trichy	Completed (2009 & 2010)
2.	Safe Barrier Design for Open Mining at Mine-II, Neyveli, India	NLC, Neyveli	Completed (2009)
3.	Geotechnical investigations and foundation design for fish landing centers at various places in the East Coast of Tamilnadu under Tsunami Project Implementation	Tsunami Project Implementation Division funded by World Bank	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	Completed (2010 & 2011)
5	Estimation of dynamic soil properties for cooler design for Ultratech Cement Plant at Ariyalur	Ultratech Cement Limited	Completed (2011)
6	Detailed Geotechnical investigation and foundation recommendation for Yathri Nivas, Srirangam Temple	PWD Trichy	Completed (2012)
7	Detailed Geotechnical investigation and foundation recommendation for IOCL Mounded Storage at Cochin Bottling	IOCL-Cochin	Completed (2012)
8	Detailed Geotechnical investigation and foundation recommendation for the proposed new Naval Land at Rameswaram	Naval Board	Completed (2012)
9	Detailed Geotechnical investigation and foundation recommendation for the proposed new Naval Land at Nagappattinam	Naval Board	Completed (2012)
10	Detailed Geotechnical investigation and pile foundation analysis for the proposed Railway B.G. line Major Bridge between Nagappattinam and Thiruthuraiipoondi	Southern Railway	Completed (2012)
11	Inspection of pile load test and plate load test for the proposed Railway B.G. line between Nagappattinam and Thiruthuraiipoondi	Southern Railway	Completed (2012 & 13)
12	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	Completed (2014)

13	Forensic geotechnical investigation for failed costal diaphragm wall at Nagappattinam fishing harbor	Tamilnadu Fisheries Department	Completed (2014)
14	Analysis and design of pile foundation for the proposed CPCL oil storage tank at Nagappattinam	CPCL	Completed (2014)
15	Geotechnical investigations and foundation recommendation for the proposed New IIM Trichy campus	IIM Trichy	Completed (2014)
16	Geotechnical investigation for the proposed buildings and diaphragm wall at Modasalodai site in Cuddalore district	Tamilnadu Fisheries Department	Completed (2014)
17	Geotechnical investigation and foundation recommendation for the proposed facilities for submarine rockets RGB-12 & RGB-60 at HAPP Trichy	Military Engineering Services/ Garrison Engineering	Completed (2014)
18	Geotechnical investigation and foundation recommendation for the proposed new bus stand at Srirangam, Trichy	M/s. Jones Lang Lasalle Chennai	Completed (2014)
19	Geotechnical investigation and foundation recommendation for the proposed CAMFIL expansion work at Asoor, Trichy	CAMFIL Farr Air Filtration India Pvt. Ltd. Asoor, Trichy	Completed (2014)
20	Conducting of Sub-soil Investigation at 110KV SS Mayiladuthurai for Construction Staff Quarters for KGTPS Staff Maruthur	SE, KGTPS Kuttalam	Completed (2014)
21	Detailed Geotechnical investigation and foundation design for the proposed Construction of Dwelling Units at Thimmarayachamuthiram, and Melapandamangalam, Trichy.	Tamilnadu Slum Clearance Board, Trichy	Completed (2014)
22	Design of Sand drains and performance monitoring of railway embankment between Nagapattinam and Thiruthuraiipoondi, Ch. 18000 to 23000	M/s. RR Construction (Railway Contractor)	Completed (2014)
23	Design of Prefabricated Vertical Drains and performance monitoring of railway embankment between Nagapattinam and Thiruthuraiipoondi, Ch. 13000 to 18000	M/s. Janavi Granites & Builders (Railway Contractor)	Completed (2014)
24	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	Completed (2015)

25	Detailed geotechnical investigation and pile foundation analysis and design of the proposed Hi-Tech Gowdon at Nagappatinam project including ground improvement	Tamilnadu Civil Supply Corporation (TNCSC)	Completed (2015)
26	Geotechnical investigation and foundation recommendation for the proposed buildings at various locations in the Kumbakonam Municipality	The Commissioner Kumbakonam Municipality	Completed (2015)
27	Geotechnical Investigation and foundation recommendation for the Proposed Construction of subway	Southern Railway Tiruchchirappalli	Completed (2015)
28	Soil suitability study for embankment formation of NH67	Madhucon Projects Ltd.	Completed (2015)
29	Geotechnical investigation and foundation recommendation-BHEL project	BHEL Trichy	Completed (2015)
30	Soil analysis for railway embankment formation suitability study	Southern Railway Tiruchchirappalli	Completed (2015)
31	Geotechnical investigation and foundation recommendation-Duraisamipuram, Vannarapettai , Sambathottam and Ariyalur	Tamilnadu Slum Clearance Board, Trichy	Completed (2015 & 2016)
32	Geotechnical Investigation and pile analysis for proposed erection of seamless communication tower by Fishing Harbour division	Fishing Harbour project division, Chennai	Completed (2016)
33	Subgrade soil suitability and soil stabilization study for Air Force Station Sular	Garrison Engineer, Military Engineering Service	Completed (2016)
34	Geotechnical investigation and foundation recommendation- Narimedu in Pudukkottai Town	Tamilnadu Slum Clearance Board, Trichy	Completed (2017)
35	Geotechnical consultancy for Trichy Airport expansion work	AAI-Trichy	Completed (2018)
36	Geotechnical investigation and foundation recommendation for Tamilnadu Slum Clearance Board projects at Melur and Theni	Tamilnadu Slum Clearance Board, Trichy	Completed (2018)
37	Geotechnical consultancy for Madurai Airport expansion work	AAI-Madurai	Completed (2018)
38	Investigation of Cochin Airport Runway, Taxiway, Apron pavement stripping due to flood using GPR	Cochin Airport	Completed (2019)
39	Pile capacity analysis for the proposed Honnavar Port in Karnataka	L & T Infrastructure Engineering Ltd.	Completed (2019)

40	Proof checking of minor bridges and retaining wall design of the proposed Samayapuram Service Road, NH45.	Trichy Padalur Tollways Pvt.Ltd.	Completed (2019)
41	Geotechnical consultancy Services for Coimbatore Airport expansion work	AAI-Coimbatore	Completed (2019)
42	Geotechnical consultant for the proposed LOKICHAR-LAMU crude oil pipeline Project at Kenya (International consultancy Project)	SGS Kenya	Completed (2020)
43	Geotechnical consultancy Services for Madurai Airport expansion work	AAI-Madurai	Ongoing

LIST OF PUBLICATIONS

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.

MONOGRAPH:

- 1) **Muthukkumaran, K.** and Subha, I.P. (2010) “Earthquake Soil-Structure Interaction”, ISBN -978-3-639-21612-7, VDM Publishing Company, Germany.

BOOK CHAPTER:

- 1) **Muthukkumaran, K** and Gokul Khrishnan (2010), “Numerical Methods in Geotechnical Engineering” edited by Thomas Benz and Steinar Nordal, CRC Press 2000, Taylor and Francis Group, ISBN: 978-0-415-59239-0, DOI: 10.1201/b10551-113. **Chapter 100. Finite difference analysis of piles on sloping ground under passive loading.**
- 2) Prakash, A. R and **Muthukkumaran, K** (2017) “Sustainable Civil Infrastructures - Soil dynamic and Soil-Structure Interaction for Resilient Infrastructure” - Springer Nature, ISBN 978-3-319-63542-2 ISBN 978-3-319-63543-9 (eBook) DOI 10.1007/978-3-319-63543-9_5. **Chapter 5: Lateral Response of Socketed Pile under Cyclic Load.**

- 3) Deendayal Rathod, **Muthukkumaran, K.** and Sitharam, T.G. (2017) “Sustainable Civil Infrastructures - Soil dynamic and Soil-Structure Interaction for Resilient Infrastructure” - Springer Nature, ISBN 978-3-319-63542-2 ISBN 978-3-319-63543-9 (eBook) DOI 10.1007/978-3-319-63543-9_13. **Chapter 13: Behaviour of Laterally Loaded Piles in Soft Clay on Sloping Ground.**
- 4) Sivaraman, S. and Muthukkumaran, K. (2017) “Sustainable Civil Infrastructures - Soil dynamic and Soil-Structure Interaction for Resilient Infrastructure” - Springer Nature, ISBN 978-3-319-63542-2 ISBN 978-3-319-63543-9 (eBook) DOI 10.1007/978-3-319-63543-9_17. **Chapter 17: Field Study on Response of Laterally Loaded pile in clayey soil.**
- 5) Manivannan Vinothkumar and Muthukkumaran, K. (2017) “Sustainable Civil Infrastructures - Soil dynamic and Soil-Structure Interaction for Resilient Infrastructure” - Springer Nature, ISBN 978-3-319-63542-2 ISBN 978-3-319-63543-9 (eBook) DOI 10.1007/978-3-319-63543-9_20. **Chapter 20: Dynamic Behavior of Marine Clay Soil Improved by Vertical Sand Drain.**

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1. Anu Sendhi, **Muthukkumaran, K.**, Punniyamoorthy, M., Veerapandian, S.A. and Sangeetha, G. (2020) “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*, **Springer**, (MTAP-D-19-02857-R2, In press) DOI: [10.1007/s11042-020-10201-3](https://doi.org/10.1007/s11042-020-10201-3)
2. **Muthukkumaran, K.**, Nandhagopal, A.R. and Umanath, U (2020) “Evaluation of Pavement Stripping using Ground Penetrating Radar – A Case Study”, *Indian Geotechnical Journal*, **Springer**, (Ms. No. IGTJ-D-20-00215R1, In press). DOI: [10.1007/s40098-020-00460-0](https://doi.org/10.1007/s40098-020-00460-0).
3. Venugopal, I., Prabu, T., **Muthukkumaran, K.** and Annadurai, M. (2020) “Development of a Novel Lunar Highland Soil Simulant (Lss-Isac-1) and Its Geotechnical Properties for Chandrayaan Missions”, *Planetary and Space Science*, **Elsevier**, (PSS_2020_120). <https://doi.org/10.1016/j.pss.2020.105116>.
4. Venugopal, I., **Muthukkumaran, K.**, Sriram, K.V., Anbazhagan, S., Prabu, T., Arivazhagan, S. and Sanjay Kumar Shukla. (2020) “Invention of Indian Moon Soil (Lunar Highland Soil Simulant) for Chandrayaan Missions”, *International of Geosynthetics and Ground Engineering*, **Springer**, (IGGE-D-20-00154, In press). DOI: [10.1007/s40891-020-00231-0](https://doi.org/10.1007/s40891-020-00231-0).
5. Sivaraman, S. and **Muthukkumaran, K.** (2020) “Non-Linear Performance Analysis of Free Head Piles in Consolidating Soil Subjected to Lateral Loads” *Engineering Science and Technology, an International Journal*, **Elsevier**, (JESTCH_2020_1335). <https://doi.org/10.1016/j.jestch.2020.09.007>.

6. A R Nandhagopal and **Muthukkumaran, K.** (2020) “Effect of Rock-Socketing on Laterally Loaded Piles Installed in the Proximity of Sloping Ground” *International Journal of Geomechanics*, **ASCE**, (GMENG-5704-R2, In press). [10.1061/\(ASCE\)GM.1943-5622.0001895](https://doi.org/10.1061/(ASCE)GM.1943-5622.0001895).
7. Venugopal, I., **Muthukkumaran, K.**, Annadurai, M., Prabu, T. and Anbazhagan, S. (2020) “Study on Geomechanical Properties of Lunar Soil Simulant (LSS-ISAC-1) for Chandrayaan Mission”, *Advances in Space Research*, **Elsevier**, <https://doi.org/10.1016/j.asr.2020.08.021>.
8. **Muthukkumaran, K.** and Anusudha. V. (2020) “Study on behaviour of copper slag – lime treated clay under static and dynamic loading”, *Journal of Materials in Civil Engineering*, **ASCE**, [https://doi.org/10.1061/\(ASCE\)MT.1943-5533.0003259](https://doi.org/10.1061/(ASCE)MT.1943-5533.0003259). (ASCE Publication).
9. **Muthukkumaran, K.**, Sentamil Selvan, S. (2020), “Stabilization of Montmorillonite-Rich Bentonite Clay Using Neem Leaves Ash”. *Int. J. of Geosynth. and Ground Eng.* **6**, 11 (2020). <https://doi.org/10.1007/s40891-020-0194-6>. (Springer Publication).
10. Anu Sendhi, **Muthukkumaran, K.**, Punniyamoorthy, M., Veerapandian, S.A. and Sangeetha, G. (2020), “Deciphering the frozen music in building architecture and vice-versa process”, *Multimedia Tools and Applications*. <https://doi.org/10.1007/s11042-019-08316-3>. (Springer Publication).
11. Deendayal, R., **Muthukkumaran, K.** and Sitharam, T.G. (2020), “Analysis of laterally loaded group of piles located on sloping ground”, *International Journal of Geotechnical Engineering*, 14(5), pp. 580-588. [DOI: 10.1080/19386362.2018.1448521](https://doi.org/10.1080/19386362.2018.1448521). (Taylor & Francis Publication)
12. Deendayal, R., **Muthukkumaran, K.** and Sitharam, T.G. (2019), “Behavior of a laterally loaded single pile located on sloping ground: An Experimental investigation”, *International Journal of Geomechanics*, **ASCE**, ([https://doi.org/10.1061/\(ASCE\)GM.1943-5622.0001381](https://doi.org/10.1061/(ASCE)GM.1943-5622.0001381)). (ASCE Publication)
13. Deendayal, R., **Muthukkumaran, K.** and Sitharam, T.G. (2018), “Effect of Slope on *p*-*y* Curves for Laterally Loaded Piles in Soft Clay”, *International Journal of Geotechnical and Geological Engineering*, <https://doi.org/10.1007/s10706-017-0405-7>. (Springer Publication)
14. Deendayal, R. **Muthukkumaran, K.** and Sitharam, T.G. (2017) “Development of non-dimension *p*-*y* curves for laterally loaded piles in sloping ground”, *Indian Geotechnical Journal*, Vol. 47, No. 1, pp 47-56. (Springer Publication)
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16. Murugan, M., **Muthukkumaran, K.** and Natarajan, C. (2017) ‘FRP-Strengthened RC Piles. I: Piles under Static Lateral Loads’, *Journal of Performance of Constructed Facilities*, ASCE, Vol. 31, issue 3, [https://doi.org/10.1061/\(ASCE\)CF.1943-5509.0000990](https://doi.org/10.1061/(ASCE)CF.1943-5509.0000990). (ASCE Publication)
17. Murugan, M., Natarajan, C. and **Muthukkumaran, K.** (2016) ” Shear modulus of soil based on surface roughness of construction materials”, *Advances in Natural and Applied Sciences*, Vol. 10, No. 7 SE, pp. 386-392.
18. Murugan, M., Natarajan, C. and **Muthukkumaran, K.** (2016) ” Review on the behaviour of laterally loaded piles”, *Advances in Natural and Applied Sciences*, Vol. 10, No. 7 SE, pp. 379-386.
19. Vinothkumar, M. and **Muthukkumaran, K** (2016) “Slope Stability Evaluation of Railway Embankment by Limit Equilibrium and Finite Element Method” *International Journal of Earth Science and Engineering*, Vol. 9, No.6, ISSN 0974-5904 08(03).
20. Sindhujha, R. and **Muthukkumaran, K** (2016) “Behaviour of Problematic Soil Stabilized with Sisal Fibers” *International Journal of Earth Science and Engineering*, Vol. 9, No.6, ISSN 0974-5904 08(03).
21. Jegatheeswaran, B and **Muthukkumaran, K.** (2016) “Behavior of pile due to combined loading with lateral soil movement”, *International Journal of Geo-Engineering*, Vol. 7, Issue 1, pp. 1-10. (Springer Publication)
22. **Muthukkumaran, K.**, Keerthi Raaj S. and Vinoth Kumar, M. (2016) “Assessment of pile failures due to excessive settlement during pile load test” *JGS-SP*, Vol. 2, No. 73, pp 2520-2524. <http://doi.org/10.3208/jgssp.TC302-09>. (Japanese Geotechnical Society Publication)
23. **Muthukkumaran, K.** and Shashank, B.S. (2016) “Durability of microbially induced calcite precipitation (MICP) treated cohesionless soils” *JGS-SP*, Vol. 2, No. 56, pp 1946-1949. DOI: <http://doi.org/10.3208/jgssp.IND-23>. (Japanese Geotechnical Society Publication)
24. **Muthukkumaran, K.** and Prakash, A.R. (2016)” Behaviour of laterally loaded socketed pile in multi-layered soil-rock profile” *JGS-SP*, Vol. 3, No. 2, pp 51-55. <http://doi.org/10.3208/jgssp.v03.i07> (Japanese Geotechnical Society Publication)
25. Deendayal, R., Sitharam, T.G. and **Muthukkumaran, K.** (2016) “Effect of earthquake on a single pile located in sloping ground”, *International Journal of Geotechnical Earthquake Engineering*, Vol. 7, No.1, pp 55-71. (IGI Global Publication).
26. Deendayal, R. **Muthukkumaran, K.** and Sitharam, T.G. (2016) “Dynamic Response of Single Pile Located in Soft Clay underlay by Sand”. *International Journal of GEOMATE*, Vol. 11, Issue 26, pp. 2563-2567. (GEOMATE Publication)

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28. Premalatha, P.V. **Muthukkumaran, K** and Jayabalan, P. (2015) “Experimental Study on behaviour of piles in berthing structure”. *Proceedings of the Institution of Civil Engineers - Maritime Engineering*, Vol. 168, No.4, pp. 182-193. [DOI: 10.1680/jmaen.13.00012](https://doi.org/10.1680/jmaen.13.00012). (ICE London Publication).
29. Deendayal, R. **Muthukkumaran, K.** and Sitharam, T.G. (2015) “Response of laterally loaded pile in soft clay on sloping ground”. *International Journal of Geotechnical Engineering*. Vol. 10, No.1, pp 10-22, DOI: <http://dx.doi.org/10.1179/1939787915Y.0000000013>. (Taylor & Francis Publication)
30. **Muthukkumaran, K** and Almas Begum, N. (2015) “Experimental investigation of single model pile subjected lateral load in sloping ground”, *International Journal of Geotechnical and Geological Engineering*, Vol. 33, No.4, pp- 935-946. [DOI:10.1007/s10706-015-9875-7](https://doi.org/10.1007/s10706-015-9875-7). (Springer Publication)
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44. Harishkumar. K. and **Muthukkumaran, K.** (2011). “Study on swelling soil behaviour and its improvements”, *International Journal of Earth Sciences and Engineering*, Vol. 04, No. 06 SPL, October 2011, pp. 19-25.
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