Anupam B R, Ph.D.

Assistant Professor
Department of Civil Engineering
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Education

Postdoctoral Fellow, Indian Institute of Technology (IIT) Bombay — Bombay, India
Department of Civil Engineering — July 2023–August 2024

Ph.D., Indian Institute of Technology (IIT) Bhubaneswar — Bhubaneswar, India
Civil Engineering — July 2018–Jan 2023

M.Tech., National Institute of Technology (NIT) Hamirpur — Hamirpur, India
Transportation Systems Engineering — 2016–2018

B.Tech., Mahatma Gandhi University — Kottayam, India
Civil Engineering — 2011–2015

Research Interests

- Cool Pavements
- Self-healing Pavements
- Quiet Pavements
- Geopolymer Concrete Pavements
- Use of Waste Materials in Pavements

Experience

Assistant Professor — Dec 2024–Present
Department of Civil Engineering, National Institute of Technology Karnataka, Surathkal

Postdoctoral Fellow — July 2023–August 2024
Department of Civil Engineering, Indian Institute of Technology Bombay
Advisor: Dr. Solomon Debbarma
Research Area: *Recycled fibre reinforced concrete, Geopolymer concrete*

Project Associate — Oct 2022–June 2023
School of Infrastructure, Indian Institute of Technology Bhubaneswar,
Advisor: Dr. Umesh Chandra Sahoo
Research Area: *Cold mix asphalt*

Academic Service

- **Journal reviewer:** Journal of Materials in Civil Engineering (ASCE), Construction and Building Materials (Elsevier), International Journal of Pavement Engineering (Taylor and Francis), Road Materials and Pavement Design (Taylor and Francis), International Journal of Pavement Research and Technology (Springer), International Journal of Energy Research (Wiley), Urban Climate (Elsevier)

Scholarships and Awards

- Institute Postdoctoral Fellowship, Indian Institute of Technology Bombay 2023
  80000 INR/month
- Best Paper of the Session Award 2020
  International Conference on Recent Developments in Sustainable Infrastructure, KIIT, Bhubaneswar, India
- MHRD (Govt. of India) scholarship for Ph.D. 2018
  35000 INR/month for 5 years
- MHRD (Govt. of India) GATE scholarship for M.Tech 2016
  12400 INR/month for 2 years

Media Reports

- Reduction in Pavement Surface Temperature using Sold-Liquid Phase Change Material [Click here] 2022
  Student Research Spotlight, International Society for Concrete Pavements

Journal Publications

[1] P. R. Jaiswal, B. R. Anupam, U. C. Sahoo, and A. K. Chandrappa, "Harvesting heat energy using geothermal and hydronic pavements for sustainable cities: A comprehensive review of an emerging idea", *Sustainable Cities and Society*, DOI: https://doi.org/10.1016/j.scs.2023.104539.

[2] B. R. Anupam, U. C. Sahoo, P. Rath, and A. Bhattacharya, "Core-shell pcm encapsulation model for thermoregulation of asphalt pavements", *Thermal Science and Engineering Progress*, 2024. DOI: https://doi.org/10.1016/j.tsep.2024.102488.

[3] K. Rahul, B. R. Anupam, U. C. Sahoo, S. K. Siksha, and A. K. Chandrappa, "Bitumen stabilized materials for sustainable pavements: A review", *Road Materials and Pavement Design*, 2024. DOI: https://doi.org/10.1080/14680629.2024.2436957.

[4] B. R. Anupam, U. C. Sahoo, and P. Rath, "Adopting cool pavements to mitigate urban heat islands in indian cities", *Journal of the Indian Road Congress*, vol. 82, pp. 15–25, 2023.

[5] B. R. Anupam, U. C. Sahoo, and P. Rath, "Effect of two organic phase change materials on the thermal performance of asphalt pavements", *International Journal of Pavement Engineering*, vol. 24, p. 2 215 900, 2023. DOI: https://doi.org/10.1080/10298436.2023.2215900.

[6] B. R. Anupam, U. C. Sahoo, and A. K. Chandrappa, "A methodological review on self-healing asphalt pavements", *Construction and Building Materials*, vol. 321, p. 126 395, 2022. DOI: https://doi.org/10.1016/j.conbuildmat.2022.126395.

[7] B. R. Anupam, U. C. Sahoo, and P. Rath, "Experimental and numerical investigations on an organic pcm incorporated cool concrete pavement", *The Open Civil Engineering Journal*, 2022. DOI: http://dx.doi.org/10.2174/18741495-v16-e2210310.

[8] B. R. Anupam, U. C. Sahoo, and P. Rath, "Thermal behavior of phase change materials in concrete pavements - a long-term thermal impact analysis of two organic mixtures", *International Journal of Pavement Research and Technology*, 2022. DOI: https://doi.org/10.1007/s42947-022-00241-3.

[9] B. R. Anupam, U. C. Sahoo, P. Rath, and A. Bhattacharya, "Thermal performance assessment of pcm incorporated cool concrete pavements using numerical analysis", *International Journal of Pavement Engineering*, 2022. DOI: https://doi.org/10.1080/10298436.2022.2089884.

[10] B. R. Anupam, L. Anjali Balan, and S. Sharma, "Thermal and mechanical performance of cement concrete pavements containing pvc-glass mix", *Road Materials and Pavement Design*, pp. 1–13, 2021. DOI: https://doi.org/10.1080/14680629.2020.1868328.

[11] B. R. Anupam, U. C. Sahoo, A. K. Chandrappa, and P. Rath, "Emerging technologies in cool pavements: A review", *Construction and Building Materials*, vol. 299, p. 123 892, 2021. DOI: https://doi.org/10.1016/j.conbuildmat.2021.123892.

[12] B. R. Anupam, U. C. Sahoo, and P. Rath, "Thermal and mechanical performance of phase change material incorporated concrete pavements", *Road Materials and Pavement Design*, pp. 1–18, 2021. DOI: https://doi.org/10.1080/14680629.2021.1884590.

[13] L. A. Balan, B. R. Anupam, and S. Sharma, "Thermal and mechanical performance of cool concrete pavements containing waste glass", *Construction and Building Materials*, vol. 290, p. 123 238, 2021. DOI: https://doi.org/10.1016/j.conbuildmat.2021.123238.

[14] U. C. Sahoo, B. R. Anupam, S. Patra, and I. K. Pateriya, "Development of a novel process to determine the plastic content in waste plastic incorporated bituminous constructions", *Indian Highways*, vol. 49, pp. 11–23, 2021.

[15] B. R. Anupam, U. C. Sahoo, and P. Rath, "Phase change materials for pavement applications: A review", *Construction and Building Materials*, vol. 247, p. 118 553, 2020. DOI: https://doi.org/10.1016/j.conbuildmat.2020.118553.

Book Chapters

[1] B. R. Anupam, A. K. Chandrappa, and U. C. Sahoo, "Sustainable pavements for low impact developments in urban localities", *Advances in Sustainable Materials and Resilient Infrastructure*, Springer, 2022. DOI: https://doi.org/10.1007/978-981-16-9744-9_11.

Conference Publications (International)

[1] B. R. Anupam, U. C. Sahoo, and P. Rath, "Incorporating phase change materials in pavements for thermoregulation: An experimental investigation", *8th Int. Conference on Bituminous Mixtures and Pavements, Thessaloniki, Greece*, (2024).

[2] U. C. Sahoo, A. K. Chandrappa, B. R. Anupam, S. Pradhan, R. Agarwal, and H. Dutta, "Design of dense graded cold mix asphalt for pavement structural layers", *8th Eurasphalt Eurobitume Congress, Budapest, Hungary*, (2024).

Conference Publications (National)

[1] B. R. Anupam, U. C. Sahoo, and P. Rath, "Developing cool pavements using phase change materials", *International Conference for Materials, Mechanics and Management*, College of Engineering, Trivandrum, India, 2020.

[2] B. R. Anupam, U. C. Sahoo, and P. Rath, "Thermal behaviour of a pcm incorporated concrete pavement", *International Conference on Recent Developments in Sustainable Infrastructure*, Kalinga Institute of Industrial Technology, Bhubaneswar, India, 2020.

[3] B. R. Anupam, L. Anjali Balan, and S. Sharma, "Effectiveness of using waste materials in cement concrete pavements to mitigate the urban heat island effect: A review", *International Conference on Emerging Trends in Engineering Innovations Technology Management,*, National Institute of Technology, Hamirpur, India, 2018.

[4] B. R. Anupam, U. C. Sahoo, and P. Rath, "Thermal performance of a pcm incorporated cool concrete pavement: A numerical analysis", *Civil Engineering Conference in the Asian Region (CEACR 9)*, 2022.

References

- **Dr. Umesh Chandra Sahoo**
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  School of Infrastructure,
  Indian Institute of Technology Bhubaneswar,
  Odisha, India, 752050
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- **Dr. Prasenjit Rath**
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  Odisha, India, 752050
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