

DR. ARVIND PILLAI

Assistant Professor, Structural Engineering

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PROFILE

Structural engineer researching safer, low-carbon buildings and bridges. Combines laboratory testing, sensors and simulation, with consulting experience on 30+ public structures.

EDUCATION

- 2013 – 2018 **Ph.D., Structural Engineering**
Northern Institute of Engineering & Technology
Thesis: Seismic retrofit of unreinforced masonry
- 2011 – 2013 **M.Tech., Structural Engineering**
Northern Institute of Engineering & Technology
- 2007 – 2011 **B.Tech., Civil Engineering**
Deccan Valley University

RESEARCH EXPERIENCE

- 2019 – Present **Assistant Professor**
Coromandel Institute of Technology
 - › Run the structures lab; supervise 4 Ph.D. and 9 M.Tech. students.
 - › Developed a low-cost retrofit kit tested on 12 school buildings.
- 2018 – 2019 **Postdoctoral Researcher**
Hollins Institute of Technology
 - › Built sensor networks for monitoring two highway bridges.
- 2011 – 2013 **Design Engineer**
Greenfield Infra Projects
 - › Designed foundations and superstructures for 6 residential towers.

PUBLICATIONS

- Iyer, M., **Pillai, A.**, Okafor, D., & Fischer, A. (2026). Revisiting bridge health monitoring with sensors. *Earthquake Resilience Letters*, 11(9), 212–232.
- Pillai, A.**, & Menon, V. (2026). Measuring digital twins for flyovers. *Journal of Structural Engineering Practice*, 26(8), 426–435.
- Chen, L., **Pillai, A.**, & Okafor, D. (2026). Scaling low-carbon cement blends. *International Conference on Sustainable Infrastructure*, pp. 375–384.
- Gupta, R., **Pillai, A.**, & Fischer, A. (2025). Measuring seismic retrofitting of masonry schools. *International Conference on Sustainable Infrastructure*, pp. 429–441.
- Pillai, A.**, Banerjee, P., Chen, L., & Menon, V. (2025). A study of bridge health monitoring with sensors. *Concrete Research Reports*, 13(6), 756–767.
- Mensah, K., Chen, L., & **Pillai, A.** (2025). New approaches to flood-resilient housing. *International Conference on Sustainable Infrastructure*, pp. 491–502.
- Kim, J., **Pillai, A.**, Mensah, K., & Fischer, A. (2024). Designing for seismic retrofitting of masonry schools. *Earthquake Resilience Letters*, 34(11), 875–886.

- Haddad, N., Banerjee, P., & **Pillai, A.** (2024). Designing for bridge health monitoring with sensors. *Bridge Engineering Review*, 32(11), 125–147.
- Iyer, M., & **Pillai, A.** (2024). Evidence on digital twins for flyovers. *Concrete Research Reports*, 23(10), 573–583.
- Pillai, A.**, Gupta, R., Chen, L., & Kim, J. (2023). Understanding fibre-reinforced concrete beams. *Journal of Structural Engineering Practice*, 31(12), 285–302.
- Menon, V., **Pillai, A.**, & Okafor, D. (2023). New approaches to bridge health monitoring with sensors. *Earthquake Resilience Letters*, 44(12), 185–196.
- Pillai, A.**, Chen, L., & Gupta, R. (2023). Measuring low-carbon cement blends. *Concrete Research Reports*, 37(9), 811–829.
- Rao, S., & **Pillai, A.** (2022). Understanding fibre-reinforced concrete beams. *International Conference on Sustainable Infrastructure*, pp. 372–381.
- Chen, L., Menon, V., & **Pillai, A.** (2022). Evidence on flood-resilient housing. *Bridge Engineering Review*, 36(11), 883–905.
- Banerjee, P., **Pillai, A.**, & Sato, Y. (2022). Towards bridge health monitoring with sensors. *International Conference on Sustainable Infrastructure*, pp. 421–430.
- Haddad, N., & **Pillai, A.** (2021). Towards flood-resilient housing. *Concrete Research Reports*, 22(9), 539–554.

CONFERENCE PRESENTATIONS & INVITED TALKS

- › Invited talk: “Evidence on digital twins for flyovers”, Symposium on Structural Engineering Practice, Pune, 2026.
- › Contributed talk: “Evidence on digital twins for flyovers”, Earthquake Resilience Letters, Chennai, 2026.
- › Seminar: “Measuring low-carbon cement blends”, International Conference on Sustainable Infrastructure, Singapore, 2025.
- › Invited talk: “New approaches to seismic retrofitting of masonry schools”, Earthquake Resilience Letters, Berlin, 2025.
- › Contributed talk: “Understanding digital twins for flyovers”, Earthquake Resilience Letters, Hyderabad, 2024.
- › Keynote: “Scaling low-carbon cement blends”, Concrete Research Reports, Berlin, 2024.
- › Keynote: “Scaling digital twins for flyovers”, Concrete Research Reports, Bengaluru, 2023.

TEACHING

- › Design of Concrete Structures (B.Tech.)
- › Earthquake Engineering (M.Tech.)
- › Structural Health Monitoring (elective)

GRANTS, AWARDS & HONOURS

- › PI, state disaster authority grant on school safety (2021–2024), ₹85 lakh
- › Young Engineer Award, national engineering academy (2022)
- › Best Paper, International Conference on Sustainable Infrastructure (2020)

PROFESSIONAL SERVICE

- › Member, state committee for building code revision (2023–present)
- › Consultant for structural audits of 30+ public buildings

SKILLS

Analysis: ETABS, SAP2000, OpenSees, ABAQUS

Lab: Shake-table and quasi-static testing, sensor instrumentation

Codes: IS 456, IS 1893, IS 13920

Languages: English, Malayalam (native), Hindi, Tamil

REFERENCES

Prof. J. Kim

Professor, Hollins Institute of Technology

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Prof. R. Menon

Professor, Northern Institute of Engineering & Technology

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