

Vinay Kumar Chukka, PhD

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Education

- 2025 – Present  **PhD in Civil and Environmental Engineering**, University of Windsor, Canada.
Thesis topic: *Investigate the feasibility of Low Impact Development (LID) controls in clay soils in managing the stormwater linear infrastructure.*
- 2023 – 2025  **M.Tech. Hydraulics and Water Resources Engineering, Civil Engineering (8.92/10)** in Indian Institute of technology Kharagpur.
Thesis title: *Cost-Effective Solutions for Sustainable Urban Flood Mitigation: Comparing LID Practices and Performance Metrics.*
- 2018 – 2022  **B.Tech. Civil Engineering (8.41/10)** in Velagapudi Ramakrishna Siddhartha Engineering College.
Thesis title: *Performance Study on Treated Ground with Geo-Synthetics and GSB at Machilipatnam.*
- 2016 – 2018  **Intermediate (90.2/100)** in Narayana Junior College.
Subjects: *Mathematics, Physics, Chemistry*
- upto 2016  **Secondary School (8.2/10)** in Sri T. L. N. M. High School Badangi.

Project

- 1 Manish Pandey, Praveen Rathod, and **Chukka Vinay Kumar**, *Construction and rehabilitation of city flood control drain and storm water drains in deficient areas of bharatpur*, Funded by: Municipal Corporation, Bharatpur. Project Type: Real-Time, Mode: Lump-Sum Turnkey Basis, Duration: Aug 2024 – Feb 2025, 2025.

Research Publications

Journal Article

- 1 **Chukka Vinay Kumar** and Manish Pandey, “Cost-effective solutions for sustainable urban flood mitigation: Comparing lid practices and performance metrics,” *Water Resources Research (under review)*, 2025.

Patents

- 1 **Chukka Vinay Kumar**, Manish Pandey, Anil Kumar Gupta, and Mangu Rahul Bharadwaj, *Interlocking riverbank stabilization block*, Application Number: , CBR Number: , Filed: 2025.
- 2 **Chukka Vinay Kumar**, Manish Pandey, Gaurav Misuriya, and Mrinal Kaushik, *Spike mat for reducing pier scour*, Application Number: 459258-001, CBR Number: 210596, Filed: 17 June, 2025.

- 3 Manish Pandey, **Chukka Vinay Kumar**, and Mrinal Kaushik, *Geobag with crossed cables for riverbank protection*, Application Number: 456404-001, CBR Number: 208714, Filed: 23rd April, 2025.
- 4 Manish Pandey, **Chukka Vinay Kumar**, and Mrinal Kaushik, *Supersonic sediment flusher*, Application Number: 453100-001, CBR Number: 206524, Filed: 26th March, 2025.
- 5 Manish Pandey, **Chukka Vinay Kumar**, Mrinal Kaushik, and Debanik Ghosh, *Chevron cone baffle fishway with rounded edges*, Application Number: 456376-001, CBR Number: 208689, Filed: 23rd May, 2025.
- 6 Manish Pandey, **Chukka Vinay Kumar**, Mrinal Kaushik, and Kondeti Lakshmi Vasudev, *Angle vane-stepped fishway with rounded edges*, Application Number: 456485-001, CBR Number: 208763, Filed: 24th April, 2025.
- 7 Manish Pandey, Praveen Rathod, and **Chukka Vinay Kumar**, *Geosynthetic and gabion-based, cable supported river bank protection technology*, Application Number: 202531024305, CBR Number: 3410, Filed: 3rd March, 2025.
- 8 T. A. Rosemary, **Chukka Vinay Kumar**, and Manish Pandey, *Optimized porcupine positioning for effective scour mitigation at bridge piers*, Application Number: 202531043605, CBR Number: 5715, Filed: 5th May, 2025.

Internship

- May 2024 - Jul 2024  Enhanced Riverflow Analysis Using Fudaa-LSPIV: Techniques and Applications
- Sep 2025 - Apr 2027  Investigate the feasibility of Low Impact Development (LID) controls in clay soils in managing the stormwater linear Infrastructure.

Skills

Languages	 Strong reading, writing and speaking competencies for English, Telugu and Hindi
Civil Engineering Softwares	 Modflow6, Sutra, Hydrus, SolidWorks, ArcGIS, Fudaa-LSPIV, Scilab, Ansys, AutoCAD, MATLAB, SWMM, STAAD Pro
Coding	 C, C++, Java, Python, SQL, $\text{\LaTeX}$
Databases	 MySQL
Web Dev	 HTML, CSS, JavaScript.
Misc.	 Multi-Objective Optimization, Academic research, $\text{\LaTeX}$ type-setting and publishing.

Miscellaneous Experience

Awards and Achievements

- 2023  AICTE Post Graduate Scholarship, for GATE qualified students.
- 2025  Mitacs Accelerate Fellowship, associated with University of Windsor, Canada.

Miscellaneous Experience (continued)

Position of Responsibility

- 2023 - 2025  **Teaching Assistant**, awarded by IIT Kharagpur, India.
- 2025 - Present  **Graduate Assistant**, awarded by University of Windsor, Canada.
-  **Research Assistant**, awarded by University of Windsor, Canada.

Coursework Information

1. Free Surface Flow
2. Applied Hydrology
3. Ground Water Engineering
4. Hydraulic Structures Engineering
5. Computational Hydraulics
6. Hydraulics of Sediment Transport
7. Highway Construction Practice
8. Coastal Hydrodynamics
9. Hydropower Engineering
10. Airport Planning and Design

References

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