CURRICULUM VITAE

Balendra Mouli Marrapu

Department of Civil Engineering
Aditya institute of Technology and Management, Tekkali,
Srikakulam, AP-532201, India
E-mail: royces2gather@gmail.com, moulideq@iitr.ac.in
Phone: +91-9381957838

Career Objective:

To secure a challenging career, where my knowledge can be shared, enriched and synchronized with the organizational requirements. Seeking a quality environment where I can prove my outstanding skills and in turn grow with it by learning and implementing the latest technologies in the concerned field of work.

Educational Qualifications:

Academic Qualification	Institution, Place	Board/ University	CGPA */ %
PhD (Soil Dynamics)	IIT-Roorkee	IIT-Roorkee	(July 2012-Dec 2017)
M.Tech (Soil Dynamics)	IIT-Roorkee	IIT-Roorkee	6.76 (2010-2012)
B.E (Civil engineering)	Andhra University College of Engineering, Visakhapatnam	Andhra University	64.36 (2003-2007)
Intermediate	Narayana Junior College, Vishakhapatnam.	Board of Intermediate Education	77.80 (2001-2003)
X Class	Z.P.H. School, Pedabondapalli, Vizinagaram	Board of Secondary Education	64.16 (2001)

Research Profile:

PhD Thesis Title: "Rapid Assessment of Stability of Soil Slopes Using ANN and Multiple Regression"

Thesis Supervisors: Dr. Ravi Sankar Jakka

Slope instability of hill slopes often occur due to various reasons. These slope failures are termed as landslides. Landslides are caused by mutual interaction of various factors. The process and exact mechanism are still not well understood. This makes prediction quite difficult. Therefore, there is a substantial degree of uncertainty involved in any hazard evaluation process. Landslide induced damage can be effectively mitigated by proper planning of infrastructure developmental activities. Landslide Hazard Zonation (LHZ) provides necessary inputs from proper planning of the developmental activities. Landslide Hazard Zonation Mapping, provides spatial and temporal extent of a landslide hazard.

The main purpose of my research work is to find out the realistic weights for the landslide causative factors based on the classical geotechnical slope stability methods, Multiple Regression(MR) and ANN. In order to achieve this an attempt is made to come up with simple analytical approaches to find out slope stability and compare their efficiency with conventional methods to enable analysis of large no cases. Here ANN and MR will be used to establish inter relationship of various parameters (Causative factors) with Factor of Safety. Relative importance of each causative factor will be obtained from ANN and MR. Based on Relative importance, appropriate weight will be assigned to each causative factor to obtained LHEF (Landslide Hazard Evaluation Factor) to classify the hill slopes. These suggested weights is applied to study area and method is validated.

M Tech dissertation: "Seismic Slope Stability Analysis of Ash Embankments"

Supervisor: Dr. Ravi Sankar Jakka

In M Tech dissertation, dynamic response of a highway road embankment using pond ash is studied under various possible static and seismic loading conditions. Influence of various earthquake ground motion characteristics- (e.g. amplitude, duration and frequency content) on the dynamic response of the embankment is assessed. Effects of water stagnation and presence of weak sub-surface soil layers is also examined. An ash road embankment of height 10m initially designed as per the IS code of practice considering loading conditions appropriate to the seismic zone IV, India are used in the studies. Synthetic ground motions are prepared for carrying out controlled studies. The effects of ground motion parameters such as amplitude and frequency of vibrations in the range of 0.1g to 0.3g and 1Hz to 5Hz respectively have been studied.

Positions held:

Position	Institute/Organisation	Duration
Software Engineer	Mahendra Satyam	July 2007 - Dec 2009
Assistant Professor	CMR College of Engineering & Technology	Dec 2017-Mar 2020
Assistant Professor	AITAM, Tekkali	Aug 2020, to till date

Teaching courses:

Course Title	Level	Type
Foundation Engineering	UG	Core
Geo-technical Engineering	UG	Core
Surveying	UG	Core
Ground Improvement Techniques	UG	Core

Administrative works at CMRCET:

Member, Department Academics Committee from July 2018 to June 2020

PUBLICATIONS

Books Edited

1. Suresh k, **Balendra Mouli M** and Prasad B (2018); "International Conference on Civil Engineering Trends", Published by CMRCET Press, International Conference proceedings, India.

List of Journal Papers Accepted/ Submitted

2. Marrapu, B.M., Jakka, R.S. (2017), "Assessment of slope stability using multiple regression". *Geomechanics and Engineering*. 13(2):237-254. **(SCI)**

3. Marrapu, B.M., Jakka, R.S.(2014), "Landslide hazard zonation methods: A critical review*", International Journal of civil engineering research.* 5(3):215-220. **(UGC)**

4. Marrapu B.M., Jakka R.S. (2020), "A Comparative Study on the Performance of ANN, MLR and MNR in the Assessment of Slope Stability for Kalla - Coonoor Hill Road Stretch of Nilgiris", *Learning and Analytics in Intelligent Systems.* 1(2): Springer, Cham **(Scopus)**

5. Bollini, P., Marrapu, B.M (2019), "Traffic Impact Analysis for Proposed Construction in Warangal City", *International journal of recent technology and engineering.* 8(3): 6952-6957. **(Scopus)**

6. Priyanka, S., Marrapu, B.M., R. S. Jakka, and V. A. Sawan (2020), " Economical Design of Reinforced Slope Using Geosynthetics ", *Geotechnical and Geological engineering 38 (2). 1631-1637* **(Scopus)**

7. Marrapu, B. M., Prasad, B (2018).," Laboratory Study On Permeability Of The Grouted Sand".Global Journal of Engineering Science and Researches 76-78, (**UGC**).

8. Marrapu, B. M., Rajendra Prasad, CH., Suresh K., (2018). "Study on Properties of Black Cotton Soil Using Terrazyme as a Stabilization Agent".Global Journal of Engineering Science and Researches , 21-22, (**UGC**).

9. Marrapu, B.M., Jakka, R.S. (2021), "Improvement in prediction of slope stability & relative importance factors using artificial neural network", *Geotechnical and Geological engineering 39(5)*.

10. Marrapu, B.M., Jakka, R.S. (2021), "An artificial neural network model for assessment of slope stability and comparison with a multiple regression model*". Indian Geotechnical Journal* (under review).

List of Conference Papers

1. Marrapu, B.M., Jakka, R.S.(2012), "Analysis of a Road Embankment with Pond Ash in an Active Seismic Region", *15th world conference on earthquake engineering, 15WCEE, Lisbo*, 24-28 september, 2012.

2. Marrapu, B.M., Jakka, R.S. (2014), "Application of artificial neural network for the assessment of slope stability", *Indian Geotechnical Conference*, *Kakinada,* India, 18-20 December, 2014.

3. Marrapu, B.M., Jakka, R.S. (2015), "Slope stability assessment of Kalla - Coonoor Hill road stretch of Nilgiris: A comparative study of multiple regressions and neural network", *international conference on Engineering Geology in new millennium, EGNM*, New Delhi, India, 27-29 October, 2015.

4. Marrapu, B.M., Jakka, R.S. (2015), "Influence of seismic loading on slope instabilities" *6th International Conference on Earthquake Geotechnical Engineering*, *Christchurch,* New Zealand, 01-04 November, 2015.

5. Marrapu, B.M., Jakka, R.S. (2015), "Slope Stability Assessment Using Multiple Regression Analysis for Kalla-Coonoor Hill Road Stretch of The Nilgiris", *Indian Geotechnical Conference*, *Pune,* India, 16-19 December, 2015.

6. Rana, H., Marrapu, B.M., Jakka, R.S. (2016), "Probabilistic Seismic Hazard Analysis" *International conference on earthquake engineering and post disaster reconstruction planning*, *Bhaktapur*, Nepal, 24-26 April 2016.

7. Sharma, P., Marrapu, B.M., Jakka, R.S., Sharma, M.L., (2017), "Design of Reinforced Slope Using Geosynthetics", *Conference on Numerical Modeling in Geomechanics*, Roorkee*,* India, 3rd March, 2017.

8. Marrapu, B.M., Jakka, R.S. (2018), " Identification of Slope Instabilities under Seismic Conditions using Multiple Regression Models", *16SEE*, IIT-*Roorkee,* India, 21-22 December, 2018 .

9. Marrapu, B. M et. all.,(2020), "Performance of ternary blended concrete by substitution of cement with GGBS and silica fume". *ICRDSI*, KIIT Bhubaneswar,18-21 December,2020

Workshops/Conferences Organized:

- Involved in the organization QIP 1Day workshop, titled 'Challenges in Seismic Site Characterization and Solutions through Recent Developments' on 10th December, 2014.

- Involved in the organization of 15th Earthquake Engineering Symposium, organized by Indian Society of Earthquake Technology on 12th December, 2014.

- Involved in the organization of 2 Days national workshop, titled "Liquefaction and Seismic Microzonation" organized by Indian Society of Earthquake Technology on 26-27 November, 2015.

Research interests & skills:

o Geotechnical Earthquake Engineering: Landslides, Slope Stability, Foundation Design, Dynamic soil properties & Soil Liquefaction;
o Machine Foundations & Earthquake Resistant Design of Foundations;
o Knowledge in computing software's such as C, MATLAB , SPSS, NCSS, Geostudio-2012, ArcGIS.
o Good abilities in search, tidying up and writing literatures for research.

Total Citation Record and h-index:

Parameters	In Google Scholar (as on May , 2021)
Number of citations	23
h-index	2

Source:

https://scholar.google.com/citations?user=k5Uqx0cAAAAJ&hl=en

Supervision of Students at CMRCET, India:

B. Tech :

Sl No	Name of the students	Title of Thesis	Year Awarded	External Examiners
1	B Yellaiah (16H55AO104) R Karthik (15H51AO148) N Kumar (15H51AO143) S Madhavi (15H51AO150)	Study on Shear Strength Characteristics of Blackcotton Soil by using Different Stabilization Methods	2019	Dr. N Darga kumar, JNTU, Hyderabad
2	L Vijay (16H55AO116) V Giridar (16H55AO124) R Sowmya (15H51AO1A6) S Harshni (15H51AO1A8) A S Pavan (15H51AO162)	Experimental Determination of Permeability of Sandy Soil Mixed with different Bonding Materials	2019	Dr. Ram Mohan Rao

Strengths:

- o Self-motivated ability to work in team and hardworking nature.
- o Quick learner, able to grasp new ideas, concepts and methods.
- o Excellent interpersonal and communication skills

Name of Referees:

Dr. Ravi Sankar Jakka
Associate Professor
Department of Earthquake Engineering
Indian Institute of Technology Roorkee
Roorkee, Uttarakhand-247667, India
Email: rsjakka@gmail.com
        jakkafeq@iitr.ac.in
Phone: +91- 9458947076 (Mobile)
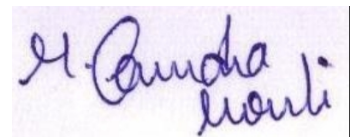   +91-1332-28 5591 (office)

Personal Profile:
Name: Balendra Mouli Marrapu
 Date of Birth: 03-06-1986
 Marital Status/Sex: Married/ Male
 Nationality: Indian
 Languages known: English, Hindi, Telugu

Permanent Address:
 S/O Simhachalam
 Burji (Post), Seethanagaram (Mandal), Vizinagaram (District)
 Andhra Pradesh (State)-535546, India (Country).

Declaration:
I hereby declare that the information furnished above is true to the best of my knowledge.

(Balendra Mouli Marrapu