

# Dr. R. Shivashankar

(<https://vidwan.inflibnet.ac.in/profile/54723>)



Professor (HAG)  
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## (1) BIOGRAPHICAL DATA

### (A) EDUCATION

- (i) SSLC (X Standard)                      Vijaya High School, Jayanagar, Bangalore-11  
June 1968- June 1971                      (Awarded 'Best Student' of the Year 1971), First Class
- (ii) 2 Year PUC                                  National College, Basavanagudi, Bangalore-4  
June 1971-June 1973                      First Class Distinction
- (iii) B.E. (Civil Engg.)                      University Visvesvaraya College of Engg.  
[5 years course]                              (UVCE) Bangalore University, Bangalore-56  
July 1973-July 1978                      First Class Distinction and top rank in all 10 semesters
- (iv) M.Tech. (Civil Engg)                      Indian Institute of Technology, Madras (IITM)  
[2 years course]                              Subject: Soil Mechanics & Foundation Engineering  
August 1978-August 1980                      First Class
- (v) **Doctor of Engineering**                      **Asian Instt. of Technology (AIT), Bangkok, Thailand**  
D.Eng. (Geotechnical Engg.)                      **(Japanese Govt. Scholarship & USAID funded project)**  
May 1987-December 1991                      totally 18 credits earned through course work

Title of Dissertation: "Behavior of Mechanically Stabilized Earth (MSE) Embankment with Poor Quality Backfills on Soft Clay Deposits, including a Study of the Pullout Resistances" [AIT Diss.No.GT-90-3]

Doctoral Advisor: **Prof. Dennes T. Bergado**, (Ph.D. Utah State Uni., USA), Professor of Geotechnical and Earth Resources Engineering (GTE) at the School of Engineering and Technology (SET) of the Asian Institute of Technology (AIT), Bangkok, Thailand (*Presently Emeritus Professor at AIT*)

Doctoral Committee: (1) Prof. A. S. Balasubramaniam, Ph.D. (Cambridge)  
(2) Prof. Noppadol Phienwej, Ph.D. (UIUC)  
(3) Prof. Pisidhi Karasudhi, Ph.D.(North-western)  
(4) Prof. Jiro Kuwano, Ph.D. (Tokyo) / Prof. Yusuke Honjo, Ph.D.(MIT-USA)

External Examiners: (1) **Prof. Robert D. Holtz, University of Washington, Seattle, WA, USA** &  
(2) **Prof. J. Richard Bell, Oregon State University, USA**

AIT Ranking: U-multirank of the EU ranks AIT as the world top in term of international dimension  
<http://www.umultirank.org/#!/readymade?trackType=illustrative&sightMode=undefined&ranking=9&sortCol=overallPerformance&sortOrder=desc&section=illustrativeRanking>

<https://goo.gl/1lFXzp>

**(B) EMPLOYMENT HISTORY AND SIGNIFICANT PROFESSIONAL AND ADMINISTRATIVE POSITIONS HELD**

**N.I.T.K. SURATHKAL (FEB 1995 TO DATE)**

- (i) Professor HAG since October 2018
- (ii) 16 February 1995 to October 2018  
Employer: National Institute of Technology Karnataka (NITK), Surathkal  
[erstwhile Karnataka Regional Engg. College (KREC), Surathkal]  
Positions held: Professor (June 2002 to October 2018);  
Assistant Professor (February 1995 to June 2002)
- (iii) Professor i/c of Training & Placement, NITK, March 04, 2011 to March 31, 2014
- (iv) Dean (R&D), NITK, 1<sup>st</sup> June 2007 to 31<sup>st</sup> December 2010. [First ever Dean \(R&D\) of NITK](#)  
Responsible for signing a number of MOUs with foreign universities, organizations such as BARC, CPRI, NAL, NI, etc.
- (v) Editor-in-Chief of NITK Research Bulletin, June 2007 to December 2010
- (vi) Chairman, Research Advisory Board (RAB), NITK Surathkal, June 2007 to Dec. 2010
- (vii) Chairman, Centre for Continuing Education, NITK, Surathkal, 1-7-2002 to 24-1-2008 (& Coordinator for IGNOU study Centre (1317P) at NITK for Engineering)
- (viii) Head of Department of Civil Engg., NITK, Surathkal, June 2003 to Sept.2006 [Chairman of DRPC, DPGC, DUGC and other academic bodies, member of BOS, Senate member etc.].
- (ix) Presently Chairman of Surathkal Chapter of the Indian Geotechnical Society. In the past had served as Secretary and Treasurer.
- (x) Served as Chairman of Civil Engineering Association, NITK Surathkal (2003-06)
- (xi) Senate Member of NITK Senate since 2004
- (xii) Faculty Advisor of M.Tech (Geotechnical Engineering)
- (xiii) Recognized as a Chartered Engineer (India) by the Institute of Engineers, India (IEI) [M112336/4]
- (xiv) PMGSY STA (Karnataka) coordinator for technical scrutiny of Pradhan Manthri Gram Sadak Yojana projects in the state

**SAGA UNIVERSITY, JAPAN (1992-95)**

April 1992 to January 1995

Employer: Faculty of Science and Engineering, Saga University, Japan  
[Attached to Institute of Lowland Technology (presently Institute of Lowland and Marine Research), Saga Uni., Japan]  
Positions held: Post-doctoral fellow/Research Associate/Assistant Professor

**ASIAN INSTITUTE OF TECHNOLOGY (AIT), BANGKOK, THAILAND (1987-92)**

- (i) January 1992 to March 1992  
Employer: Asian Institute of Technology, Bangkok, Thailand  
Position held: Senior Research Associate under USAID project on WWMSE
- (ii) May 1987 to December 1991  
Employer: Asian Institute of Technology, Bangkok, Thailand  
Position held: Student Research Associate under USAID project on WWMSE

**B.M.S. COLLEGE OF ENGINEERING, BANGALORE 1984-87**

(xi) September 1981 to May 1987

Employer: M/s Gerame Consulting Engineers, Shankarapuram, Bangalore - 4  
Position held: Part-time Design Engineer (Civil Engg.) [involved in design of piled foundation for Delhi RCC TV tower, multistoried buildings, steel strs., industrial strs., overhead water tanks etc.]

(xii) January 1984 to May 1987; Employer: B.M.S. College of Engg., Bangalore-70  
Position held: Senior Lecturer in Civil Engineering (also taught in evening college)

**M.S.R.I.T., BANGALORE, 1981-84**

(xiii) September 1981 to December 1983; Employer: MSRIT, Bangalore  
Position held: Lecturer in Civil Engineering

**M/S GAMMON INDIA LTD. MUMBAI 1980-81**

(xiv) October 1980 to September 1981; Employer: M/s Gammon India Ltd.  
Position held: Site Engineer [Mahathma Gandhi Sethu, Patna, Bihar]

**I.I.T. MADRAS, JULY-OCT 1980**

(xv) Research Associate, Dept. of Civil Engg. IITM Chennai (Supervisor: Prof. K. S. Sankaran)

## (C) MEMBERSHIP OF PROFESSIONAL ORGANISATIONS

- (i) Life Member of the Indian Geotechnical Society (IGS) [LM1369]
- (ii) Life Member of the Indian Society for Technical Education (ISTE) [LM 20500]
- (iii) Life Member of the Institution of Engineers (India)[IEI] [M112336/4]
- (iv) International Society of Soil Mechanics & Geotechnical Engg. [ISSMGE]
- (v) International Geosynthetics society [IgS][Membership No. 1983]
- (vi) Geotech. Engg. International Resources Centre [GEIRC]
- (vii) Asian Society for Environmental Geotechnology [ASEG]
- (viii) Southeast Asian Geotechnical Society [SEAGS]
- (ix) International Association of Lowland Technology [IALT], Membership No.1409138
- (x) Life Member of the Indian Society for Disaster Risk Reduction (ISDRR) [LM A0535]
- (xi) Alumni Association of Asian Institute of Technology, Bangkok, Thailand
- (xii) Life Member of the Administrative Staff College of India Association (ASCI Association),  
Bella Vista, Hyderabad 500082, Membership No. Prg/09-10/1/10/36731 since 26th May 2009
- (xiii) Life Member of the Asian Center for Engineering Computations and Software  
(ACECOMS),AIT Bangkok, Thailand [Membership No.D51-0849-0899]
- (xiv) Life Member of the Kodagu, Dakshina Kannada and Udupi Engineers' Association,  
Mangalore
- (xv) Life Member of the Indian Roads Congress (LM-36767)

## (D) HONOURS, AWARDS AND ACCOMPLISHMENTS

- (i) Awarded 'Best Student of the Year 1970-71', Vijaya High School, Jayanagar, Bangalore-11, January 1971.
- (ii) Obtained first class (distinction) and a top rank in Bangalore University in all ten semesters of BE (Civil) - Bangalore University, 1973-78.
- (iii) Awarded Japanese Government scholarship for doctoral studies at the Asian Institute of Technology (AIT) , Bangkok, Thailand. Subsequently, invited by Japanese Government to do post-doctoral research (at Institute of Lowland Technology, Saga University) and teaching (at Saga University) Japan, 1992-95.
- (iv) Co-investigator of USAID funded project (US\$150000) on Mechanically Stabilized Earth (MSE) along with Prof. D.T. Bergado, Prof. A. S. Balasubramaniam (both of AIT) and Prof. L. R. Anderson of Utah State university, USA [1988-1992].
- (v) IGS-Z -Tech(I) Pvt. Ltd. Biennial Award (1998-99) for the Best Paper on "Geosynthetics and Allied Construction Products" (Award instituted by the Indian Geotechnical Society). Paper entitled "Reinforced Granular Bed on Poor Filled-up Shedi Ground" authored by R. Shivashankar and ACS Reddy. Award received at IIT Bombay, Mumbai during IGC2000.
- (vi) Distinguished Service Award by NITK Alumni Association, Golden Jubilee Celebrations of NITK (6th August 2009 to 6th August 2010) [signed by NITK Director and NITK Alumni Association President]
- (vii) As Chairman of Center for continuing Education (2002-2008), was able to coordinate a number of courses for working professionals, especially for engineers of PMGSY, KRCL etc.
- (viii) Chaired a discussion session during GeoAfrica2013 conference, at Accra, Ghana
- (ix) As Placement Officer, achieved good success in improving the placement statistics of the Institute 2011-2014
- (x) NBA-AICTE expert committee member in Civil Engineering
- (xi) Delivered Keynote lecture "Geotechnical Engineering with Geosynthetics - An Overview", 3<sup>rd</sup> International Engineering Symposium (IES 2013) at Kumamoto University, Japan, March 4-6, 2013.
- (xii) Invited to Geosynthetics Research Institute, Drexel University, Folsom, Philadelphia, USA, for interaction with Prof. Robert M. Koerner - Director of Geosynthetics Research Institute, May 2013.
- (xiii) Invited to teach a UG course on 'Foundation Engineering' at Thuy Loi University, Vietnam, conducted in association with the University of Arkansas, USA (July 2014).
- (xiv) Chaired a general session GS 10-3 on Earthquake Engineering and Soil Dynamics, 14th International Conference of the International Association for Computer Methods and Advances in Geomechanics (IACMAG2014) at Kyoto, Japan, September 22-25, 2014 [IACMAG founder and Chairman: Prof. C. S. Desai]
- (xv) Selected as 'Conference Chair' for 10th International Symposium on Lowland Technology (ISLT2016), Jointly to be organized by NITK Surathkal, IISc Bangalore and International Association of Lowland Technology (IALT) and Institute of Lowland and Marine Research (ILMR), Japan, to be held during September 2016.
- (xvi) Successfully guided 13 doctoral students so far, on various topics of geotechnical engineering. Also guided more than 75 MTech theses. Published about 230 papers in Journal and Conferences.
- (xvii) Keynote speaker (Miura Lecturer) ISLT2018 at Hanoi (ThuyLoi University), Vietnam, September 26-28, 2018; organized by Institute of Lowland and Marine Research Japan
- (xviii) Delivered the 3<sup>rd</sup> annual Prof. T. S. Ramanatha Ayyar commemorative lecture on "Laterites and Lateritic soils" on 8<sup>th</sup> February 2019, IGS Trivandrum Chapter
- (xix) Invited speaker at the first Himalayan Engineering Congress at Kathmandu, Nepal, May 12-13, 2019; organized by Nepalese Geological Society
- (xx) Delivered a keynote lecture on topic "Geotechnics for High speed corridors" organized by the Department of Civil Engineering, College of Engineering Trivandrum in association with

IGS Thiruvananthapuram Chapter and TC202 on Transportation Geotechnics, ISSMGE, 24-27 July 2019

- (xxi) "Dealing with Lateritic soils: An Indian Perspective", Invited speaker at "AIT Geotechnical Symposium" organized by Institute of Civil Engineering, University of the Philippines, Diliman; Philippine Society for Soil Mechanics and Geotechnical Engineering (PSSMGE); and UP Institute of Civil Engineering, August 12-13, 2019

## (6) STUDENT RESEARCH/PROJECTS SUPERVISION

### (A) Ph.D. Guidance so far:

- Guided 13 Ph.D. students so far in Geotechnical Engineering; Presently guiding another 04 Ph.D. students

Ph.D. Research Supervision at KREC/NITK

S.No.	Name of Student	Reg. Year and Status	Thesis Title	Other Supervisor(s) , Name & Department	Completed/ Ongoing
01	Dr. Ramakrishne Gowda	August 2001 Part Time	Impact of Contaminants on Geotechnical Behaviour of Soil	-	Completed, Graduated in 2006
External Examiners: Dr. Abdel Malek Bouazza, Monash University, Clayton Campus, Victoria, Australia Prof. P.V. Sivapullaiah, IISc Bangalore					
02	Dr. S. Suresh Babu	Dec. 2001 Part Time	Some Studies On Foundations On Granular Beds Overlying Weak Grounds	-	Completed, Graduated in 2007
External Examiners: Prof. A. J. Valsangkar, Uni. of New Brunswick, Fredericton, Canada Prof. S. R. Gandhi, IIT Madras					
03	Dr. Arunkumar Bhat, K.	July 2000 Part Time	Studies On Stability Of Stratified Soil Slopes By Optimization Technique Using Generalized Procedure Of Slices	-	Completed, Graduated in 2008
External Examiners: Prof. Ryosuke Kitamura, Kagoshima Uni. Japan Prof. H. N. Ramesh, B'lore Uni.					
04	Dr. (Mrs) B.R. Jayalekshmi	January 2005 Part Time	Seismic Response Analysis Of Multistorey Frames Including Soil Structure Interaction	Prof. K. Venkataramana Dept. of Civil Engg.	Completed, Graduated in 2009
External Examiners: Prof. (Ms.) Judith Wang, Colorado School of Mines, CO, USA Prof. Pradeep Kumar Ramancharla, IIIT Hyderabad					
05	Dr. Ch. Nageshwar Rao	July 2005 Full Time QIP poly	Studies On Strength And Stiffness Characteristics Of Lateritic Soils For Pavement Subgrades	Prof. Varghese George Dept. of Civil Engg.	Completed, Graduated in 2009
External Examiners: Prof. Fwa Tien Fang, Director of Centre for Transportation Research, Dept. Of Civil Engg., NUS, Singapore, and Prof. S. K. Prasad, SJCE, Mysore					
06	Dr. Dheerendra Babu, M.	July 2008 Full Time QIP poly	Studies on behaviour of plain and reinforced stone columns in soft and layered soils	Dr. Sitaram Nayak Dept. of Civil Engg.	Completed, Graduated in 2011
External Examiners: Prof. Marolo C. Alfaro, Uni. of Manitoba, Canada Prof. Deepankar Choudhury, IITB					
07	Dr. Srinath Shetty, K.	August 2003 Full Time QIP	Experimentl investigations & artificial neural network modelling of strip footing on reinforced granular bed overlying weak soil	-	Completed Graduated in November 2013
External Examiners: Dr. A. Sako, Kagoshima University, Japan Prof. G. L. Sivakumar Babu, IISc, Bangalore					
08	Dr. Jayamohan Jayaraj	January 2010 Part Time	Prestressed geosynthetic reinforced soil structures	-	Completed Graduated in Nov. 2014

External Examiners: Prof. Jie Han, University of Kansas, USA Prof. B. Umashankar, IIT Hyderabad					
09	Dr. (Mrs) Jisha S. V.	July 2010 Full Time	The variation of stress resultants in foundation and chimney due to the effect of flexibility of soil	Dr. B. R. Jayalekshmi Dept. of Civil Engg.	Completed, Graduated 2014-15
External Examiners: Prof. Maria I. Todorovska, University of Southern California, USA Prof. G. Madhavi Latha, IISc, Bangalore					
10	Dr. (Mrs) Nalini Elizabeth Rebello	December 2010 Part Time	Studies on underground openings under static and dynamic loads	Prof. V.R. Sastry Dept. Of Mining Engg.	Completed, Graduated 2015
External Examiners: Dr. Mohan Yellishetty, Monash University, Clayton, Australia Prof. T. N. Singh, IITB, Powai, Mumbai					
11	Dr. Mrs. Nayana Patil	July 2008 Part Time	Non-linear analysis and behaviour of reinforced soil structures	-	Completed, Graduated 2018
External Examiners: Prof. Panich Voottipruex, King Mongkut University, Bangkok, Thailand Prof. K. Premalatha, College of Engineering Guindy (Anna University), Chennai					
12	Dr. Mrs. Nimi Ann Vincent	July 2013 Full Time	Electrical resistivity studies on Geo-materials and construction materials	Prof. K. N. Lokesh Dept. of Civil Engg.	Completed, Graduated 2018
External Examiners: Prof. Prabir Kolay, South Illinois University at Carbondale, USA Prof. S. Sreedeeep, IIT Guwahati					
13	Ms. Biji Chinnamma Thomas 138003CV13F04	December 2013 Full Time	Slope stability studies of excavated slopes in lateritic formations including erosion studies on lithomargic clays	Prof. DV Reddy (0)	<ul style="list-style-type: none"> <li>●Thesis being revised</li> <li>●Thesis to be defended</li> </ul>
External Examiners: Prof. N. Sivakugan, James Cook University, Australia Prof. S. Sreedeeep, IIT Guwahati					
14	Ms. Radhika M. Patel 155090CV15F07	July/Aug 2015 Full Time	Reinforced embankment-geocell-pile interaction at bridge approaches	Dr. B. R. Jayalekshmi	In progress
15	Ms. S. Anaswara 155023CV15F01	July/Aug 2015 Full Time	Interference studies on Reinforced foundation beds	-	In progress
16	Mrs. Rashma R. S. V. 177132CV501	July/Aug 2017 Part time	Studies on the Behavior of Reinforced Stone Columns Subjected to Static shear and Dynamic Lateral Loading Conditions	Dr. B. R. Jayalekshmi	In Progress
17	Ms. Amrita 187010CV002	July 2018	Soil-Footing-Retaining wall-superstructure interaction	Dr. B. R. Jayalekshmi	In Progress

## (7) RESEARCH PROJECTS:

Investigator/co-investigator for 4 major sponsored projects (1 of USAID; 2 of MHRD and 1 of BRNS)

(i) "Mechanically Stabilized Earth using poor quality backfills on soft Bangkok clay" USAID, US\$150,000, Prof. D.T.Bergado, Prof. A.S.Balasubramaniam and Mr. R. Shivashankar at AIT Bangkok, Thailand, 1987-1992

(ii) "Soil Nailing – The Reinforcement Method of Natural Ground" MHRD, Rs. 7.0 lakhs, Coordinators: Dr. R. Shivashankar and Dr. K.R.N.S. Setty, 2001-2004

(iii) "Experimental studies on non-destructive tests on pavement evaluation of low-cost roads and modified geosynthetic reinforced soil subgrades for rural and semi-urban areas of DK district" 2003-2006, MHRD thrust area, 18 lakhs [Investigators: Dr. Varghese George and Dr. R. Shivashankar.

(iv) "Dynamic Soil Structure Interaction Effects in Multistoreyed Structures on Homogenous Soil and Geosynthetic Reinforced Soil"; funded by BRNS, DAE, GOI, Rs.26.58 Lakhs; Year of start: September 2007, 3 years, PI: Prof. R. Shivashankar, Other Investigators: Dr. B.R. Jayalekshmi and Prof. Katta Venkataramana. IN PROGRESS (ON EXTENSION)

## (8) RESEARCH PUBLICATIONS:

### (A) REFEREEING OF BOOKS, JOURNAL ARTICLES ETC.

Reviewed typescript of a popular Text book of Geotechnical Engineering authored by S.K. Gulhati & Manoj Datta, for Tata McGraw Hill Publishing Company Limited, New Delhi, 2005

#### Reviewed papers for

(i) Geotechnical Engineering Journal of Southeast Asian Geotechnical Society (SEAGS)-AGSSEA

(ii) Lowland Technology International Journal (of IALT), Saga University, Japan

(iii) Indian Geotechnical Journal, Springer publishers

(iv) Indian Geotechnical Conferences

(v) International Journal of Pavement Engineering

(vi) Scientific Research and Essays Journal (<http://www.academicjournals.org/SRE>)

(vii) International Journal of Geomechanics (ASCE Journal)

(viii) International Journal of Geomechanics and Engineering (GAE), Technopress.

(ix) International Journal of Geosynthetics and Ground Engineering (IGGE), Springer Publishers

(x) J. of Earthquake Engineering and Engineering Vibration (EEEEV)

(xi) Manipal Journal of Engineering and Technology

(xii) Journal of Computational Design and Engineering (Elsevier publications)

(xiii) Canadian Geotechnical Journal

(xiv) Journal of Marine Science and Technology (JMST)

(xv) Intl. J of pavement research and technology (IJPRT), Elsevier

## PROF. R. SHIVASHANKAR

(B) PUBLICATIONS [237 accepted (J = 55 + 16; C = 108 + 50; O = 08)  
04 under review]

### (I) Reports/Book Chapters/ Editing (08):

- 1) Bergado, D.T., Sampaco, C.L., Alfaro, M.C., [Shivashankar, R.](#) and Balasubramaniam, A.S. (1989), "Welded Wire Reinforced Earth (Mechanically Stabilized) Embankments with Cohesive Backfill on Soft Clay", Third Progress Report Submitted to USAID (Thailand).
- 2) Bergado, D.T., Sampaco, C.L., [Shivashankar, R.](#) and Alfaro, M.C. (1990), "Mechanically Stabilized Earth (MSE) Embankments with Cohesive Backfill on Soft Ground", Fifth Progress Report Submitted to USAID (Thailand).
- 3) [Shivashankar, R.](#) (1996), "A report on Problems of Lowland Development" Balkema Publishers
- 4) [Shivashankar, R.](#), Miura, N. and Madhav, M.R. (1998), "Reinforced Granular Bed on Soft and Subsiding Ground", Chapter 14 of 'Improvement of Soft Ground – Design, Analyses and Current Researches' Edited by N. Miura and D. T. Bergado, Balkema Publishers, pp.168-182.
- 5) [Shivashankar, R.](#) (1991). "Behaviour of a mechanically stabilized earth (MSE) embankment with poor quality backfills on soft clay deposits, including a study of the pullout resistances" Doctoral dissertation, Division of Geotechnical and Transportation Engineering, School of Civil Engineering, Asian Institute of Technology, Bangkok, Thailand (*Cited 10 times as per Google scholar*)
- 6) Nayana N. Patil, H. M. Rajashekar Swamy and [R. Shivashankar](#) (2019), "Effect of Reinforced soil structure interaction on settlement characteristics of a three dimensional structure", "Innovations in soft computing and Information Technology – Proceedings of ICEMIT 2017 (editors: Jayeeta Chattopadhyay, Rahul Singh and Vandana Bhattacharjee)", Springer Nature Singapore Pte Ltd. 2019, ISBN 978-981-13-3184-8, isbn 978-981-13-3185-5 (electronic book), pgs 135-162, <https://doi.org/10.1007/978-981-13-3185-5>
- 7) [Shivashankar R.](#), Biji Chinnamma Thomas, K. T. Krishnanunni and D. Venkat Reddy (2019) "Slope Stability Studies of Excavated Slopes in Lateritic Formations". In book - Geotechnical Applications:IGC2016. Edited by Anirudhan, I. V. and V. B. Maji, Lecture Notes in Civil Engineering, vol 4, pp.127-134 Springer, Singapore. doi:10.1007/978-981-13-0368-5\_14. (BOOK CHAPTER)
- 8) Patel, Radhika M; Jayalekshmi, B.R. and Shivashankar, R. (2019), "Seismic Response of Basal Geogrid Reinforced Embankments supported over floating and End Bearing Piles", 7<sup>th</sup> International Conference on Earthquake Geotechnical Engineering [7ICEGE], Rome, Italy, 17-20 June 2019, Proceedings in Earth and geosciences, Volume 4, Earthquake Geotechnical Engineering for Protection and Development of Environment and Constructions, Editors: Francisco Silvestri and Nicolai Moraci, ISBN978-0-367-14328-2 (Multimedia), ISBN: 978-0-429-03127-4 (e-book), DOI: <https://doi.org/10.1201/9780429031274>, CRC Press/Balkema
- 9) Patel, R. M., Jayalekshmi, B. R. and [Shivashankar, R.](#) (2020) 'A Study on the Seismic Behaviour of Embankments with Pile Supports and Basal Geogrid. In: Prashant A., Sachan A., Desai C. (eds) Advances in Computer Methods and Geomechanics. Lecture Notes in Civil Engineering, Vol. 56, Springer, Singapore. DOI [https://doi.org/10.1007/978-981-15-0890-5\\_22](https://doi.org/10.1007/978-981-15-0890-5_22)

[Shivashankar R.](#) et al. (1993) IGJ "Shear Layer, Confinement and Surcharge Method" [*cited in* IGS Annual Lecture by M.R. Madhav, Indian Geotechnical Journal, Vol. 28, No.1, January 1998, pp33-39]

[Shivashankar R.](#) et al. (1993) IGJ "Shear Layer, Confinement and Surcharge Method" [*Cited in* Section 4.5: Bearing Capacity Improvement in Soft Soils of the text book "An Introduction to Soil Reinforcement and Geosynthetics" by G.L. Sivakumar Babu, Uni. Press, 2006 edition].

## (II) International Journals (55 accepted, 02 under review)

The link for 5 journal papers in GGE journal is

<http://rd.springer.com/search?query=R.+Shivashankar&search-within=Journal&facet-journal-id=10706>

- 1) Bergado, D.T., [Shivashankar, R.](#), Sampaco, C.L., Alfaro, M.C. and Anderson, L.R. (1991), "Behavior of a Welded Wire Wall with Poor Quality, Cohesive–Friction Backfills on Soft Bangkok Clay: a Case Study", Canadian Geotechnical Journal, Volume 28, Number 6, December 1991, ISSN 00083674, Pages 860-880 ([SCI index](#), [Scopus index](#)).
- 2) Bergado, D.T., [Shivashankar, R.](#) and Anderson, L.R.(1991), "Full Scale Welded-Wire Wall", Geotechnical Engg. J of SEAGS Vol.24, No.1.
- 3) Bergado, D.T., Sampaco, C.L., [Shivashankar, R.](#), Alfaro, M.C., Anderson, L.R. and Balasubramaniam, A.S. (1991) "Performance of a Welded Wire Wall with Poor Quality Backfills on Soft Clay", ASCE Geotech. Engg. Special Publication. Geotechnical Engineering Congress 1991, pp.909 to 922 ([Scopus indexed](#)).
- 4) Bergado, D.T., Lo, K.H., Chai, J.C., [Shivashankar, R.](#), Alfaro, M.C. and Anderson, L.R. (1992) "Pullout Tests Using Steel Grids Reinforcement with Low-Quality Backfill", ASCE J. of Geotechnical Engineering, Vol.118, No.7, July 1992, pp.1047-1062, ISSN: 0733-9410, [DOI: 10.1061/\(ASCE\)0733-9410\(1992\)118:7\(1047\)](#), [Scopus indexed](#).
- 5) Bergado, D.T. and [Shivashankar, R.](#) (1993), "Pullout Capacity of Steel Grids in Lateritic Soil Backfill", Geotechnical Engg. J of SEAGS Vol.24, No.1, pp.77-95.
- 6) Bergado, D. T., [Shivashankar, R.](#), Alfaro M. C. , Jin-chun Chai and Balasubramaniam A. S. (1993), "Interaction Behaviour of Steel Grid Reinforcements in a Clayey Sand", Geotechnique Journal of Institution of Civil Engineers – London, UK; ISSN 0016-8505, 1993, Vol. 43, No.4, pp. 589-603 ([scopus indexed](#)).
- 7) Miura, N., Sakai, A., Fujikawa, K. and [Shivashankar, R.](#), (1995), "Reinforced Gravel Foundation for Box Culvert Construction on Soft and Subsiding Ground", Geosynthetics International, Vol. 2, No. 2, pp. 473-493. Technical Note by K.L. Soderman and J.P. Giroud ([Scopus indexed](#)).
- 8) Varghese George, Nageshwar Rao and [Shivashankar, R.](#) (2009), "PFW, DCP and CBR Correlations for Evaluation of Lateritic Subgrades" , International Journal of Pavement Engineering, ISSN: 1029-8436, [DOI: 10.1080/10298430802342765](#) Taylor and Francis Publications, Vol.10, No.3, June 2009, pp.189-199 [published online on 10<sup>th</sup> Oct.2008] ([scopus indexed](#)).
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### III) National Journals/NITK Research Bulletin (16 accepted, 01 under review)

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#### (IV) International Conferences/Seminars (108 accepted, 00 under review):

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- 56) Jisha, S. V., Jayalekshmi, B. R. and Shivashankar, R. (2014), "Dynamic soil-structure interaction analyses of 300 m tall industrial reinforced concrete chimneys on pile raft foundations", 10th US National Conference on Earthquake Engineering (10NCEE-2014): Frontiers of Earthquake Engineering, July 21-25, 2014, Anchorage, Alaska, USA. DOI: 10.4231/D33775W0V.

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- 59) Nayana N. Patil, Shivashankar, R. and Rajashekhar Swamy, H.M. (2014), "Effect of interface on behaviour of reinforced earth retaining wall", 14<sup>th</sup> Intl Conf. of the Intl. Association for Computer Methods and Advances in Geomechanics (14IACMAG), Kyoto, Japan, September 22-25, 2014, pg. 311 of volume of abstracts, pp.1403-1407, ISBN 978-113800148-0, Taylor & Francis - Balkema. **Second author attended and presented the paper** (scopus indexed)
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- 70) Jayalekshmi, B. R., Jisha, S. V. and Shivashankar, R. (2015) "Appropriateness of Piled Raft Foundation for Tall Stacklike Structures Founded on Soft Ground". International Conference on Soft Ground Engineering - ICSGE2015, at Singapore, 3-4 December 2015, pp.613-623, DOI: 10.3850/978-981-09-7520-3 122
- 71) Nayana Patil, Shivashankar, R. and H. M. Rajashekar Swamy (2016), "Studies on modulus of subgrade reaction of reinforced soil foundation using model plate load test, Int. Conference on Civil, Mechanical, and Environment Engineering Technologies (ICCMEET) 20016 held at SVS College of Engg. Coimbatore, 26-27 February 2016.
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- 76) Nayana N. Patil, H. M. Rajashekar Swamy and R. Shivashankar (2016), "Effect of facing on the settlement of Mechanically Stabilized Earth (MSE) embankment", 10th International Symposium on Lowland Technology at Mangalore, September 15-17 2016, conducted by the International Association of Lowland Technology (IALT) and NITK
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- 99) Patel, Radhika M; Jayalekshmi, B.R. and Shivashankar, R. (2019), "Seismic Response of Basal Geogrid Reinforced Embankments supported over floating and End Bearing Piles", 7<sup>th</sup> International Conference on Earthquake Geotechnical Engineering [7ICEGE], Rome, Italy, 17-20 June 2019; Organized by the Italian Geotechnical Society (AGI) under the auspices of International Society for Soil Mechanics and Geotechnical Engineering (ISSMGE) {Paper ID 667, **Third author attended and presented the paper as poster**}, pp.4620-4628
- 100) S. Anaswara, R. Shivashankar (2019), "Study of tilt on adjacent strip footings" International conference on Advanced Research and Innovations in Civil Engineering 2019 (ARICE 19), organized by Muthoot Institute of Technology and Science, Kerala, 13-14 June 2019
- 101) R. Shivashankar and Biji Chinnamma Thomas (2019) "Dealing with Lateritic soils: An Indian Perspective" AIT Geotechnical Symposium, Philippines Society for Soil Mechanics and Geotechnical Engineering {PSSMGE}, & Institute of Civil Engineering, University of Philippines, Diliman, August 12-13, 2019.
- 102) S. Anaswara and R. Shivashankar (2019), Interference study between a retaining wall and a closely built strip footing", 8<sup>th</sup> International Engineering Symposium IES 2019, Kumamoto, Japan
- 103) S. Anaswara and R. Shivashankar (2019), " A numerical study on interference effects of closely spaced strip footings on cohesionless soils", International conference on trending moments and steer forces – civil engineering today (TMSF – 2019, Goa, India)
- 104) Biji Chinnamma Thomas and R. Shivashankar (2019), "Study of Critical Shear Stresses of Soils for Progressive Erosion" International conference on trending moments and steer forces – civil engineering today (TMSF – 2019, Goa, India)
- 105) Amrita, B R Jayalekshmi, R Shivashankar "Seismic Behaviour of Soil Nailed Wall" International conference on trending moments and steer forces – civil engineering today (TMSF – 2019, Goa, India)
- 106) Radhika M. Patel, Jayalekshmi, B. R. and Shivashankar, R. (2020), "Seismic response of basal geogrid reinforced embankments supported on a group of vertical and batter piles", 7<sup>th</sup> International Conference on Recent Advances in Geotechnical Earthquake Engineering and Soil Dynamics, 13-16, July 2020, IISc Bangalore, India (Abstract accepted)
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- 108) Amrita, Jayalekshmi, B. R. and Shivashankar, R. "Dynamic Response of Soil Nailed Wall", 7<sup>th</sup> International Conference on Recent Advances in Geotechnical Earthquake Engineering and Soil Dynamics (ICRAGEE 2020), 13-16 July, 2020, IISc Bangalore, Paper id 065

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- 1) Shivashankar, R. and Bergado, D.T. (1996), "Lateral Pressures in a Mechanically Stabilized Earth Wall", Proc. Indian Geotechnical Conference 1996, Madras, pp.334-337.
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- 3) Shivashankar, R. and Reddy, A.C.S. (1998), "Reinforced Granular Bed on Poor Filled-up Shedi Ground", Proc. IGC 98, Vol.1, pp.301-304, New Delhi, 7-10 Dec 1998. **Adjudged Best Paper on "Geosynthetics and Allied Construction Products": published through the Indian Geotechnical Society (M/S Z-Tech Biennial Award).**
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- 5) Setty, K.R.N., Shivashankar, R. and Lakshman Rao Peshwe (1999), "Kethikal Slope Failure – a Case Study", Proc. Indian Geotechnical Conference 1999, Calcutta, pp.....
- 6) Shivashankar, R. and Setty, K.R.N.S. (2000), "Foundation Problems for Ground Level Storage Tanks in and around Mangalore", Proc. Indian Geotechnical Conference 2000, IIT Bombay, Mumbai.
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- 9) Nageshwar Rao, Ch., Varghese George, Shivashankar, R. and Vishweshwara, A.S. (2007), "Tests on Subgrade Strength using Portable Falling Weight Deflectometer and Dynamic Cone Penetrometer", Proc. of National Seminar on Roads 2007, IE(I) Belgaum Local Chapter, pp.147-155, March 1 & 2, 2007.
- 10) Jayalekshmi, B.R., Deepthi Poojary, V.G. Katta Venkataramana and Shivashankar, R. (2007), "Seismic Response of Reinforced Concrete Structures with Soil-Structure Interaction Effect of Soil Reinforcement", Proc. 4<sup>th</sup> Indian National Conference on Harbour and Ocean Engineering (INCHOE), NITK Surathkal, 12-14 Dec.2007.
- 11) Jayalekshmi, Katta Venkataramana, Shivashankar, R. and Chandrashekar, A. (2007), "Soil-Foundation-Structure Interaction Effects on Static Responses of 3D Building Frames", Proc. 4<sup>th</sup> Indian National Conference on Harbour and Ocean Engineering (INCHOE), NITK Surathkal, 12-14 Dec.2007.
- 12) Arunkumar Bhat, K., Shivashankar, R. and Yaji, R.K. (2007), "Parametric Study of Stability Analysis of Layered Slopes by Optimization Technique using Janbu's Generalized Procedure of Slices", National Conference on Emerging Trends in Engineering, 11-12 May, 2007, .....
- 13) Varghese George, Nageshwar Rao, Ch. and Shivashankar, R. (2009), "Investigations on Unsoaked Blended Laterite using PFWD, PBT, DCP and CBR Tests", 70<sup>th</sup> Annual Convention of Indian Roads Congress, Patna, Bihar, Nov/Dec. 2009.
- 14) Ch. Nageshwar Rao, Varghese George and R. Shivashankar (2010), "Effect of Fines and Moisture Content on PFWD Resilient Modulus of Un-soaked Blended Laterite Sub-grades", 71<sup>st</sup> Annual Convention of Indian Roads Congress, Nagpur, 11-14 Nov. 2010.
- 15) Renjitha Mary Varghese, B.R.Jayalekshmi, R. Shivashankar (2010), "Stress-Strain Characteristics of Reinforced Soil", Ref.No.GT-2, Fourth National Conference on *Recent Advances in Civil Engineering (RACE 2010)*, 16-18 Sep 2010, CUSAT, Cochin.
- 16) Shivashankar, R. (2010), "Geotechnical and Foundation Practices in Coastal Karnataka", Piling and Deep Foundations Conference 2010 at Hyatt Regency, Mumbai, Oct 25-27, 2010, Organized by IQPC (International Quality and Productivity Centre, [www.iqpc.ae](http://www.iqpc.ae)).
- 17) Dheerendra Babu, M.R., Shivashankar, R, Sitaram Nayak and Majid, J.A. (2010), "Load settlement behavior of stone columns with circumferential nails", Proc. of IGC 2010, 16-18 Dec 2010, IIT Mumbai.
- 18) Dheerendra Babu, M.R., Shivashankar, R. and Sitaram Nayak (2011), "Influence of End Condition on the Behaviour of Stone Columns in Soft Soils", National Conference on Advances in Engineering Geology and Geotechnical Engineering 2011 [GEOCON 2011], 29-30 March 2011, GCE Kannur, Kerala (Abstract only)
- 20) Gayathri G. Nair and Shivashankar, R. (2011), "Some Studies on Shrinkage Limit of Soils", National Conference on Advances in Engineering Geology and Geotechnical Engineering 2011 [GEOCON 2011], 29-30 March 2011, GCE Kannur, Kerala (Abstract only).
- 21) Nisha Sarath, Shivashankar, R. and Ravi Shankar, A.U. (2011), "Role of Shear Keys in Cantilever Retaining Wall", Proceedings of the Indian Geotechnical Engg. Conference, Kochi, Dec.15-17, 2011, Paper No.K-056, pp.627 to 630.
- 22) Jisha, S.V., Jayalekshmi, B.R. and Shivashankar, R. (2012), "Dynamic Soil-Structure Interaction Effects in Tall Reinforced Concrete Industrial Chimneys", National Conference on Contemporary Civil Engineering Research and Practice – CCERP 2012, April 20-21, MIT Manipal, Paper No. STR08, pp.715-724.

- 23) Ansu Thomas, Sujisha, C., Jisha, S.V., Jayalekshmi, B.R. and Shivashankar, R. (2012), "Effect of Thickness of Foundation on Annular Raft Moments of Tall RC Chimneys Including Soil-Structure Interaction", National Conference on Contemporary Civil Engineering Research and Practice – CCERP 2012, April 20-21, MIT Manipal, Paper No.STR9. pp.725-734.
- 24) Shivashankar, R., Jayalekshmi, B.R., Sitaram Nayak and Ravi Shankar, A.U. (2012), "Geosynthetics for Ground Improvement and Stability of Slopes", Two day workshop on 'Application of Optimization Techniques for Slope Stability Analysis and Recent Methods for Stabilization of Slopes, NMAMIT Nitte, 30-31 July 2012
- 25) Jisha, S. V., Jayalekshmi, B.R. and Shivashankar, R. (2012), "Contact Pressure Distribution under Raft Foundation of Tall Reinforced Concrete Industrial Chimneys due to Dynamic Soil-Structure Interaction", ISET Golden Jubilee Symposium, Indian society of Earthquake Technology, October 20-21, 2012, IIT Roorkee, Theme C, Paper No. C003, pg.69 in volume of abstracts.
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- 28) Sastry, V.R., Nalini, R. and Shivashankar, R. (2013), "A study on surface displacements due to phasewise excavations with varying tunnel widths", Proceedings of National Conference on New horizons in Civil Engineering (NHCE 2013), 12-13 April 2013, MIT, Manipal, pp.316-326.
- 29) Jisha, S.V., Jayalekshmi, B.R. and Shivashankar, R. "Dynamic soil-structure interaction analyses of tall reinforced concrete industrial chimneys on piled raft foundations", under sub-theme of Earthquake Engineering, proceedings of the Indian Geotechnical Conference, IIT Roorkee, December 22-24, 2013 (Theme 5), pp.157-158. Peer Reviewed. **Third author attended and presented the paper.**
- 29) Aswathy, M.S., Jayamohan, J. and Shivashankar, R. (2013), " Behaviour of prestressed geosynthetic reinforced granular bed overlying weak soil", Indian Geotechnical Conference, Roorkee, December 22-24, 2013; **presented by first author.**
- 30) Shivashankar, R., Jayamohan, J. and Venkateswara Reddy, M. (2013), " Parametric study on reinforced granular beds overlying weak soil", Silver Jubilee Symposium of International Geosynthetics Society (India) "Geosynthetics India'13", New Delhi during 23-25 October 2013, pp.180-190. **Second author attended and presented the paper.**
- 31) Jayamohan, J. and Shivashankar, R. (2014), "Studies on prestressed reinforced foundation beds overlying weak grounds", 1st National Conference on Recent Advancements in Engineering and Technology, conducted by LBS College of Engineering, Kasargod, Kerala, pg. 66 volume of abstracts.
- 32) Nimi Ann Vincent, Lokesh, K. N. and Shivashankar, R. (2014), ""Electrical resistivity applications - a versatile testing technique in civil engineering", First Annual Conference on Innovations and Developments in Civil Engineering ACIDIC-2014 held during 19-20 May 2014 at NITK, Surathkal, Paper No. S-016-ACIDIC-2014.
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- 36) Jayamohan, J., Shivashankar, R. and Nileena Suresh Kumar (2015), ""Behavior of Reinforced Granular Beds overlying weak soil with voids", National Conference on Recent Advances in Engineering and Technology (nCORETech2015), LBS College of Engineering, Povval, Muliyar, Kasaragod, Kerala, January 20-21, 2015.
- 37) Anaswara, S. and Shivashankar, R. "Effect of Vegetation on Stability of Slopes", Submitted to the 53rd Indian Geotechnical Conference at COEP, Pune, 17-19 December 2015
- 38) R. Shivashankar, Krishnanunni, K. T., Biji Thomas and D.V. Reddy (2016), "Slope stability studies of excavated slopes in lateritic formations", Indian Geotechnical Conference, December 17-18, 2016, Chennai (organized jointly by Guindy Engg. College/Anna University and IIT Madras).
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- 40) Nimi Ann Vincent, R. Shivashankar and K. N. Lokesh (2017), "Some studies on laboratory and field electrical resistivities of soils", Indian Geotechnical Conference 2017 GeoNEst, 14-16 December 2017, IIT Guwahati, India (Th01\_037).

- 41) Divya Nath, Nimi Ann Vincent, R. Shivashankar and K. N. Lokesh (2017), "Electrical resistivity studies on lateritic soils", Indian Geotechnical Conference 2017 GeoNEst, 14-16 December 2017, IIT Guwahati, India (Th01\_211).
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- 46) Renjana, R. and R. Shivashankar (2019), "Comparative study of load carrying capacity of tapered piles vis-à-vis prismatic piles", Indian conference on Geotechnical and Geo-environmental engineering (ICGGE-2019), MNNIT Allahabad.
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- R1) Shivashankar, R. and Thomas, B. C. (2020), "A study of factors influencing erosion of soils from Hole Erosion Tests", Indian Geotechnical Conference IGC 2020, Dec. 17-20, Andhra Uni., Visakhapatnam (Abstract submitted)