Pradip Sarkar

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EDUCATION

- Indian Institute of Technology Madras, Chennai, Ph.D. in Structural Engineering, 2009
- Bengal Engineering College (Presently IIEST Shibpur), M.E. in Engineering Mechanics, 2002
- Bengal Engineering College (Presently IIEST Shibpur), B.E. in Civil Engineering, 1999

PROFESSIONAL EXPERIENCE

- National Institute of Technology Rourkela, Professor (2020 to Present)
- National Institute of Technology Rourkela, Associate Professor (2009 to 2020)
- Technip India Limited, Chennai, Senior Engineer (2008- 2009)
- Bechtel India Private Limited, New Delhi, Engineer (2007-2008)

TEACHING AND RESEARCH INTEREST

- Earthquake Analysis and Design of Structures
- Structural Properties of Building Materials

AWARDS AND RECOGNITION

- BIS Standardization Chair Professor (Oct 2023), NIT Rourkela
- Best Teacher Award (2018-2019) by NIT Rourkela
- Functional Recognition (July 2008) for quality of work by Bechtel New Delhi
- GC Mitra Memorial Gold Medal (2002) for 1st rank in M.E. in the Faculty of Engineering and Technology, Bengal Engineering and Science University Shibpur
- University Silver Medal (2002) for the 1st rank in M.E. in the Department of Applied Mechanics, Bengal Engineering and Science University Shibpur

JOURNAL ARTICLES

1. Jena, B.; **Sarkar, P.** and Karak, S.K. (accepted), "Experimental studies on coal mine over-burden incorporated concrete as a sustainable substitute for fine aggregate in concrete construction" *International Journal of Materials Research (formerly: Zeitschrift fuer Metallkunde)*, De Gruyter, (SCIE)
2. Jena, B.; **Sarkar, P.** and Karak, S.K. (accepted), "Feasibility of incorporating coal mine overburden material as construction-grade fine aggregate" *Particulate Science and Technology*, Taylor & Francis, DOI: 10.1080/02726351.2024.2364903 (SCIE)
3. Deep, A.; Zade, N. P.; and Sarkar, P. (2024), "Exploring the viability of copper slag geopolymer concrete in structural applications: A study on strength variability and seismic risk assessment" *Structures*, Elsevier, vol. 70, DOI: 10.1016/j.istruc.2024.107670 (SCIE)
4. Deep, A.; and Sarkar, P. (2024), "Enhancing Sustainability in Concrete Construction: Utilizing Copper Slag for Improved Properties of Geopolymer Concrete" *Construction and Building Materials*, Elsevier, vol. 453, DOI: 10.1016/j.conbuildmat.2024.139044 (SCIE)

5. John, S.T.; Philip, M.S.; **Sarkar**, P. and Davis, R. (accepted), "Machine learning deployment for energy monitoring of IoT nodes in smart agriculture," *International Journal of Communication Systems*, Wiley, 37(15): e5888, DOI: 10.1002/dac.5888 (SCIE)

6. Maharana, P.P.; Panda, S. and **Sarkar, P.** (2024), "Ecofriendly concrete production with binary blends of rice husk ash and micro-silica: mechanical strength, durability, and ECM" *Journal of Building Pathology and Rehabilitation*, Springer, 9(127), DOI: 10.1007/s41024-024-00482-8 (SCIE)

7. Jena, B.; Zade, N.P.; and **Sarkar, P.** (2024), "Variability of CMOB-incorporated concrete and its effect on the seismic safety of reinforced concrete building" *Structural Concrete*, Wiley, 25(3): 2122-2140, DOI: 10.1002/SUCO.202300496 (SCIE)

8. Panda, S.; Zade, N.P.; **Sarkar, P.** and Davis, R. (2024), "Chemical durability evaluation of copper grit aggregate concrete against Alkali-Silica-Reaction, Carbonation and Chlorination" *Journal of Building Engineering*, Elsevier, vol. 87, DOI: 10.1016/j.jobe.2024.109040 (SCIE)

9. Devi, N.R.; Zade, N.P.; Dhir, P.K. and **Sarkar, P.** (2024), "Stress-strain characteristics of autoclaved aerated concrete masonry under varying displacement rates" *Journal of Building Engineering*, Elsevier, vol. 82, DOI: 10.1016/j.jobe.2023.108398 (SCIE)

10. Panda, S.; Alnounou, M. A.; Jawhara, B. and **Sarkar, P.** (2024), "Bond strength and corrosion behavior of rebar embedded in copper slag concrete composites" *Construction and Building Materials*, Elsevier, vol. 416, DOI: 10.1016/j.conbuildmat.2024.135134 (SCIE)

11. Devi, N.R.; Zade, N.P.; Dhir, P.K. and **Sarkar, P.** (2024), "Influence of loading rate on bond shear strength of autoclaved aerated concrete masonry" *Construction and Building Materials*, Elsevier, vol. 416, DOI: 10.1016/j.conbuildmat.2024.135072 (SCIE)

12. Zade, N.P.; **Sarkar, P.** and Davis, R. (2024), "Life cycle energy of AAC masonry infilled residential building in India" *Energy Efficiency*, Springer, 17(1): 9(1-22), DOI: 10.1007/s12053-024-10188-y (SCIE)

13. Jena, B.; Zade, N.P.; **Sarkar, P.** and Karak, S.K. (2024), "Sustainable integration of coal mine overburden as a substitute for natural sand in concrete to enhance its mechanical and durability properties" *Construction and Building Materials*, Elsevier, vol. 411, DOI: 10.1016/j.conbuildmat.2023.134488 (SCIE)

14. Devi, N.R.; Beura, S.; Dhir, P.K. and **Sarkar, P.** (2023), "Strain Rate Dependence of the Mechanical Properties of Cellular Lightweight Concrete: Experimental Study and Analytical Modelling with Multi-gene Genetic Programming" *Practice Periodical on Structural Design and Construction*, ASCE, 28(4): 04023038, DOI: 10.1061/PPSCFX.SCENG-1270 (Scopus)

15. John, S.T.; Philip, M.S.; Agarwal, S.; **Sarkar**, P. and Davis, R. (2023), "IoT Enabled Real-Time Monitoring System for Plastic Shrinkage of Concrete," Journal of Infrastructure Systems, ASCE, 29(3): 06023001, DOI: 10.1061/JITSE4.ISENG-2022 (SCIE)

16. Zade, N.P.; **Sarkar, P.** and Davis, R. (2023), "Current Status and Future Challenges of Autoclave Aerated Concrete Masonry," *Practice Periodical on Structural Design and Construction*, ASCE, 28(3): 03123002, DOI: 10.1061/12 PPSCFX.SCENG-1302 (Scopus)

17. Zade, N.P.; **Sarkar, P.** and Davis, R. (2023), "Seismic Assessment of Vertical Geometric Irregular Building: A Revisit," *Iranian Journal of Science and Technology, Transactions of Civil Engineering*, Springer, 47(4): 2247 - 2262, DOI: 10.1007/s40996-022-01019-0 (SCIE)

18. Behera, S.; Mohapatra, D.R.; Mondal, S. and **Sarkar, P.** (2023), "Bond shear strength enhancement in FRP lap splices using CNTs and its probabilistic modelling", *International Journal of Adhesion and Adhesives*, Elsevier, Vol. 124, DOI: 10.1016/j.ijadhadh.2023.103399 (SCIE)

19. Anisha, A.; Sahu, D.K., **Sarkar, P.**; Mangalathu, S. and Davis, R. (2023), "High dimensional model representation for flood fragility analysis of highway bridge", *Engineering Structures*, Elsevier, Vol. 281, DOI: 10.1016/j.engstruct.2023.115817 (SCIE)

20. John, S.T.; **Sarkar**, P. and Davis, R. (2023), "A Long-Range Wide-Area Network System for Monitoring Early-Age Concrete Compressive Strength", *Journal of Construction Engr. & Management*, ASCE, 149(1): 04022148, DOI: 10.1061/(ASCE)CO.1943-7862.0002425 (SCIE)

21. Devi, N.R.; Dhir, P.K. and **Sarkar, P.** (2022), "Influence of Strain Rate on the Mechanical Properties of Autoclaved Aerated Concrete" *Journal of Building Engineering*, Elsevier, Vol. 57, DOI: 10.1016/j.jobe.2022.104830 (SCIE)

22. Sahu, D.K.; **Sarkar, P.**; Davis, R. and Mangalathu, S. (2022), "High Dimensional Model Approach for Stochastic Response of Multi-Span Box-girder Bridges", *Journal of Bridge Engineering*, ASCE, 27(9): 04022074. DOI: 10.1061/(ASCE)BE.1943-5592.0001917 (SCIE)

23. Panda, S. and **Sarkar, P.** (2022), "Abrasion Resistance of Copper Slag Aggregate Concrete Designed by Taguchi Method" *Materials Today: Proceedings*, Elsevier, 65(2): 434-441. DOI: 10.1016/j.matpr.2022.02.545 (Scopus)

24. Zade, N.P.; Das, B.; **Sarkar, P.** and Davis, R. (2022), "Seismic Performance of a New Capacity Design Scheme for RC Framed Building", *Journal of Earthquake Engineering*, Taylor and Francis, 26(9): 4701-4711. DOI: 10.1080/13632469.2020.1838968 (SCIE)

25. Panda, S.; **Sarkar, P.** and Davis, R. (2022), "Microstructural Characterization of ITZ in Copper Slag Concrete Composite", *Journal of Materials in Civil Engineering*, ASCE, 34(8): 04022188. DOI: 10.1061/(ASCE)MT.1943-5533.0004346 (SCIE)

26. Panda, S.; Zade, N.P. and **Sarkar, P.** (2022), "Microhardness Variability Assessment of Copper-Grit-Concrete (CGC)" *Materials Today: Proceedings*, Elsevier, 62(10): 6156-6162, DOI: 10.1016/j.matpr.2022.05.034 (Scopus)

27. John, S.T.; Mohan, A.; Philip, M.S.; **Sarkar, P.**; Davis, R. (2022), "An IoT Device for Striking of Vertical Concrete Formwork", *Engineering, Construction and Architectural Management*, Emerald Publishing, 29(5): 1991-2010. DOI: 10.1108/ECAM-10-2020-0859 (SCIE)

28. Teja, P.R.R.; Sahu, S.; **Sarkar, P.** and Davis, R. (2022), "Compressive Strength Prediction Models for Fly Ash Brick Masonry", *Practice Periodical on Structural Design and Construction*, ASCE, 27(2): 04022014. DOI: 10.1061/(ASCE)SC.1943-5576.0000693 (Scopus)

29. Zade, N.P.; John, S.T.; **Sarkar, P.** and Davis, R. (2022), "Safety Assessment of Kentledge Construction for Pile Foundation: A Case Study", *Practice Periodical on Structural Design and Construction*, ASCE, 27(2): 05022001. DOI: 10.1061/(ASCE)SC.1943-5576.0000673 (Scopus)

30. John, S.T.; **Sarkar, P.**; Davis, R. (2022), "Energy-Efficient Long Range Wide Area Network for Construction Industry Applications", *Automation in Construction*, Elsevier, Vol. 136, DOI: 10.1016/j.autcon.2022.104150 (SCIE)

31. Zade, N.P.; Bhosale, A.; **Sarkar, P.** and Davis, R. (2022), "In-plane Seismic Response of AAC Block Masonry Infilled RC Framed Building", *ACI Structural Journal*, American Concrete Institute, 119(2): 45-60, DOI: 10.14359/51734329 (SCIE)

32. Panda, S.; Zade, N.P.; **Sarkar, P.** and Davis, R. (2022), "Variability of Waste Copper Slag Concrete and its Effect on the Seismic Safety of RC Building: A Case Study", *Frontiers of Structural and Civil Engineering*, Springer, 16(1): 117-130, DOI: 10.1007/s11709-021-0788-7 (SCIE)

33. Zade, N.P.; Bhosale, A.; Dhir, P.K.; **Sarkar, P.** and Davis, R. (2021), "Variability of Mechanical Properties of Cellular Lightweight Concrete Infill and its Effect on Seismic Safety", *Natural Hazards Review*, ASCE, 22(4): 04021039, DOI: 10.1061/(ASCE)NH.1527-6996.0000501 (SCIE)

34. Panda, S.; **Sarkar, P.** and Davis, R. (2021), "Abrasion Resistance and Slake Durability of Copper Slag Aggregate Concrete" *Journal of Building Engineering*, Elsevier, Vol. 35, DOI: 10.1016/j.jobe.2020.101987 (SCIE)

35. Sahoo, K.K.; Dhir, P.K.; Teja, P.R.R.; **Sarkar, P.** and Davis, R. (2020), "Seismic Safety Assessment of Buildings with Fly Ash Concrete", *Practice Periodical on Structural Design and Construction*, ASCE, 25(3): 04020024, DOI: 10.1061/(ASCE)SC.1943-5576.0000502 (Scopus)

36. Bhosale, A.S.; Zade, N.P.; **Sarkar, P.** and Davis, R. (2020) "Mechanical and Physical Properties of Cellular Lightweight Concrete Block Masonry", *Construction and Building Materials*, Elsevier, Vol. 248, DOI: 10.1016/j.conbuildmat.2020.118621 (SCIE)

37. Dhir, P.K.; Zade, N.P.; Basu, A.; Davis, R. and **Sarkar, P.** (2020), "Implications of Importance Factor on Seismic Design from 2000 SAC-FEMA Perspective", *ASCE-ASME Journal of Risk and Uncertainty in Engineering Systems, Part A: Civil Engineering*, ASCE, 6(2): 04020016, DOI: 10.1061/AJRUA6.0001048 (SCIE)

38. Sahoo, K.K.; Dhir, P.K.; Teja, P.R.R.; **Sarkar, P.** and Davis, R. (2020), "Variability of Silica Fume Concrete and its Effect on Seismic Safety of Reinforced Concrete Buildings", *Journal of Materials in Civil Engineering*, ASCE, 32(4): 04020024, DOI: 10.1061/(ASCE)MT.1943-5533.0003072 (SCIE)

39. Panda, S. and **Sarkar, P.** (2020), "Leaching Behavior of Copper Slag Aggregate Cement-mortar by Atomic Absorption Spectroscopy" *Materials Today: Proceedings*, Elsevier, Vol. 33, DOI: 10.1016/j.matpr.2020.02.856 (Scopus)

40. Sahu, S.; **Sarkar, P.** and Davis, R. (2020), "Uncertainty in Bond Strength of Unreinforced Fly Ash Brick Masonry", *Journal of Materials in Civil Engineering*, ASCE, 32(3): 06020003, DOI: 10.1061/(ASCE)MT.1943-5533.0003095 (SCIE)

41. John, S.T.; Roy, B.K.; **Sarkar, P.** and Davis, R. (2020), "An IoT Enabled Real-Time Monitoring System for Early Age Compressive Strength of Concrete", *Journal of Construction Engr. & Management*, ASCE, 146(2): 05019020, DOI: 10.1061/(ASCE)CO.1943-7862.0001754 (SCIE)

42. Sahu, S.; **Sarkar, P.** and Davis, R. (2019), "Quantification of Uncertainty in Compressive Strength of Fly Ash Brick Masonry", *Journal of Building Engineering*, Elsevier, Vol. 26, DOI: 10.1016/j.jobe.2019.100843 (SCIE)

43. Sahu, S.; Teja, P.R.R.; **Sarkar, P.** and Davis, R. (2019), "Effect of Brick Prewetting on Masonry Bond Strength", *Journal of Materials in Civil Engineering*, ASCE, 31(10): 06019009, DOI: 10.1061/(ASCE)MT.1943-5533.0002866 (SCIE)

44. Bhosale, A.S.; Zade, N.P.; Davis, R. and **Sarkar, P.** (2019) "Experimental Investigation of Autoclaved Aerated Concrete Masonry", *Journal of Materials in Civil Engineering*, ASCE, 31(7): 04019109, DOI: 10.1061/(ASCE)MT.1943-5533.0002762 (SCIE)

45. Mistri, A.; **Sarkar, P.** and Davis, R. (2019), "Column-to-beam Moment Capacity Ratio and Seismic Risk of Framed Building", *Structures and Buildings*, Proceedings of the Institution of Civil Engineers, 172(3): 189-196, DOI: 10.1680/jstbu.17.00100. (SCIE)

46. Sahoo, K.K.; **Sarkar, P.**, and Davis, R. (2019), "Mechanical properties of silica fume concrete designed as per construction practice", *Construction Materials*, Proceedings of the Institution of Civil Engineers, 172 (1): 20-28, DOI: 10.1680/jcoma.16.00085. (Scopus)

47. Sahu, S.; Teja, P.R.R.; **Sarkar, P.** and Davis, R. (2019), "Variability in the Compressive Strength of Fly Ash Bricks", *Journal of Materials in Civil Engineering*, ASCE, 31(2): 06018024, DOI: 10.1061/(ASCE)MT.1943-5533.0002592 (SCIE)

48. Sahu, D.K.; Nishanth, M; Dhir, P.K.; **Sarkar, P.**; Davis, R. and Mangalathu, S. (2019), "Stochastic Response of Reinforced Concrete Buildings using High Dimensional Model Representation", *Engineering Structures*, Elsevier, Vol. 179, DOI: 10.1016/j.engstruct.2018.10.083 (SCIE)

49. Sahoo, K.K.; Sathyan, A.K.; **Sarkar, P.**, and Davis, R. (2018), "Improvement of Mortar and Concrete Using Ureolytic Bacteria", *Construction Materials*, Proceedings of the Institution of Civil Engineers, 171(5): 179-186, DOI: 10.1680/jcoma.16.00022. (Scopus)

50. Bhosale, A.S.; Davis, R. and **Sarkar, P.** (2018), "A New Seismic Vulnerability Index for Vertically Irregular Buildings", *ASCE-ASME Journal of Risk and Uncertainty in Engineering Systems, Part A: Civil Engineering*, ASCE, 4(3): 04018022, DOI: 10.1061/AJRUA6.0000973. (SCIE)

51. Bhosale, A.S.; Davis, R. and **Sarkar, P.** (2018), "Seismic Safety of Building – Performance of Existing Indicators", *Journal of Architectural Engineering*, ASCE, 24(3): 04018013, DOI: 10.1061/(ASCE)AE.1943-5568.0000319. (Scopus)

52. Dhir, P.K.; Davis, R. and **Sarkar, P.** (2018), "Safety Assessment of Gravity Load–Designed Reinforced Concrete–Framed Buildings", *ASCE-ASME Journal of Risk and Uncertainty in Engineering Systems, Part A: Civil Engineering*, ASCE, 4(2): 04018004, DOI: 10.1061/AJRUA6.0000955. (SCIE)

53. Bhosale, A.S.; Davis, R. and **Sarkar, P.** (2017), "Vertical Irregularity of Buildings: Regularity Index versus Seismic Risk", *ASCE-ASME Journal of Risk and Uncertainty in Engineering Systems, Part A: Civil Engineering*, ASCE, 3(3): 04017001, DOI: 10.1061/AJRUA6.0000900. (SCIE)

54. Kumari, C.; Das, B.; Jayabalan, R.; Davis, R. and **Sarkar, P.** (2017), "Effect of Nonureolytic Bacteria on Engineering Properties of Cement Mortar", *Journal of Materials in Civil Engineering*, ASCE, 29(6): 06016024, DOI: 10.1061/(ASCE)MT.1943-5533.0001828. (SCIE)

55. Sahoo, K.K.; Sathyan, A.K.; Kumari, C.; **Sarkar, P.**, and Davis, R. (2016), "Investigation of cement mortar incorporating Bacillus Sphaericus", *International Journal of Smart and Nano Materials*, Taylor and Francis, 7(2): 91-105, DOI: 10.1080/19475411.2016.1205157. (SCIE)

56. Mistri, A.; Davis, R. and **Sarkar, P.** (2016), "Condition Assessment of Fire Affected Reinforced Concrete Shear Wall Building – A Case Study", *Advances in Concrete Construction*, Techno-Press, 4(2): 089-105, DOI: 10.12989/acc.2016.4.2.089. (SCIE)

57. Haran Pragalath, D.C.; Bhosale, A.S.; Davis, R. and **Sarkar, P.** (2016), "Multiplication Factors for Open Ground Storey buildings - A Reliability Based Evaluation", *Earthquake Engineering and Engineering Vibration*, Springer, 15(2): 283-295, DOI: 10.1007/s11803-016-0322-4. (SCIE)

58. Sahoo, K.K.; **Sarkar, P.**, and Davis R. (2016) "Behaviour of Recycled Coarse Aggregate Concrete: Age and Successive Recycling", *Journal of the Institution of Engineers (India): Series A*, Springer, 97(2):147-154, DOI: 10.1007/s40030-016-0154-2. (Scopus)

59. Balakrishnan, B. and **Sarkar, P.** (2016), "Efficacy of Code Provisions for Seismic Design of Asymmetric RC Building", *Journal of the Institution of Engineers (India): Series A*, Springer, 97(2):111-120, DOI: 10.1007/s40030-016-0156-0. (Scopus)

60. **Sarkar, P.**; Meher Prasad, A. and Menon, D. (2016), "Seismic evaluation of RC stepped building frames using improved pushover analysis", *Earthquakes and Structures*, Techno-Press, 10(4): 913-938, DOI: 10.12989/eas.2016.10.4.913. (SCIE)

61. Sahoo, K.K.; Arakha, M.; **Sarkar, P.**, Davis, R. and Jha, S. (2016), "Enhancement of Properties of Recycled Coarse Aggregate Concrete using Bacteria", *International Journal of Smart and Nano Materials*, Taylor and Francis, 7(1): 22–38, DOI: 10.1080/19475411.2016.1152322. (SCIE)

62. Mistri, A. and **Sarkar, P.** (2016) "Capacity Design of Reinforced Concrete Framed Building for Earthquake Loading" *Indian Journal of Science and Technology*, 9(30), DOI:10.17485/ijst/2016/v9i30/99225. (Scopus)

63. Haran Pragalath, D. C.; Davis, R. and **Sarkar, P.** (2015). Comparison of fragility analysis for an RC frame by two major approaches, *Asian Journal of Civil Engineering* (*Building and Housing*), Springer, 16(1): 47-66. (Scopus)

64. **Sarkar, P.**; Meher Prasad, A. and Menon, D. (2010), "Vertical geometric irregularity in stepped building frames", *Engineering Structures*, Elsevier, 32(8): 2175-2182, DOI: 10.1016/j.engstruct.2010.03.020. (SCIE)

65. **Sarkar, P.**, Govind, M. and Menon, D. (2009), "Estimation of Short-term Deflection in Two-way RC Slab", *Structural Engineering and Mechanics*, Techno-Press, 31(2): 237-240, DOI: 10.12989/sem.2009.31.2.237. (SCIE)

66. Govind, M.; **Sarkar, P.** and Menon, D. (2008) "Short-term Deflection in Two-way RC Slab". *Journal of Structural Engineering*, CSIR-SERC, 35(4): 247-254. (Scopus)

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68. **Sarkar, P.**; Dutta, S. C. and Nandi, N. (2003), "A Critical Review of Dam Analysis Methodologies", *International Journal of Applied Mechanics and Engineering*, 8(3): 461-482. (Scopus)

CONFERENCE PROCEEDINGS

1. Lalrinmawii, E; Sahu, S.; **Sarkar P.** and Davis, R. (2020) "Feasible use of Recycled Foam Concrete in Cement Mortar", International Conference on Materials, Mechanics and Structures, July 14-15, 2020, NIT Calicut, India, IOP Conference Series: Materials Science and Engineering, 936: 012011, DOI:10.1088/1757-899X/936/1/012011

2. Panda, S.; **Sarkar P.** and Davis, R. (2020) "Effect of Water/Cement Ratio on Mix Design and Mechanical Strength of Concrete with Copper Slag as Fine Aggregate", International Conference on Materials, Mechanics and Structures, July 14-15, 2020, NIT Calicut, India, IOP Conference Series: Materials Science and Engineering, 936: 012019, DOI: 10.1088/1757-899X/936/1/012019

3. Zade, N.; Koparde, S. A.; **Sarkar P.** and Davis, R. (2020) "Non-linear Behaviour of Infilled RC frame", International Conference on Materials, Mechanics and Structures, July 14-15, 2020, NIT Calicut, India, IOP Conference Series: Materials Science and Engineering, 936: 012021, DOI: 10.1088/1757-899X/936/1/012021

4. John, S. T.; Sahu, D. K.; Sukumaran, S. and **Sarkar P.** (2020) "Enhancement of Seismic Performance of Open Ground Storeyed Building using X-Bracings", International Conference on Materials, Mechanics and Structures, July 14-15, 2020, NIT Calicut, India, IOP Conference Series: Materials Science and Engineering, 936: 012029, DOI: 10.1088/1757-899X/936/1/012029

5. Karuthedath, P. L.; Davis, R. and **Sarkar P.** (2020) "Probabilistic Assessment of Torsional Buildings", International Conference on Materials, Mechanics and Structures, July 14-15, 2020, NIT Calicut, India, IOP Conference Series: Materials Science and Engineering, 936: 012041, DOI: 10.1088/1757-899X/936/1/012041

6. Sahu, D. K.; **Sarkar P.** and Davis, R. (2019) "Analysis of RC Buildings by Metamodel Approaches", International Conference on Advanced Research and Innovations in Civil Engineering, June 13-14, 2019, Kerala, India

7. Sahu, S.; **Sarkar P.** and Davis, R. (2019) "Correlation Establishment of Compressive Strength and Bond Strength of Fly Ash Brick Masonry", International Conference on Advanced Research and Innovations in Civil Engineering, June 13-14, 2019, Kerala, India

8. Panda, S.; **Sarkar P.** and Davis, R. (2019) "Mechanical Strength, Voids and Sorptivity Evaluation of Copper Slag Based Standard Concrete", International Conference on Advanced Research and Innovations in Civil Engineering, June 13-14, 2019, Kerala, India

9. Koparde, S. A.; Mourya, V. K. and **Sarkar, P.** (2018) "Non-linear Behaviour of Masonry Infill RC Frame: Influence of Masonry Mechanical Properties", Conference on Next Frontiers in Civil Engineering: Sustainable and Resilient Infrastructure, November 30 - December 01, 2018, IIT Bombay, India.

10. Bhattacharjee, S. and **Sarkar, P.** (2018) "Engineering Damage Parameters for RC Framed Building Subjected to Earthquake Ground Motion", 8th National Conference on Wave Mechanics and Vibrations, November, 26-28, 2018, NIT Rourkela, India.

11. Sahu, D.K.; **Sarkar, P.** and Davis, R. (2018) "Seismic Analysis of Concrete Buildings by Non-statistical Approaches", 8th National Conference on Wave Mechanics and Vibrations, November, 26-28, 2018, NIT Rourkela, India.

12. Zade, N.P.; **Sarkar, P.** and Davis, R. (2018) "Seismic Behaviour of Unreinforced Masonry", 8th National Conference on Wave Mechanics and Vibrations, November, 26-28, 2018, NIT Rourkela, India.

13. Sahu, D.K.; Davis, R.; **Sarkar, P.** and Patro, S.K. (2018) "Comparison of Energy Dissipation Devices in Response Reduction of Blast-induced Vibration of Buildings", *12thfib International PhD Symposium in Civil Engineering*, August 29-31, 2018, Czech Technical University Prague; Czech Republic, Pages: 1047-1054

14. Sahu, S.; **Sarkar, P.** and Davis, R. (2018) "Probabilistic Models for Shear-bond Strength of Clay and Fly Ash Bricks", *12thfib International PhD Symposium in Civil Engineering*, August 29-31, 2018, Czech Technical University Prague; Czech Republic, Pages: 649-656

15. Sahu, S.; **Sarkar, P.** and Davis, R. (2018) "Supplementary Cementitious Material from Recycled CLC and AAC Block Dust", *International Conference on Advances in Construction Materials and Structures*, March 7-8, 2018, IIT Roorkee, India.

16. **Sarkar, P.**; Davis, R. and Haran Pragalath, D. C. (2017) "Seismic Fragility Curves using Natural and Synthetic Ground Motions", *39thIABSE Symposium*; September 19-23, 2017; Vancouver, Canada

17. Sahoo, K.K.; **Sarkar, P.**, and Davis R. (2016) "Artificial Neural Networks for Prediction of Compressive Strength of Recycled Aggregate Concrete", *International Conference on Environment*, Agricultural and Civil Engineering; March 24-25, 2016; London, United Kingdom

18. Paul, P.; Das, P.K. and **Sarkar, P.** (2014) "Studies on Identifying Critical Joints in RC Framed Building Subjected to Seismic Loading"; *Structural Engineering Convention*; December 22-24, 2014; IIT Delhi, New Delhi, India

19. Sar, D. and **Sarkar, P.** (2014) "Seismic Evaluation of Un-reinforced Masonry Structures", 2nd*International Conference on Advances in Civil, Structural and Environmental Engineering*; October 25-26, 2014; Zurich, Switzerland.

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STUDENT GUIDANCE

Ph. D. Thesis

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8. Bhosale Avadhoot Shivaji (2018) Studies on vertical irregular RC infilled frame buildings
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10. Haran Pragalath D C (2015) Reliability-based seismic design of open ground storey framed buildings

M. Tech. (by research) Thesis

1. Prateek Kumar Dhir (2017) Seismic performance assessment of RC multi-storeyed gravity load designed frames
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M. Tech. Project

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19. Vishal Kumar Mourya (2018) Non-linear behaviour of masonry infill RC frame: Influence of masonry mechanical properties
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21. Bijoy Krishna Roy (2018) Evaluation of concrete strength using maturity method
22. Nikhil P Zade (2017) Behaviour of Unreinforced Masonry
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37. C Ranjith Kumar (2013) Implications of major international code design provisions for open ground storey buildings
38. Kisan Jena (2012) Passive vibration control of framed structures by base isolation method using lead rubber bearing
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42. Snehash Patel (2012) Earthquake resistant design of low-rise open ground storey framed building
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28. Anirban Sengupta (2011) Development of the nonlinear model for RC beams

SPONSORED RESEARCH PROJECT

1. Vibrations of functionally graded nano structural members (2017-20), DRDO, Govt. of India
2. Fly ash utilization in structural applications for sustainable construction (2015-16), Office of the Chief Engineer, RDQP, Govt. of Odisha
3. Wavelet Transform Methods for the Solution of Fractional Differential Equations Arising in Real Physical Models (2012-15), SERB, DST, Govt. of India
4. Pushover analysis of reinforced concrete setback buildings (2010-13), SERB, DST, Govt. of India

INDUSTRIAL CONSULTANCY PROJECT

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36. Tata Steel
37. Water Corporation of Odisha
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APPOINTMENT AS PH.D. EXAMINER BY VARIOUS UNIVERSITIES

- IIT Madras, Oct. 2024
- IIT Roorkee, Jun. 2024
- IIT Kharagpur, May 2023, May 2024
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- MNNIT Allahabad, Prayagraj, Aug. 2024
- IIEST Shibpur, Jul. 2021
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