

## CURRICULUM VITAE

### **Radhakrishna G. PILLAI, Ph.D.**

Associate Professor  
Building Technology & Construction Management (BTCM) Division  
Department of Civil Engineering  
Indian Institute of Technology Madras, Chennai – 600 036, India  
Phone: +91 44 2257 4303 (office), +91 90 0322 8158 (mobile)  
E-mail: [pillai@civil.iitm.ac.in](mailto:pillai@civil.iitm.ac.in)



### **EARNED DEGREES**

- **Ph.D. in Civil Engineering** May 2009  
Texas A&M University (TAMU), College Station, Texas, USA  
Dissertation title: “Electrochemical characterization and time-variant structural reliability assessment of post-tensioned, segmental concrete bridges.”
- **M.S. in Civil Engineering** August 2003  
Texas A&M University, College Station, Texas, USA  
Thesis title: "Accelerated quantification of critical parameters for predicting the service life and life cycle costs of chloride-laden reinforced concrete structures."
- **B.E. in Civil Engineering** July 1999  
Motilal Nehru Regional Engineering College (now MNNIT),  
Allahabad University, Allahabad, India

### **AWARDS**

- Excellence in Corrosion Science & Technology Award, NIGIS Corrosion Awareness Awards, 2019
- Excellent Public Sector Laboratory (as part of the group of corrosion laboratories in IIT Madras), NIGIS Corrosion Awareness Awards, 2019
- ICI - Ultratech Award for Outstanding Young Concrete Engineer - 2016
- Scholarship, Former Students Association, TAMU, Spring 2009
- Richard Gehle Memorial Scholarship, Zachry Dept. of Civil Engg., TAMU, Fall 2006
- Departmental Merit Scholarship, Zachry Dept. of Civil Engg., TAMU, Spring 2004 & 2006

### **WORK EXPERIENCE**

- **Associate Professor** July 2017 – Present  
Indian Institute of Technology Madras, Chennai, India
- **Assistant Professor** Sep. 2010 – July 2017  
Indian Institute of Technology Madras, Chennai, India
- **Post-doctoral Scholar** Oct. 2009 – Aug. 2010  
Oregon State University, Corvallis, Oregon
- **Post-doctoral Research Associate** Jun. 2009 – Oct. 2009  
Texas Transportation Institute, College Station, Texas
- **Graduate Teaching Assistant** Sep. 2008 – Jan. 2009  
Texas A&M University, College Station, Texas
- **Graduate Research Assistant** Jan. 2004 – Aug. 2008  
Texas Transportation Institute, College Station, Texas
- **Research Associate** Jul. 2003 – Jan. 2004  
Texas Transportation Institute, College Station, Texas

- **Graduate Research Assistant**  
Texas Engineering Experiment Station, College Station, Texas

Dec. 2000 – Jun. 2003

---

## TEACHING EXPERIENCE

- **Undergraduate courses**
  - CE2330 - Civil Engineering Materials and Construction
  - CE3420 - Concrete Technology
  - CE3410 - Construction Materials Lab
- **Graduate courses**
  - CE5120 - Maintenance and Rehabilitation of Constructed Facilities
  - CE5010 - Modern Construction Materials
  - CE5090 - Construction Materials Lab
  - CE5060 - Industrial Seminar

---

## RESEARCH INTERESTS

### Specific areas

- Development of corrosion test methods
- Condition assessment and service life estimation of concrete structures
- Cathodic protection of concrete structures
- Deterioration of bond in prestressed concrete systems
- Grouting of post-tensioned systems

### Long-term activities

- Development of service life estimation tools
- Development of guidelines/design codes for durable concrete construction
- Outreach/technology transfer programs to enhance the quality of concrete construction in India

---

## FUNDED RESEARCH PROJECTS

### Sponsored Research Projects (SR)

- SR11. Study of the deterioration mechanisms in glass textile reinforced concrete and improvement of its durability; Investigators: Ravindra Gettu (PI), **Radhakrishna G. Pillai** and Sunitha K. Nayar; Rs. 54.8 Lakhs (Sanction No. SERB/F/10437/2019-2020); Funded by Science and Engineering Research Board (SERB), Department of Science & Technology (DST), Govt. of India; 2020 – 2023
- SR10. Enhancing the durability and sustainability of concrete structures in emerging economies; Investigators: **Radhakrishna G. Pillai** (PI) and Manu Santhanam, IIT Madras, Chennai and David Trejo, Jason Weiss, Burkan Isgor, and Jason Ideker of Oregon State University, Corvallis, OR, USA; Rs. 71.3 Lakhs (Sanction No. SPARC/2018-2019/P834/SL on November 7, 2019); Funded by the Ministry of Human Resources Development (MHRD), 2019 - 2021
- SR9. Corrosion protection and service life extension of reinforced concrete roofing systems in existing buildings; Investigator: Roopa Vijayaraghavan (PI), Mentors: Haji Sheikh Mohammed and **Radhakrishna G. Pillai**; Rs. 16.8 Lakhs (Sanction No. TAR/2018/001322); Funded by Teachers Associateship for Research Excellence (TARE) scheme, Science and Engineering Research Board (SERB), Department of Science & Technology (DST), Govt. of India; 2018 – 2021

- SR8. Structural behaviour of corroding prestressed concrete (psc) systems and extension of service life using cathodic protection, Investigators: Amlan K. Sengupta (PI), **Radhakrishna G. Pillai**, Haji Sheikh Mohammed; Rs. 39,60,000 (Sanction No. EMR/2017/004687); Funded by Science and Engineering Research Board (SERB), Department of Science & Technology (DST), Govt. of India; 2018 – 2021
- SR7. Assessment, prevention, and mitigation of corrosion in reinforced concrete systems, Investigators: **Radhakrishna G. Pillai (PI)** and Lakshman Neelakantan; Rs. 45.5 Lakhs (Sanction No. EMR/2016/003196); Funded by Science and Engineering Research Board (SERB), Department of Science & Technology (DST), Govt. of India; 2017 – 2020
- SR6. Development of pre-packaged, high performance grout (HPG) for commercialization in Indian post-tensioned concrete industry; Investigators: **Radhakrishna G. Pillai (PI)**, Manu Santhanam, and Ravindra Gettu; Rs. 40.36 Lakhs (Project No. 7711); Funded through the IMPRINT India Initiative by the Ministry of Human Resources Development and Ministry of Housing, and Ultratech Cements Limited, 2017-2019.
- SR5. Institutional strengthening on analysis of dams, foundations, retrofitting, flood forecasting and related issues, Investigators: K. Rajagopal (PI), Ravindra Gettu, Manu Santhanam, Radhakrishna G. Pillai, K. Srinivasan, N. Balaji, K.P. Sudheer, Venu Chandra, Soumendra Nath Kuiry, D.N. Arnepalli, S. Banerjee, V B Maji, R G Robinson, T Thyagaraj, A Bhoominathan, Arun Menon, Meher Prasad, STG Raghukanth, Rupen Goswami, K. Murali; Rs. 592 Lakhs; Funded through DRIP programme of Central Water Commission, New Delhi
- SR4. Probabilistic service life prediction of prestressed concrete structures; Investigator: **Radhakrishna G. Pillai (PI)**; Rs. 18.42 Lakhs (Sanction No. SR/FTP/ETA-0119/2011); Funded by (Fast-Track Scheme for Young Scientists) Department of Science & Technology (DST), Govt. of India; 2012 – 2015
- SR3. Development of performance specifications for durable concrete construction in India; Investigators: Manu Santhanam (PI) and **Radhakrishna G. Pillai**; Rs. 50 Lakhs; Funded by Department of Science & Technology (DST), Govt. of India; 2012 – 2015
- SR2. Service life prediction, corrosion inhibition, and corrosion detection of prestressed concrete structures; Investigator: **Radhakrishna G. Pillai (PI)**; Rs. 8 Lakhs; Funded by IIT Madras SEED Grant; 2011-2014
- SR1. Setting up of a laboratory for the durability and study of the long-term performance of concrete; Investigators: Ravindra Gettu (PI), Manu Santhanam, and Radhakrishna G. Pillai; Rs. 93.76 Lakhs; Funded by Lafarge Centre De Recherche, France; 2010 – 2015

### **Research-based industrial consultancy (RBIC)**

8. Performance Evaluation of bi-polar Corrosion Inhibitors for Reinforced Concrete Applications; Investigator: **Radhakrishna G. Pillai (PI)**; Rs. 3 Lakhs; Funded by Sika India Pvt. Ltd., 2017 - 2018
7. Condition and structural assessment of Rashtrapathi Bhavan, New Delhi, Investigators: Arun Menon (PI), Radhakrishna G. Pillai, and Amlan Sengupta; Rs. 42.76 Lakhs; Funded by Rashtrapathi Bhavan, New Delhi, 2016 - 2017
6. Chloride-induced corrosion and service life assessment of Mumbai Mono Rail Segments; Investigator: **Radhakrishna G. Pillai (PI)**; Rs. 5 Lakhs, L&T Construction, Mumbai, 2015 - 2016
5. Evaluation of corrosion inhibitors for steel-cementitious systems; Investigator: **Radhakrishna G. Pillai (PI)**; Rs. 3 Lakhs; Chembond Chemicals Pvt. Ltd., Navi

Mumbai; 2014 - 2015

4. Performance evaluation of corrosion inhibitors for reinforced concrete systems; Investigator: **Radhakrishna G. Pillai (PI)**; Rs. 2.5 Lakhs; Funded by the Institute for Construction Materials and Technologies Pvt. Ltd. (ICOMAT), Chennai, Tamil Nadu; 2013 - 2014
3. Performance evaluation of corrosion resistant cement; Investigator: **Radhakrishna G. Pillai (PI)**; Rs. 5 Lakhs; Funded by Jayajothi Cements Pvt. Ltd., Rajapalayam, Tamil Nadu; 2012 – 2013
2. Bi-Polar and calcium nitrite corrosion inhibitors for steel-cementitious systems; Investigator: **Radhakrishna G. Pillai (PI)**; Rs. 3 Lakhs; Funded by UltraPure Chemicals Pvt. Ltd., Karaikudi, Tamil Nadu; 2011 – 12
1. Study of durability of concrete under different environmental conditions; Investigators: Ravindra Gettu (PI), Manu Santhanam, and Radhakrishna G. Pillai; Rs. 23 Lakhs; Funded by Lafarge Centre De Recherche, France; 2010 – 2015

### Industrial consultancy (IC)

1. Performance evaluation of limestone calcined clay cement – Phase I, Investigators: Manu Santhanam, Ravindra Gettu, and **Radhakrishna G. Pillai**; Rs. 207 Lakhs; Funded by Swiss Development Agency through EPFL, Switzerland; Jun 2014 – Jun 2017.
2. Performance evaluation of limestone calcined clay cement – Phase II, Investigators: Manu Santhanam, Ravindra Gettu, and **Radhakrishna G. Pillai**; Rs. 84 Lakhs; Funded by Swiss Development Agency through EPFL, Switzerland; Jun 2017 – Jun 2020.

### REFEREED JOURNALS

SCOPUS ID: 12781775200; RESEARCHER ID: G-4296-2017; ORCID: 0000-0003-3672-8768

(Underscored names indicate collaborating students; JIF – Journal Impact Factor in the year of publication)

### National journals

10. Joseline, D., and **Pillai, R.G.**, “Enhancing service life of prestressed concrete structures by using fly ash and corrosion inhibitors”, *The Indian Concrete Journal*, 94(11), 54-67, September 2020.
9. Sherfudeen, A., **Pillai, R.G.**, Raghavan, N., and Kalidindi, K.N., “Factors affecting productivity and functionality of precast concrete building construction in the developing world”, *Indian Concrete Journal*, 94(9), 26-37, September 2020.
8. Dhandapani, Y., Santhanam, M., Gettu, R., and **Pillai, R. G.**, “Perspectives on Blended Cementitious Systems with Calcined Clay-Limestone Combination for Sustainable Low Carbon Cement Transition”, *Indian Concrete Journal*, 94, 31-45, February 2020.
7. Sakthivel, T., Gettu, R., and Pillai, R.G., “Compressive Strength and Elastic Modulus of Concretes with Fly Ash and Slag”, *Journal of The Institution of Engineers (India): Series A*, 100, 575–584. 2019.
6. Dhanya, B.S., Rathnarajan, S., Santhanam, M., **Pillai, R.G.**, and Gettu, R., “Carbonation and its effect on microstructure of concrete with fly ash and ground granulated blast furnace slag,” *Indian Concrete Journal*, 93 (4) 10 – 21, April 2019
5. Nair, S.A.O. and **Pillai, R.G.**, “TM-Ring Test and Apparatus – A Quality Control test for TMT (or QST) steel reinforcing bars used in reinforced concrete systems”, *Indian Concrete Institute (ICI) Journal*, 18: 27-35, April-June, 2017

4. **Surana, S., Pillai, R. G.,** and Santhanam, M, “Performance evaluation of field curing methods using durability index tests,” *Indian Concrete Journal*, 91 (7): 37-50, July 2017, [JIF: 0.20]
3. **Karuppanasamy, J., and Pillai, R.G,** “Probabilistic corrosion rates of Cold-Twisted Deformed (CTD) and Thermo-Mechanically Treated or Quenched and Self-Tempered (TMT/QST) Steels in chloride-contaminated mortar,” *Indian Concrete Journal*, 90 (11): 45-55, November 2016. [JIF: 0.20]
2. **Sherfudeen, A., Kumar, N., Raghavan, N., Pillai, R.G.,** and Kalidindi, K.N., “Promoting precast concrete for affordable housing – An overview on promotional policies worldwide and challenges and possibilities in India,” *Indian Concrete Journal*, May 2016. [JIF: 0.20]
1. **Pillai R.G.,** and **Annapareddy, A.,** “Service life models for chloride-laden concrete structures: A review and nomographs,” *International journal of 3Rs (Repair, Restoration and Renewal of Built Environment)*, 4 (2): 563-580, April-June 2013

### International journals

- \* Mohan, M. K., **Pillai, R.G.,** Santhanam, M. and Gettu, R., “High-performance grout with fly ash for corrosion protection of post-tensioned concrete structures”, *Construction and Building Materials* (in review)
  - \* Joseline, D., **Pillai, R. G.,** and Neelakantan, L., “Initiation of stress corrosion cracking in cold-drawn prestressing steel in hardened cement mortar exposed to chlorides”, *Corrosion* (in review).
  - \* Kamde, D.K., Kessler, S., and **Pillai, R. G.,** “Condition assessment of reinforced concrete systems with fusion-bonded epoxy-coated rebars”, *Corrosion* (in-review).
  - \* Kamde, D.K., and **Pillai, R. G.,** “Service life of concrete systems with Cement Polymer-Composite (CPC) coated steel rebars”, *ACI Materials Journal* (in-review).
36. Rengaraju, S., **Pillai, R. G.,** Gettu, R., and Neelakantan, L., (2021), “Effect of test methods on corrosion phenomena of steel in highly resistive concrete systems and data interpretations”, *Corrosion*, <https://doi.org/10.5006/3705>.
  35. Kamde, D.K., and **Pillai, R. G.** (2021), “Corrosion initiation mechanisms and prediction of the service life of concrete systems with fusion-bonded-epoxy (FBE) coated steel rebars and exposed to chlorides”, *Construction and Building Materials*, Elsevier, 122314, <https://doi.org/10.1016/j.conbuildmat.2021.122314> [IF: 4.419; CC: 1].
  34. Harilal, M., Kamde, D.K., Uthaman, S., George, R.P., **Pillai, R. G.,** Philip, J., and Albert, S.K. (2021), “The chloride-induced corrosion of a fly ash concrete with nanoparticles and corrosion inhibitor,” *Construction and Building Materials*, 274.
  33. Kamde, D.K., Zintel, M., Kesler, S., and **Pillai, R. G.,** (2020), “Performance indicators and specifications for fusion-bonded-epoxy (FBE) coated steel rebars in concrete exposed to chlorides”, *Sustainable and Resilient Infrastructure*. DOI: 10.1080/23789689.2020.1871539
  32. Kamde, D.K., and **Pillai, R. G.,** (2020), “Effect of sunlight/ultraviolet exposure on the corrosion of fusion bonded-epoxy (FBE) coated steel rebars in concrete”, *Corrosion*, 76(9), 843–860.
  31. **Pillai, R. G.,** Gettu, R., Santhanam, M. (2020), “Use of supplementary cementitious materials (SCMs) in reinforced concrete systems – Benefits and limitations”, *Revista ALCONPAT*, Volume (Issue), 10(2), 147-164



30. Nair, S.A.O. and **Pillai, R.G.** (2020), “Microstructural and corrosion characteristics of Quenched and Self-Tempered (QST) steel reinforcing bars,” *Construction & Building Materials*, Elsevier, 231, 117109.
29. Kamde, D. K., and **Pillai, R. G.** (2020), “Effect of surface preparation on corrosion of steel rebars coated with cement-polymer-composites (CPC) and embedded in concrete” *Construction and Building Materials*, 237
28. Mohandoss, P., **Pillai, R.G.**, and Sengupta, A. (2020), “Effect of compressive strength of concrete on transmission length of pre-tensioned concrete systems,” *Structures*, Elsevier, 23 304-313.
27. Rengaraju, S., Godara, A., Alapati, P., and **Pillai, R. G.** (2020). “Macrocell corrosion mechanisms of prestressing strands in various concretes,” *Magazine of Concrete Research*, 72(4), 194–206
26. Gettu, R., Santhanam, M., and Pillai, R. G., *Revista Hormigón*, 58, 2019 (In Spanish)
25. Angst, U.M., Geiker, M.R., Alonso, M-C, Polder, R., Isgor, O.B., Elsener, B., Wong, H., Michel, A., Hornbostel, K., Gehlen, C., François, R., Sanchez, M., Criado, M., Sørensen, H., Hansson, C., **Pillai, R.G.**, Mundra, S., Gulikers, J., Raupach, M., Pacheco, J., Sagüés, A., The effect of the steel–concrete interface on chloride-induced corrosion initiation in concrete: a critical review by RILEM TC 262-SCI, *Materials and Structures*, RILEM – Springer, 52(4) 2019
24. Huy Vu Q., Pham, G., Chonier, A., Brouard, E., Rathnarajan S., **Pillai R.G.**, Gettu, R., Santhanam, M., Aguayo, F., Folliard, K., Thomas, M.D., Shi, C., “Impact of different climates on concrete resistance to natural carbonation,” *Construction & Building Materials*, Elsevier, 216, 450-467, (2019).
23. Rengaraju, S., Neelakantan, L., and **Pillai, R.G.**, “Investigation on the polarization resistance of steel embedded in highly resistive cementitious systems - An attempt and challenges,” *Electrochimica Acta*, Elsevier, 308(10), 131-141 (2019) [JIF: 5.116]
22. Dhanya B.S., Santhanam, M., Gettu, R., **Pillai, R.G.**, Performance evaluation of concretes having different supplementary cementitious material dosages belonging to different strength ranges, *Construction and Building Materials*, Elsevier, 187, 984–995 (2018) [JIF: 4.22]
21. Gettu, R., **Pillai, R.G.**, Santhanam, M., Basavaraj, A.S., Rathnarajan S., and Dhanya, B.S., "Sustainability-Based Decision Support Framework for Choosing Concrete Mixture Proportions", *Materials and Structures*, RILEM, Springer, DOI: 10.1617/s11527-018-1291-z, 51:165, 16 p. (2018). [JIF: 2.6]
20. **Pillai R.G.**, Gettu, R., Santhanam, M., Rengaraju, S., Dhandapani, Y., Rathnarajan, S., Basavaraj, A.S., Service life and life cycle assessment of reinforced concrete systems with limestone calcined clay cement (LC3), *Cement and Concrete Research*, Elsevier, 118, 111-119, (2019) [JIF: 6.08]
19. Rengaraju, S., Alapati, P., Godara, A., and **Pillai, R.G.**, “Macrocell corrosion mechanisms and challenges in testing of steel rebars and prestressing strands in highly resistive concretes,” *Magazine of Concrete Research*, Institution of Civil Engineers (UK), <https://doi.org/10.1680/jmacr.18.00284> (2018) [JIF: 1.488]
18. Kamalakannan, S., Thirunavukkarasu, R., **Pillai, R.G.**, and Santhanam, M., “Factors influencing the performance characteristics of cementitious grouts for post-tensioning applications,” *Construction and Building Materials*, Elsevier, 180, 681-691 (2018) [JIF: 4.22]

17. Mohandoss, P. and **Pillai, R.G.**, “Transmission length of pre-tensioned concrete systems with high strength concrete – codes and experimental data,” *Magazine of Concrete Research*, Institution of Civil Engineers (UK), <https://doi.org/10.1680/jmacr.17.00553> (2018) [JIF: 1.488]
16. Dhandapani, Y., Thanga, S., Santhanam, M., Gettu, R., and **Pillai, R.G.**, “Mechanical properties and durability performance of concretes with Limestone Calcined Clay Cement (LC<sup>3</sup>),” *Cement and Concrete Research*, Elsevier, 107:136-151, 2018. [JIF: 6.08]
15. Rajagopal, R., Sharma, S., **Pillai, R.G.**, and Subramanian, S.J., “Assessment of mechanical properties of corroded rebars using Digital Image Correlation (DIC) Technique”, *Journal of Testing and Evaluation*, ASTM, 46(5): September 2018 [JIF: 0.471]
14. Karuppanasamy, J., and **Pillai, R.G.**, “Statistical distributions for corrosion rates of conventional and prestressing steel reinforcement embedded in chloride contaminated mortar”, *Corrosion Journal*, NACE, 73 (9):1119-1131, September 2017 [JIF: 2.98]
13. Karuppanasamy, J., and **Pillai, R.G.**, “A short-term test method to determine the chloride threshold of steel-cementitious systems with corrosion inhibiting admixtures”, *Journal of Materials and Structures*, RILEM - Springer, 50 (4), August 2017 [JIF: 2.6]
12. Surana, S., **Pillai, R. G.**, and Santhanam, M, “Performance evaluation of curing methods using durability index parameters,” *Construction and Building Materials*, Elsevier, 148: 538-547, May 2017 [JIF: 2.42]
11. Sangoju, B., **Pillai, R.G.**, Gettu, R., Bharatkumar, B.H., and Iyer, N.R., “Use of portland pozzolana cement to enhance the service life of reinforced concrete exposed to chloride attack,” *ASCE Journal of Materials in Civil Engineering*, 27 (11), March 2015 [JIF: 0.926]
10. Firodiya, P., Sengupta, A., and **Pillai, R.G.**, “Evaluation of corrosion rates of reinforcing bars for probabilistic assessment of existing road bridge girders,” *ASCE Journal of Performance of Constructed Facilities*, 29 (3), January 2014; [JIF: 0.698]
9. **Pillai, R.G.**, Trejo, D., Gardoni, P., Hueste, M.D., and Reinschmidt, K.F., “Time-variant flexural reliability of post-tensioned, segmental concrete bridges exposed to corrosive environments,” *ASCE Journal of Structural Engineering*, 140 (8), May 2014 [JIF: 1.340]
8. **Pillai, R.G.**, Reinschmidt, K.F., Trejo, D., Gardoni, P., and Hueste, M.D., “Predicting residual tensile strength of 7-wire strands using that of single wires exposed to chloride environments,” *ASCE Journal of Materials in Civil Engineering*, 26 (8), September 2013 [JIF: 0.926]
7. **Pillai, R.G.**, Gardoni, P., Trejo, D., Hueste, M.D., and Reinschmidt, K.F., “Probabilistic models for the tensile strength of corroding strands in post-tensioned, segmental concrete bridges,” *ASCE Journal of Materials in Civil Engineering*, 22(10): 967-977, October 2010 [JIF: 0.872]
6. **Pillai, R.G.**, Hueste, M.D., Gardoni, P., Trejo, D., and Reinschmidt, K.F., “Time-variant service reliability of post-tensioned, segmental concrete bridges exposed to corrosive environments,” *Journal of Engineering Structures*, Elsevier, 32 (9): 2596-2605, September 2010 [JIF: 1.826]
5. Gardoni, P., **Pillai, R.G.**, Hueste, M.D., Reinschmidt, K.F., and Trejo, D., “Probabilistic capacity models for post-tensioning strands calibrated using laboratory results,” *ASCE Journal of Engineering Mechanics*, 135 (9): 906-916, September 2009 [JIF: 1.061]
4. Trejo, D., **Pillai, R.G.**, Hueste, M.D., Reinschmidt, K.F., and Gardoni, P., “Parameters

- influencing corrosion and tension capacity of post-tensioned strands,” *ACI Materials Journal*, 106 (2): 144-153, March/April 2009 [JIF: 1.186]
3. **Pillai, R.G.**, and Trejo, D., “Surface condition effects on critical chloride threshold of steel reinforcements,” *ACI Materials Journal*, 102 (2): 103-109, March 2005 [JIF: 0.708]
  2. Trejo, D., and **Pillai, R.G.**, “Accelerated chloride threshold testing: Part II – corrosion resistant reinforcement,” *ACI Materials Journal*, 101 (1): 57-64, January 2004 [JIF: 0.702]
  1. Trejo, D., and **Pillai, R.G.**, “Accelerated chloride threshold testing: Part I – ASTM A615 and A706 reinforcement,” *ACI Materials Journal*, 100 (6): 519-527, November 2003 [JIF: 0.807]

## BOOKS

### ■ Co-authored research reports

4. Kamde, D.K., Joseline, D., Rengaraju, S., Karuppanasamy, J., and **Pillai, R.G.**, “Corrosion and service life assessment of concrete structures”, A Treatise in Corrosion Science, Engineering, Technology and Management: Perspectives & Strategies, Springer Nature, 2020.
3. Trejo, D., Hueste, M.D., Gardoni, P., **Pillai, R.G.**, Reinschmidt, K., Kataria, S., Im, S., Gamble, M., & Hurlebaus, S., “Effects of voids in grouted, post-tensioned, concrete bridge construction,” TxDOT Report No. 0-4588-1, Texas Transportation Institute, Texas Department of Transportation, Austin, Texas, USA, February 2009.
2. Trejo, D., Im, S, **Pillai, R.G.**, Hueste, M.D., Gardoni, P., Hurlebaus, S., & Gamble, M., “Inspection and repair manual for external tendons in post-tensioned bridges,” TxDOT Report No. 0-4588-1-P-1, Texas Transportation Institute, Texas Department of Transportation, Austin, Texas, USA, February 2009.
1. Trejo, D., and **Pillai, R.G.**, “Evaluation of the critical chloride threshold and corrosion rate for different steel reinforcement types,” Texas Engineering Experiment Station, College Station, Texas, July 2003.

### ■ Co-edited conference proceedings

5. **Pillai, R.G.**, Kamde, D.K., David, N., Rajendran, N., Mudali U.K. (eds.), “Corrosion: Fundamental and Practical Aspects for Prevention, Control, and Mitigation Strategies,” Proceedings of the 5<sup>th</sup> International Corrosion Prevention Symposium for Research Scholars (CORSYM), IIT Madras, Chennai, India (ISBN: 978-81-933428-2-4)
4. Santhanam, M., Gettu, R., **Pillai, R.G.**, and Nayar, S.K., (eds.), “Proceedings of an International Conference on Advances in Construction Materials and Systems,” RILEM PRO 118 (Vol. 1, 2, 3, and 4), 71<sup>st</sup> RILEM Week & ICACMS 2017, Chennai, September 3-8, 2017.
3. Gettu, R., Santhanam, M., Menon, A., and **Pillai, R.G.** (eds.), “Proceedings of the international conference on rehabilitation and restoration of structures,” BTCM 2013, IIT Madras, Chennai, February 12-16, 2013.
2. **Pillai, R.G.** (ed.), “Proceedings of the workshop on deterioration and rehabilitation of concrete structures,” ACECON 2010, IIT Madras, Chennai, December 9, 2010.
1. **Pillai, R.G.**, Govindasamy, A., Shook, D.A., Dincal, S., and Taylor, T.R.B. (eds.),



## PEER-REVIEWED INTERNATIONAL CONFERENCE PAPERS

(Underscored names indicate collaborating students)

- \* Kamde, D., and **Pillai, R.G.**, “Corrosion and bond performance of coated steels in reinforced concrete structures.”, CORROSION 2020, NACE, Houston, USA, March 2021 (accepted)
- 28. Kamde, D., and **Pillai, R.G.**, “Effect of exposure to UV on the performance of fusion-bonded-epoxy (FBE) coated steel rebars.”, CORCON 2019, NACE, Mumbai, Sept 23 – Sept 26, 2019 (Best Paper Award)
- 27. Gettu, R., Santhanam, M., **Pillai, R.G.**, Dhandapani, Y., Sakthivel, T., Rengaraju, S., Rathnarajan, S., Suma F.M., Basavaraja, A.S., Prakasan, S., and Nair N.V.G., “Summary of 4-years of research at IIT Madras on concrete with limestone calcined clay cement (LC3), Proceedings of the RILEM Convention and International Conference on Sustainable Materials, Systems and Structures, Rovinj, Croatia, March 18-22, 2019
- 26. Kamde, D., Krishnan, N., **Pillai, R.G.**, Sergi, G., Shah, D., and Velayudham, R., “8-year performance of cathodic protection systems in RC slabs and life-cycle cost benefits”, Proceedings of the RILEM Convention and International conference on Sustainable Materials, systems and structures, Rovinj, Croatia, March 18-22, 2019
- 25. Nair, S.A.O., **Pillai, R.G.**, and Gettu, R., “Effect of phase distributions on the corrosion of Quenched and Self-Tempered (QST) steel rebars”, 70<sup>th</sup> RILEM Week and International Conference on Materials, Systems and Structures in Civil Engineering 2016, Lyngby, Denmark, August 15-29, 2016
- 24. Nair, S.A.O., and **Pillai, R.G.**, “Localized chloride-induced corrosion of quenched and self-tempered (QST) steel rebar due to discontinuous peripheral tempered martensite phase”, Proceedings of the NACE Concrete Service Life Extension conference, Orlando, Florida, USA, May 23-25, 2016
- 23. Karuppanasamy, J., **Pillai, R.G.**, “Service life estimation of concrete structures with different steel types exposed to chloride environment”, NACE Concrete Service Life Extension Conference, Orlando, Florida, USA, May 23-25, 2016
- 22. Mohandoss, P., **Pillai, R.G.**, and Sengupta, A.K., (2015), "Comparison of prediction models for transmission length, development length and shear capacity of pre-tensioned concrete systems", Proceedings of the 4<sup>th</sup> Asian Conference on Ecstasy in Concrete, Kolkatta, India. 8-10 October 2015
- 21. Rengaraju, S., and **Pillai, R.G.**, “Chloride-Induced Corrosion Rates of Steel Embedded in Mortar with Ordinary Portland and Limestone Calcined Clay Cements (OPC and LC3)”, Proceedings of the 1<sup>st</sup> International Conference on Calcined Clays for Sustainable Concrete, Lausanne, Switzerland, June 2015
- 20. Santhanam, M., Kumar, S., Gettu, R., and **Pillai, R.G.**, “Evolving Acceptance Criteria for Concrete Durability Tests in Construction Projects,” 2<sup>nd</sup> R.N. Raikar International Conference and Banthia-Basheer International Symposium on Advances in Science and Technology of Concrete, Mumbai, India, 18-19 December, 2015
- 19. Kamalakkannan, S., Thirunavukkarasu, R., **Pillai, R.G.**, and Santhanam, M., “Assessment of Grouts for Post-Tensioning Applications,” 2<sup>nd</sup> R.N. Raikar International Conference and Banthia-Basheer International Symposium on Advances in Science and Technology of Concrete, Mumbai, India, 18-19 December, 2015.

18. Rajagopal, R., Sharma, S., Pillai, R.G., and Subramanian, S.J., “Feasibility of Digital Image Correlation Technique to Determine Mechanical Properties of Corroded Steel Rebars,” 69<sup>th</sup> Proceedings of the RILEM Week and 27<sup>th</sup> Biennial National Conference of the Concrete Institute of Australia, Melbourne, Australia, August 30 – September 3, 2015
17. Shukla K.N., and Pillai R.G., Probabilistic Modeling of Chloride Diffusion Coefficient in Concrete with Supplementary Cementitious Materials,” Proceedings of the 4<sup>th</sup> International Conference on Concrete Repair, Rehabilitation, and Retrofitting (ICRRR 2015), Leipzig, Germany, 5-7 October 2015.
16. Nair, S.A.O., Gokul P.R., Sethuraj R., Nandipati S., Pillai.R.G., “Variations in microstructure and mechanical properties of Thermo-Mechanically-Treated (TMT) steel reinforcement bars”, Proceedings of the 4th Asian Conference on Ecstasy in Concrete (ACECON), October 8-10, 2015, Kolkata, 325-331, Indian Concrete Institute
15. Karuppanasamy, J., and Pillai, R.G., "Issues with the application of potential gradient in evaluating the performance of corrosion inhibitors in steel-cementitious systems", Proceedings of the International Conference on Ecstasy in Concrete (ACECON 2015), Kolkata, India, October 08-10, 2015.
14. Karuppanasamy, J., Pillai, R.G., 2014, “Probabilistic Estimation of Corrosion Propagation Period for Prestressed Concrete Structures Exposed to Chlorides”, 4<sup>th</sup> International Conference on Durability of Concrete Structures (ICDCS 2014), Purdue University, West Lafayette, Indiana, USA, 24–26 July 2014.
13. B. S. Dhanya, M. Santhanam, R. G. Pillai and R. Gettu (2014) Evaluation of various electrical methods used to assess chloride transport in concrete”, Proceedings of The 4<sup>th</sup> *fib* Congress (Improving performance of concrete structures), Mumbai, February 2014.
12. Annapareddy, A., Kumar, S.O.A., Annapareddy, T., Ramesh, A., Mariam, C., and Pillai, R.G., “Flowable grout for post-tensioned segmental concrete bridges,” Proceedings of the 1<sup>st</sup> R.N. Raikar Memorial International Conference and Prof. Suru Shah Symposium, Mumbai, India, December 20-21, 2013.
11. Gettu, R., Pillai, R.G., Santhanam, M., and Dhanya, B.S., “Improving the sustainability of concrete technology through the effective use of admixtures,” Proceedings of the 10<sup>th</sup> International Symposium on Advancement of Cement and Concrete Industries, Korea Concrete Institute, Seoul, Korea, December 3, 2013.
10. Sangoju, B., Gettu, R., Pillai R.G., Bharatkumar, B.H., and Iyer, N.R., “Influence of portland pozzolana cement on the service life of reinforced concrete under chloride attack,” Proceedings of the 3<sup>rd</sup> International Conference on Sustainable Construction Materials & Technologies (SCMT3), Kyoto, Japan, August 18-21, 2013
9. Venkataramu, V., Karuppanasamy, J., Kishore, A., and Pillai R.G., “Effects of corrosion inhibitors on the critical chloride threshold of thermo-mechanically treated (TMT) steel,” Proceedings of the 3<sup>rd</sup> International Conference on Sustainable Construction Materials & Technologies (SCMT3), Kyoto, Japan, August 18-21, 2013
8. Venkataramu, V., Karuppanasamy, J., and Pillai R.G., “Effects of calcium nitrite corrosion inhibitor on the chloride threshold of TMT steel,” Paper No. 333, Proceedings of the UKIERI Concrete Congress – Innovations in concrete construction, March 5-8, 2013, Jalandhar, India
7. Firodiya, P.K., Pillai, R.G., Sengupta, A.K., Menon, D., Corrosion rates of plain mild steel and cold-twisted deformed steel reinforcement,” Paper No. 334, Proceedings of the UKIERI Concrete Congress –Innovations in concrete construction, March 5-8, 2013, Jalandhar, India
6. Annapareddy A., Agarwal, A., and Pillai R.G., “Service life prediction models for concrete structures – A comparative study,” In Gettu, R., Santhanam, M, Menon, A. and

- Pillai R.G. (eds.), Proceedings of an International Conference on Rehabilitation and Restoration of Structures, IIT Madras, Chennai, India, February 12-16, 2013
5. **Pillai, R.G.**, and Trejo, D., “Effects of test procedures on critical chloride threshold of steel,” Proceedings of the 3<sup>rd</sup> International Conference on the Durability of Concrete Structures (ICDCS 2012) Belfast, UK, September 17-19, 2012
  4. **Pillai, R.G.**, Trejo, D., Gardoni, P., Reinschmidt, K.F., and Hueste, M.B.D., “A reliability-based service-life design approach for segmental concrete bridges subject to corrosive conditions,” Proceedings of the 3<sup>rd</sup> International Conference on the Durability of Concrete Structures (ICDCS 2012) Belfast, UK, September 17-19, 2012
  3. **Pillai, R.G.**, Gardoni, P., Hueste, M.D., Reinschmidt, K.F., and Trejo, D., “Flexural reliability of corroding segmental, post-tensioned bridges,” In Safety, Reliability and Risk of Structures, Infrastructure Engineering Systems – Furuta, Frangopol, and Shinozuka (eds.), Proceedings of the 10<sup>th</sup> International Conference on Structural Safety and Reliability (ICOSSAR10), Osaka, Japan, September 2009.
  2. **Pillai, R.G.**, Gardoni, P., Hueste, M.D., Reinschmidt, K.F., and Trejo, D., “Probabilistic capacity models for corroding strands in post-tensioned bridges with voided tendons,” In Kanda, J. Takada, T. & Furuta, H. (eds.), Proc. of the 10<sup>th</sup> International Conference on the Applications of Statistics and Probability in Civil Engineering (ICASP10), Tokyo, Japan, July 31-August 3, 2007.
  1. Ramakrishna, K., Agarwal, S., and **Pillai R.G.**, “Enhanced Programming Techniques for the Analysis of Skeletal Structures,” Proceedings of the South-East Asian Conference of Architects and Civil Engineers, Nepal, April 1999

---

## NATIONAL CONFERENCE PAPERS

(Underscored names indicate collaborating students)

8. Giriraju, R., Sengupta, K.A., and **Pillai, R.G.**, ‘An Assessment of the Deterioration of Flexural Capacity of Pretensioned Concrete Girder Due to Strand Corrosion’, Paper No. 311, 10<sup>th</sup> Structural Engineering Convention (SEC), Chennai, December 21-23, 2017
7. Mohandoss, P., Kompella, K.S., **Pillai, R.G.**, ‘Bond Performance of Pre-tensioned Concrete Systems, No. 827, 10<sup>th</sup> Structural Engineering Convention (SEC), Chennai, December 21-23, 2017
6. Raghavan, N., **Pillai, R.G.**, and Sherfudeen, A.P., The Indian Precast Concrete Industry – Where do we go from here?, National Conference on Precast Concrete Construction, Indian Concrete Institute, Chennai, February 12, 2016
5. Ariyath, A., **Pillai, R.G.**, Gettu, R., and Santhanam, M., “Deterioration of concrete materials in dam structures and possible testing and repair materials – A brief overview,” National Dam Safety Conference, IIT Madras, Chennai, India, March 2015
4. Sherfudeen, A.P., Raghavan, N., **Pillai, R.G.**, and Kalidindi, S.N., “Productivity in precast concrete construction sites in India,” Paper No. PA022, Indian Lean Construction Conference (ILCC), Mumbai, India, 6-7 February 2015
3. Firodiya, P.K., Menon, D., Sengupta, A.K., and **Pillai, R.G.**, “A Probabilistic Assessment of the Deterioration of Flexural Capacity of a Reinforced Concrete Bridge Deck due to Corrosion of Steel Bars,” Structural Engineering Congress (SEC-2012), S. V. National Institute of Technology, Surat, Gujarat, India, December 19-21, 2012
2. Jegan, V., Mary Jacob, V., and **Pillai, R.G.**, “Effects of corrosion inhibitor on the performance of mild steel and prestressing steel,” Proceedings of the National Conference on Recent Advances in Civil Engineering (RACE-2011), Institute of Technology – Banaras Hindu University, Varanasi, U.P., India, October 14-16, 2011
1. **Pillai, R.G.**, “Corrosion and service life prediction of reinforced concrete structures,” National Conference on Advances in Materials and Structures (AMAS 2011), Pondicherry Engineering College, Pondicherry, India, February 3-4, 2011.

## OTHER PAPERS/POSTERS/PRESENTATIONS/INVITED TALKS

(Underscored names indicate collaborating students; \* indicates presenter, if any)

11. \*Kamde, D., and Pillai, R.G. “Service life of concrete systems with coated steel rebars”, Poster presentation at ACI Convention, Chicago, USA, October 2020.
10. **Pillai, R.G.**, “Durability-based design of concrete structures,” CORSYM 2017, May 3-4, Kuala Lumpur, Malaysia
9. **Pillai, R.G.**, “Durability-based design of concrete structures,” Universiti Kebangsaan Malaysia (UKM), The National University of Malaysia, May 2, 2017, Kuala Lumpur, Malaysia
8. \*Kompella, S.K., Gettu, N., Mohandoss, P., and **Pillai, R.G.**, “A Study on the performance of bond in pre-tensioned concrete railroad ties (sleepers)”, the concrete convention and exposition, American concrete institute, Detroit, USA, March 26-30, 2017. (Oral presentation)
7. \*Joseline, D., Karuppanasamy, J., Dhanya, B.S., and **Pillai, R.G.**, “Chloride Threshold of Prestressing Steel and Corrosion Initiation Time - Laboratory Tests and Case Study”, Proceedings of the International Conference and Expo on Corrosion (CORCON 2016), New Delhi, India, September 18-21, 2016 (**Won the “Best Poster Award”**)
6. \*Nair, S.A.O., Abhinav, R., Mitra, P., Aiswarya, R., Ishack, S., and **Pillai, R.G.**, “Microstructural phase distribution and corrosion characteristics of Thermo-Mechanically Treated (TMT) steel reinforcement bars,” Proceedings of the International Conference and Expo on Corrosion (CORCON 2016), New Delhi, India, September 18-21, 2016. (**Won the “Best Poster Award”**)
5. \*Godara, A., Padmapriya, and **Pillai, R.G.**, “Corrosion Initiation In 7-Wire Strands Used In Prestressed Concrete Structures,” Proceedings of the International Conference and Expo on Corrosion (CORCON 2016), New Delhi, India, September 18-21, 2016
4. \*Kamde, D., and **Pillai, R.G.**, “Effect of surface treatment on the performance of Cement Polymer Composite (CPC) coatings for steel in concrete structures,” Proceedings of the International Conference and Expo on Corrosion (CORCON 2016), New Delhi, India, September 18-21, 2016
4. \*Mohandoss, P., Kompella, S.K., Maheswari, S.K., Nair, S.A.O., and **Pillai, R.G.**, Poster on “Factors influencing the bond behaviour of pretensioned concrete system” Gordon Research Conference (GRC), Hong kong, China, July 31 – August 8, 2016.
3. \*Karuppanasamy, J., and **Pillai, R.G.**, "A test method to determine the effect of corrosion inhibitors on chloride threshold of steel-cementitious systems", Proceedings of the International Conference and Expo on Corrosion (CORCON 2015), Chennai, India, November 19-21, 2015.
2. \***Pillai, R.G.**, Karuppanasamy, J., Dhanya B. S., Nair, A.O., Santhanam, M., and Gettu, R., "Enhancing the corrosion resistance of reinforced concrete structures - Indian Scenario and challenges ahead", Invited Lecture, International Conference and Expo on Corrosion (CORCON), Chennai, India, November 19-21, 2015.
1. \*Rengaraju, S., Rathnarajan, S., Velayudhan, A., Pugal, O., and **Pillai, R.G.**, “Effect of Corrosion Inhibitors on Durability Parameters of Cement Mortar”, CORCON 2015, India (**Won the Best paper award in the “Young Scientist Forum” Category**)



# STUDENT GUIDANCE IN IIT MADRAS

PhD completed – 5  
PhD (other stages) - 4  
MS completed – 3  
MS ongoing - 1  
MTech/DD – 17+

## ▪ **Doctor of Philosophy (Ph.D.) – Guide**

- Jayachandran Karupanasamy (CE10D022), “Study on accelerated chloride threshold test for systems with corrosion inhibiting admixtures and corrosion rates of various steels in cement mortar”; July 2017.
- Prabha Mohandoss (CE13D046), “Study on the factors affecting the performance and evaluation of steel-concrete bond in prestressed concrete systems”; September 2019
- Sripriya Rengaraju (CE14D024), “Study on the electrochemical response from advanced steel-cementitious systems and chloride threshold estimation”; September 2019
- Sundar Rathnarajan (CE15D014) “Study on the service life assessment of concrete structures with SCMs and subjected to carbonation”; Thesis proposal planned in January 2019
- Dyana Joseline (CE15D031) “Effect of stress and voids on the corrosion and service life of prestressed concrete structures”; Thesis proposal defended in June 2018
- Deepak Kamde (CE15D074) “Study on the assessment of corrosion in reinforced concrete systems with coated reinforcement and cathodic protection systems”, Thesis proposal defended in June 2018
- Karthikeyan Manickam (CE18D014) – “Corrosion mechanisms and cathodic protection of post-tensioned concrete systems”, Thesis proposal planned in January 2020

## ▪ **Doctor of Philosophy (Ph.D.) – Co-guide**

- Sakthivel Thangavel – “Experimentation and modeling of creep and shrinkage of concrete systems with various SCMs”; Co-guiding with Prof. Ravindra Gettu; September 2019
- Vimal Mohan – “Detection of corrosion initiation in prestressed concrete systems”; Co-guiding with Dr. P. Srinivasan, CSIR-SERC, Chennai

## ▪ **Master of Science (M.S.)**

- Ranjitha Rajagopal – Assessment of mechanical properties of corroded rebars using digital image correlation (DIC); July 2016
- Sooraj A.O. Nair – A study on corrosion and mechanical characteristics of quenched and self-tempered steel reinforcing bars in concrete structures; July 2017
- Manu K. Mohan – Development of a flowable, high-performance cementitious grout for post-tensioning applications; May 2019
- Naveen Krishnan – Cathodic protection of reinforced concrete systems; Started in January 2019

## ▪ **Master of Science (M.S.) – Co-guide**

- Saarthak Surana – “Performance evaluation of curing compounds using strength and durability parameters of concrete”; Co-guiding with Prof. Manu Santhanam; July 2017

## ■ M. Tech. and Integrated B.Tech. and M.Tech. (Dual Degree)

### Graduated students

- M.Tech., Vibha Venkatramu (CE10M200) Electrochemical characterization of thermomechanically treated (TMT) steel in mortar with corrosion inhibitors, 2012
- M.Tech., Swathi Kurumoji (CE11M185) Comparative evaluation of precast and cast in-situ construction for multi-storied buildings, 2013; Co-guided with Prof. N. Raghavan
- DD, Prasanth Alapati (CE09B003) Accelerated corrosion test method and evaluation of steel-cementitious systems with corrosion inhibitors and blended cements, 2014
- DD, Nitish Kumar – Precast concrete construction: A review of promotional policies a worldwide and feasibility in India, 2014; Co-guided with Prof. N. Raghavan
- DD, Neelotpal Shukla – Modelling of chloride diffusion coefficients in concrete with supplementary cementitious materials and sensitivity analysis, 2015
- M.Tech., Arifullah (CE3M153) Assessment and measures for the growth of Indian precast concrete construction industry, 2015; Co-guided with Prof. N. Raghavan
- M.Tech., Suruthi Kamalakkannan – Evaluation of commercially available post-tensioning grouts and assessment of mixing variables, 2015; Co-guided by Prof. Manu Santhanam
- M.Tech., Ramya Thirunavukkarasu – Formulation of cementitious grouts for post-tensioning applications, 2015; Co-guided by Prof. Manu Santhanam
- DD, Gokul Dev V. (CE11B015) Study on corrosion of steel fibres by macrocell corrosion method, 2016
- M.Tech., Saurabh Singh (CE14M010) Barriers in precast concrete building construction and an action plan, 2016; Co-guided with Prof. N. Raghavan
- M.Tech., Ashok Gorantla, Development of indigenous high performance grout for post-tensioning applications in India, 2016; Co-guided by Prof. Manu Santhanam
- DD, Abhishek Raj – Study on the flow properties of cementitious grouts and identifying suitable test methods, 2017
- DD, Anand Godara – Effect of corrosion inhibitors on the transport properties of cementitious systems, 2017
- DD, Shashank Aandhwan, Study on corrosion of steel fibres by macrocell corrosion method, 2017
- M.Tech., Gopakumar Kaladharan, Development of guidelines for cold-weather concreting in India, 2017; Co-guided with Prof. Ravindra Gettu
- M.Tech., Abhishek Srivastava, Effect of advanced concrete materials and construction techniques on the cost and speed of construction, 2017; Co-guided with Prof. N. Raghavan
- M.Tech., Vishnu Ayanampudi – Mixture proportioning and flow properties of cementitious grouts for post-tensioning applications, 2017; Co-guided by Prof. Manu Santhanam

## STUDENT GUIDANCE OUTSIDE IIT MADRAS

### ■ Doctor of Philosophy (Ph.D.)

- C. V. S. Nagendra (17151191189/PhD), “Use of mineral admixtures in concrete”, Guide: Dr. Vidjeapriya; Anna University, Chennai
- P. Ramani, “NDT assessment for concrete structures”; Guide: Dr. V. Subbiah Bharathi; SRM University Ramapuram, Chennai
- Rajapriya, “Performance and use of Laterite Sand in Concrete”; Guide: Dr. Ponmalar; Anna University, Chennai
- Tayyab Fazal Ullah Ahmed (RRN 160803101004) "Study on combined corrosion protection methods for enhanced durability of reinforced concrete structures"; Guide: Prof. Haji Sheikh Mohammed, B.S. Abdur Rahman University, Chennai
- S. Shafeer Ahamed (RRN 1280207) "Development of corrosion inhibitor for steel-cementitious systems using nitrites and nano materials"; Guide: Prof. Haji Sheikh Mohammed, B.S. Abdur Rahman University, Chennai
- P. Aananya Chandran, “High early strength concrete for modular construction”;

## AWARDS WON BY STUDENTS

- **Outstanding Poster Award – 1<sup>st</sup> Place - ACI Spring Convention & Exposition 2019**
  - Sripriya Rengaraju, Radhakrishna G. Pillai, Lakshman Neelakantan, Ravindra Gettu, and Manu Santhanam, “Electrochemical response and chloride threshold of steel embedded in highly resistive concrete systems,” ACI 123 Concrete Research Poster Session, ACI Spring Convention, Quebec, Canada, March 19-23, 2019
- **Outstanding Poster Award – 1<sup>st</sup> Place - ACI Spring Convention & Exposition 2018**
  - Prabha Mohandoss, Radhakrishna G. Pillai, Ravindra Gettu, and Amlan K. Sengupta, “Strand-Concrete Bond in Pre-tensioned Concrete Systems – Mechanisms and Laboratory Testing,” ACI 123 Concrete Research Poster Session, ACI Spring Convention, Salt Lake City, USA, March 26-30, 2018
- **Best Presentation Award – CORSYM 2018**
  - Deepak K. Kamde and Radhakrishna G. Pillai, “Electrochemical Responses and Service Life Estimation of Reinforced Concrete Structures with Fusion-Bonded-Epoxy-Coated Rebars,” at 5<sup>th</sup> CORSYM 2018, Chennai, March 23-24, 2018
- **Best Paper Award – CORCON 2017**
  - Sundar Rathnarajan and Radhakrishna G. Pillai, “Carbonation-induced corrosion and service life estimation”, CORCON 2017, Mumbai, September 17-20, 2018
- **Best M.S. Thesis 2017 – NACE Gateway India Section (NIGIS)**
  - Sooraj. A.O. Nair, A study of corrosion and mechanical characteristics of quenched and self-tempered (QST) or TMT steel reinforcing bars used in concrete structures, Master of Science Thesis, Dept. of Civil Engineering, IIT Madras, Chennai, July 2017.
- **Best Poster Award – RILEM Week & ICACMS 2017**
  - Sripriya Rengaraju and Radhakrishna G. Pillai, “Challenges in Determining the Chloride Threshold of Steel Embedded in Cementitious Systems,” 71<sup>st</sup> Annual RILEM Week ICACMS (Int. Conf. on Advances in Construction Materials and Systems), Chennai, September 3-8, 2017
- **Best Poster Awards – CORCON 2016**
  - Dyana Joseline and Radhakrishna G. Pillai, “Effect of Corrosion Inhibitor on Critical Chloride Threshold of Prestressing Steel” at CORCON 2016, New Delhi, September 18-21, 2016
  - Sooraj A.O. Nair and Radhakrishna G. Pillai, “Microstructural phase distribution and corrosion characteristics of Thermo-Mechanically Treated (TMT) steel reinforcement bars” at CORCON 2016, New Delhi on September 18-21, 2016
- **Best Project Award – ESIC 2017**
  - Sooraj A.O. Nair, Project titled “A Low Cost Extensometer for Civil/Mechanical Engineering Research Laboratories in Developing Countries” was selected as the ‘Best Project’ under ‘National Level’ category in ‘Civil Engineering’ stream in the Engineering Students Innovation Challenge (ESIC) 2017, organised by International Society for Scientific Research and Development (ISSRD), India, January 2017.
- **Best Poster award – CORCON 2015**
  - Rengaraju, S., Rathnarajan, S., Velayudhan, A., Pugal O., and Pillai, R.G., “Effect of Corrosion Inhibitors on Durability Parameters of Cement Mortar” at CORCON 2015, Chennai, November 19-21, 2015
- **1<sup>st</sup> prize, National competition on Corrosion Awareness Video, NIOT Chennai, 2013**
  - Alapati, P., Ranjith, K.S., Ranjitha, R., Kumar, N., Jayachandran, K., Organized by CII-Corrosion Management Committee and National Institute of Ocean Technology, Chennai

## PROFESSIONAL SERVICES

- **Association of Civil Engineering Doctoral Students (AceDocs), Texas A&M University**
  - Founding President; established “AceDocs” with approximately 50 doctoral students; Fall 2006
  - Successfully organized the **First CESRS** (Civil Engineering Student Research Symposium) at TAMU; Fall 2007
  - Co-edited the CESRS Proceedings with 51 student-authored papers (the papers were reviewed by civil engineering faculty and student participants)
  - Organized several invited-seminars on professional development and related topics
  - Provided professional mentoring services to undergraduate and graduate students
  
- **Peer reviewer**
  - Engineering Structures, Elsevier
  - ACI Structural Journal
  - ACI Materials Journal
  - ASCE J. of Materials in Civil Engineering
  - RILEM Materials and Structures
  - Cement and Concrete Research
  - Construction and Building Materials
  - Indian Concrete Institute Journal
  - Indian Concrete Journal
  
- **Indian Concrete Institute (ICI)**
  - Chairperson – ICI Chennai Chapter (2018 – present)
  - Member, Governing Council (2017-19)
  - Life Member
  - Past Member, Executive Committee, ICI-TNCC
  - Past Faculty advisor, ICI Students chapter, IIT Madras, Chennai
  - Faculty coordinator, **First ICI-FEST**, March 13-14, 2013; Now, ICI-FEST has become a flagship student level program of ICI and many colleges compete to organize the same.
  - Faculty coordinator, **First ICI-IITM National Concrete Canoe Competition (NCCC)**, August 21-23, 2015
  - Peer reviewer and one of the key organizers for ACECON 2010, Chennai, India
  
  - Coordinator, One-Day National Colloquium on Concrete Construction for Coastal Conditions – Causes, Concerns, and Challenges (7Cs), Kochi, Kerala
  - Coordinator, ICI-IITM 5-day course on Advanced Concrete Technology, February 23-28, 2014
  - Coordinator, **AICTE sponsored and RILEM-ICI 5-day course on Advanced Concrete Technology**, November 29 – December 4, 2015 (parallel courses)
  - Peer reviewer for ACECON 2015, Kolkata
  - Actively assisted ICI-Tamil Nadu Chennai Chapter in organizing many workshops/conferences for the past about 6 years
  - Member of multiple Award Selection Committees of ICI
  
- **NACE International Gateway India Section (NIGIS) - South Zone, Chennai, India**
  - Chairman – South Zone (2020 – present)
  - Secretary – South Zone (2017 – 2020)
  - Joint Secretary – South Zone (2016 – 17)
  - Guided the IITM team towards winning the 1<sup>st</sup> prize in the national Competition on Corrosion Awareness Video, Corrosion Awareness Day, NIOT, Chennai; This video is posted on ICI website for wider dissemination
  - Coordinator, 1<sup>st</sup> workshop on C3S (Corrosion Control in Concrete Structures) at IIT Madras
  - Coordinator, 2<sup>nd</sup> workshop on C3S on September 8, 2017
  - Session Chair and Judge, CORSYM 2015, IIT Madras, Chennai
  - Member, Organising Committee, CORCON 2015, Chennai
  - Chair of the Symposia on Corrosion in RCC Structures; Convener of Technical Interactive

- Forum on Corrosion in RCC Structures, CORCON 2016, New Delhi
  - Session Chair and Judge, and Invited Lecture in Workshop on Corrosion in Concrete Structures, CORSYM 2017, Kuala Lumpur
  - Chair of the Symposia on Corrosion in RCC Structures; Convener of Technical Interactive Forum on Corrosion in RCC Structures, CORCON 2017, Mumbai
- **RILEM, International Union of Laboratories and Experts in Construction Materials, Systems, and Structures**
    - Senior Member
    - Member, Technical Committee on “TDC - Test methods to determine durability of concrete under combined environmental actions and mechanical load”
    - Member, Technical Committee on “SCI - Characteristics of the steel/concrete interface and their effect on initiation of chloride-induced reinforcement corrosion”
    - Co-chair, Organising Committee, ICACMS 2017 and 71<sup>st</sup> RILEM Annual Week, Chennai
- **Civil Engineering Association (CEA)**
    - CEA Convener and co-convener (2 years) and active role even after that
    - Designed CEA Logo (along with my student Prasanth Alapati)
    - Established CEA Awards to energize students towards co-curricular activities and recognize those with all-round performance
    - Year-round programs in addition to the flagship programme, CEA Fest
    - **CE Research Expo**
- **Services to various committees at IIT Madras**
    - Various committees of Department of Civil Engineering
    - Various committees of Engineering Unit
    - Volunteered for student activities (Saarang / Shaastra / RSD)  
Provided informal feedback on various aspects to respective authorities
- **Services to other engineering colleges**
    - Member, Advisory Committee, Dept. of Civil Engg., RIT Govt. Engineering College, Kottayam, Kerala
      - Assisted in establishing and laying out a plan for Concrete Durability Research lab, the first of its kind in Kerala
      - Delivered lectures in multiple workshops and short-term training programs
    - Member, Advisory Committee, Dept. of Civil Engg., Albertian Institute of Science and Technology (AISAT), Kochi, Kerala
      - Assisted in the design and equipment selection for Concrete Technology Lab
    - Member, Faculty Selection Committee, Thiagarajar College of Engineering, Madurai



▪ **Delivered more than 75 invited lectures in about 7 years on the topics related to:**

- Corrosion, durability, and service life of concrete structures,
  - Research methodology and technical writing skills, and
  - Choosing a career and career prospects in civil engineering
  - Teaching as a profession of choice
- in various engineering colleges/organizations/workshops including...

**Tamil Nadu**

- PSG College of Technology, Coimbatore
- Govt. College of Technology, Coimbatore
- Amritha Vishwa Vidyapeetham, Coimbatore
- Central Electrochemical Research Institute (CECRI), CSIR, Karaikudi
- Alagappa Chettiar College of Engineering and Technology, Karaikudi
- K.S.R. Engineering College, Tiruchengodu
- Kongu Engineering College, Perundurai
- Gandhigram Rural University, Gandhigram, Dindigul
- Thiagarajar College of Engg., Madurai
- S.K.P. Engg. College, Peruvannamalai
- Crescent University, Chennai
- VIT - Vellore Institute of Technology, Chennai Campus
- S.A. Engineering College, Chennai
- SRM Valliammai Engg. College, Chennai
- SRM University, Kattankulathur Campus
- SRM University, Ramapuram Campus

**Kerala**

- College of Engineering, Trivandrum
- Government Engineering College, Barton Hill, Trivandrum
- TKM College of Engineering, Kollam
- Rajiv Gandhi Institute of Technology, Govt. Engg. College, Kottayam
- Cochin University of Science and Technology, CUSAT, Kochi
- SCMS College of Engineering, Kochi
- M.A. College of Engineering, Kothamangalam
- Government Engineering College Thrissur
- NSS Engineering College, Palakkad
- Al-Ameen Engineering College, Palakkad
- Institution of Engineers, Palakkad Chapter
- Government Engineering College Kannur

**Andhra Pradesh/Telangana**

- KL University, Vijayawada, Andhra Pradesh
- JNTU Kukatpally, Hyderabad, Andhra Pradesh

**North India and Abroad**

- BITS Pilani, Rajasthan
- MBM Engineering College, Jodhpur, Rajasthan
- 55<sup>th</sup> Annual NASA Convention, National Association of Students of Architecture, Gateway College for Architecture and Design, Sonapat, Haryana
- China Building Materials Academy, Beijing, China
- Universiti Kebangsaan Malaysia, Selangor, Malaysia