



Adarsh S. Chatra

Bagalkote, Karantaka, India.

E-mail: adarshchatra@gmail.com

Mobile No.: +91 9380607806 / +91 9884511365.

SUMMARY

Extremely motivated to constantly develop my skills and grow professionally. Performance-driven and motivated Geotechnical Engineer with total 4 years of work experience, out of which 1.5 years of industry experience and 3+ years of academic experience. Industry experience includes diaphragm wall construction, field investigations and engineering analysis, managing the geotechnical laboratory, and maintaining a safe work environment. Possessing excellent critical thinking skills and important ability to remain calm in stressful situations.

Certificate/ Degree	Specialisation	Board/College/University	Year of Completion
Ph.D.	Geotechnical Engineering	Indian Institute of Technology Madras, India.	2019
M.S.	Geotechnical Engineering	Indian Institute of Technology Madras, India.	2011
B. E.	Civil Engineering	Basaveshwar Engineering College, Affiliated to VTU, Belgaum, India.	2007

Employer	Post held	From - To
Basaveshwar Engineering College, Bagalkot, Karnatka. India.	Associate Professor	Nov. 2019 - Present
AECOM India Private Limited, Chennai, India.	Engineer Stations and Tunnel	March 2011 - Feb. 2012
Sohams Foundation Engineering Private Limited, Mumbai, India.	Design Engineer	Sept. 2010 - Feb. 2011

Skills

Languages	:	MATLAB
Software Expertise	:	FLAC, PLAXIS and Geo-studio.

INDUSTRIAL PROJECT DETAILS

- Project : Design and construction of underground stations and tunnels.
Client : Chennai Metro Rail
- Role :
 - Responsible for construction of stations which involves construction of Diaphragm wall.
 - Supervision of soil investigations works for the three stations.
 - Monitoring the deep excavation and checking the quality of the polymer to stabilize the trench.
 - Checking the reinforcements for Diaphragm wall and Guide wall as per the design requirements.
 - Concreting of Diaphragm wall and Guide wall and checking the slump and temperature.
 - Witnessing the tests on concrete cubes at laboratory.
 - Utility check-up and diverting the utilities inside and surrounding stations.
 - Instructing contractors regularly about the safety in the site.
 - Preparing Daily Progress Report (DPR) as well as CSR (surveillance report).
 - Coordinating with clients and contractor to monitor the work progress.
- Project : RAPP 7 & 8 (Rajasthan Atomic Power Project)
Client : Hindustan Construction Company and Nuclear Power Corporation of India.
- Role :
 - Execution of Cyclic Plate Load Test (CPLT) & Cyclic Lateral Load Test (CLLT) on Rock and Core Drilling of Rock for a Reactor Building 7 (RB 7) at Rawatbhata, Kota, Rajasthan.
 - Monitoring of all Execution and Management
 - Co-ordination between Clients & Preparation of Daily Progress Reports.
- Project : Ground Improvement Using Stone Columns for Synthetic Iron Oxide Pigment Plant
Client : DCW Limited, Sahapuram, Tamilnadu
- Role :
 - The work consists of ground improvement using stone columns by top feed vibro-replacement method up to design depths. The work consists of Installation of stone columns, carrying out load tests on stone column.
 - Designing of stone columns
- Project : Vacuum Consolidation in Dhamra Port Orissa

- Client : Dharma Port Company Limited
- Role :
 - Conducting SCPT test at different locations, installing of PVD and settlement plates, and Applying vacuum pressure for an area of 45000 square meter.
 - Monitoring and Execution of PVD installations.

ACADEMIC PROJECT DETAILS

Ph. D. Thesis Title : *Deterministic and Probabilistic Analyses of Rain-Induced Slope Instability and Risk Assessment.*

- Research Summary** :
 - The main aim of the research is to understand and model rainfall-induced failure mechanisms in partially saturated slopes.
 - The study focuses on the methodology of carrying out the stability analysis of a case study selected near Kurumbadi site located in The Nilgiris.
 - The experimental studies and numerical analyses have been performed to simulate the variations in pore pressure, saturation and factor of safety (FOS) values for the soil slopes of the study area subjected to rainfall infiltration, using commercial finite difference package *FLAC*.
 - To incorporate uncertainties in the input parameters reliability analysis is utilised to take into account of the uncertainties and to evaluate the probability of satisfactory performance of the slope. A *MATLAB* code was written to evaluate probability of failure.
 - It is concluded that the failure probability curves help in predicting the change in slope stability with rainfall intensity and duration.
 - The failure curves represent the safety levels for the soils of the slopes of various densities, rainfall patterns and slope angles.

M.S. Thesis Title : *Numerical Simulation of Behaviour of Sand Using Hypoplastic Constitutive Model.*

- Research Summary** :
 - To evaluate the sensitivity of the oedometer and triaxial element tests results to the given parameter set of hypoplastic constitutive model for sand.

RESEARCH PUBLICATIONS

Referred Journals

Chatra, A. S., G. R. Dodagoudar, and V. B. Maji, (2017) Numerical modelling of rainfall effects on the stability of soil slopes. *International Journal of Geotechnical Engineering.* , Vol 13 (5), pp. 425–437, DOI: 10.1080/19386362.2017.1359912.

Chatra, A. S., V. Sundaravel, S. Ramanandan, G. R. Dodagoudar, and V. B. Maji, Hydromechanical Study of The Nilgiris slope subjected to rainfall. (Manuscript under preparation).

Chatra, A. S., S. Ramanandan, V. Sundaravel, G. R. Dodagoudar, and V. B. Maji, Simplified reliability analysis of slope subjected to rainfall infiltration. (Manuscript under preparation).

Book Chapter

Bhanuprakash H. R. and A. S. Chatra, (2022) Numerical Analysis of the Stability of Soil Slope Subjected to Rainwater Infiltration. In Satyanarayana Reddy, C.V.N., Muthukkumaran, K. and Ravikiran Vaidya (Editors). *Stability of Slopes and Underground Excavations*, Proceedings of Indian Geotechnical Conference 2020, Volume 3. Springer Nature, Singapore.

Conference Papers

Sowmyashri Patil and A. S. Chatra, (2021) Numerical Analysis of the Stability of Soil Slope Subjected to Rainwater Infiltration. *Proceedings of Eighth Indian Young Geotechnical Engineers Conference 2021*. Indian Geotechnical Society, Chennai Chapter.

Bhanuprakash H. R. and A. S. Chatra, (2020) Numerical Analysis of the Stability of Soil Slope Subjected to Rainwater Infiltration. *Proceedings of Indian Geotechnical Conference (IGC-2020)*. Andhra University College of Engineering, Visakhapatnam.

Anilkumar G. M. and A. S. Chatra, (2020) Analysis of Layered Slope Subjected to Rainwater Infiltration. *Proceedings of Indian Geotechnical Conference (IGC-2020)*. Andhra University College of Engineering, Visakhapatnam.

Chatra, A. S. and G. R. Dodagoudar, V. B. Maji, S. Ramanandan, and V. Sundaravel, (2017) Numerical Analysis of Rain-Induced Slope Instability. *Proceedings of Indian Geotechnical Conference (IGC-2017)*. Guwahati, Indian.

Chatra, A. S. and G. R. Dodagoudar, (2010) Numerical simulation of hypoplastic constitutive model for sand. *Proceedings of Indian Geotechnical Conference (IGC-2010)*. Mumbai, India, pp. 845-848.

RESEARCH EXPERIENCE

- Research associate at IIT Madras from July 2007 - October 2010.
- Research associate at IIT Madras from Jan. 2012 - Jan. 2017.

Research Interests

- Rainfall-Induced slope stability.
- Reliability studies on Geotechnical structures.

WORKSHOPS PARTICIPATED

- Advances in Seismic Hazard Analysis and Soil-Structure Interaction, July 2016, GIAN course, IIT Madras.
- Investigation in Soil and Rock for Optimal Geotechnical Design, Feb. 2017, IIT Madras.
- Finite Element in Analysis and Design Using ANSYS, IIT Madras, Aug-Sept 2007.
- Probability Statistics and Reliability for Civil Engineers, IIT Madras, June 2008.
- International Workshop on Horizontal Drilling conducted by Indian Geotechnical Society (IGS), IIT Madras, 2008.
- Fundamentals of Finite Element Analysis, IIT Madras, June 2009.

POSITIONS OF RESPONSIBILITY

- **Sports Secretary** of Cauvery Hostel, IITM in the year 2008 to 2009.
- Conducted Geo-Challenge event in CEA FEST at Civil Engineering Association, IITM 2008.
- Volunteered in open house exhibition of Civil Engineering Department, IITM 2008.
- Placement Volunteer for Geotechnical Engineering Division (Research Scholars) 2008.
- Extracurricular activities

EXTRACURRICULAR ACTIVITIES

- Achieved “A” and “B” Certificates in NCC (National Cadet Corps), 1999 and 2001 respectively.
- Secured Gold medal in Drill competition in NCC (National Cadet Corps), 2001.
- Two times secured bronze medal in Dean’s Trophy Football tournament, IITM, 2009 and 2010 respectively.
- Two times overall championship in hostel sports, Cauvery Hostel IITM, 2009 and 2010 respectively.
- Secured first prize in CEA (Civil Engineering Association) cricket tournament in IITM, 2009 & 2010.

PERSONAL DETAILS :

Date of Birth : 09th October 1984

Gender : Male

Hobbies and Interests : Play football, cricket and discuss a wide range of topics with friends.

Marital Status : Married.

Languages Known : English, Kannada, Hindi, Telugu and Tamil.

Permanent Address : Dr. Adarsh Chatra, #471, Matra Pitra Krupa, Vinayaka Kodi, Near Shaneeshwara Temple, Hangaluru, Kundapura Taluk, Udupi District, Karnataka, India. Pin Code – 576 217.

Present Address : Adarsh Chatra, Dept. of Civil Engineering, Basaveshwar Engineering College Bagalkot, Chennai, India, Pin Code – 587102.

REFERENCES

1. Prof. G. R. Dodagoudar
Professor, Geotechnical Engineering
Division, Dept. of Civil Engineering, IIT
Madras, Chennai – 36
Mobile: +91 98403 28754
Phone: +91 44-2257 5273
E-mail: goudar@iitm.ac.in

2. Mr. Prathap M. N.
Lead designer (Tunnel and Geotechnical)
Geoconsult India Pvt. Ltd., Bengalooru
Phone: +91 99726 01444
E-mail: prathunayak@gmail.com