Dr Ashok Kumar Singh

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Contact No: +91 8299554333, 9454169304

Current Position & Correspondence Address:

Scientist
Geo-technical Engineering & Underground Space Utilisation Group
CSIR-Central Institute of Mining and Fuel Research,
Regional Research Centre, Roorkee,
CBRI campus, Roorkee-247667, Uttarakhand, India

Google Scholar: https://scholar.google.com/citations?user=-_f2MhEAAAAJ&hl=en

Research Gate: https://www.researchgate.net/profile/Ashok_Singh43

Research Interest

To work on the scientific solution of geo-engineering problems in the area of rock engineering, mining and allied industries emphasizing field based researches on:

- Development of new tools/techniques in Rock Mass Characterization/Classifications
- Rock Engineering: Field Mapping & Characterizations
- Experimental Rock Mechanics
- Engineering Geological aspects in Rock Blasting and Excavation Engineering

Academic Details

PhD Thesis: ***Landslide Vulnerability Analysis around Rampur Area, Himachal Pradesh, India.***

Degree	Year	Institute	Specialization/ Subjects
Ph.D.	2018	IIT(ISM) Dhanbad	Engineering Geology
M. Sc.	2012	University of Allahabad	Applied Geology
B.Sc.	2010	University of Allahabad	Maths, Physics, Computer Maintenance

Employment & Research Experiences

- Teaching Assistant at Department of Applied Geology, IIT(ISM), Dhanbad (**July 2013 – August 2018**)
- Project Asscoiate (II) at CSIR-CIMFR, Regional Research Centre, Roorkee & Bilaspur (CG) (**27/09/2019 to 15/07/2021**)

Publications

Articles in Journals (SCI)

1) **Singh, A.K.**; Kundu, J.; Sarkar, K; Verma, HK; Singh, PK (2021) Impact of rock block characteristics on rockfall hazard and its implications for rockfall protection strategies along Himalayan highways: A case study. **Bulletin of Engineering Geology and the Environment,** 80: 5347–5368 **(IF: 4.298/2020)**
2) Tripathi, A.; Gupta, N.; **Singh A.K.**; Mohanty, S.P., Rai, N.; Pain, A. (2021) Effects of elevated temperatures on the microstructural, physico-mechanical and elastic properties of Barakar sandstone: A study from one of the world's largest underground coalmine fire region, Jharia, India. ***Rock Mechanics and Rock Engineering***, 54: 1293–1314 (**IF: 6.730/2020**).
3) Kundu, J.; Sarkar, K.; **Singh, A.K.**; Singh, T. N. (2020) Continuous functions and a computer application for Rock Mass Rating. ***International Journal of Rock Mechanics and Mining Sciences***, 129. https://doi.org/10.1016/j.ijrmms.2020.104280 (**IF: 7.135/2020**)
4) Shankar, R.; **Singh, A.K.** Satyam, G.P.; Daxberger H. (2020) Active tectonics influences in the Satluj river basin in and around Rampur, Himachal Himalaya, India. ***Arabian Journal of Geosciences***, 13, 624. https://doi.org/10.1007/s12517-020-05473-w (**IF: 1.827/2020**)
5) Rahman, T.; Sarkar, K.; **Singh, A.K.** (2020) Correlation of Geomechanical and Dynamic Elastic Properties with the P-Wave Velocity of Lower Gondwana Coal Measure Rocks of India. **International Journal of Geomechanics (ASCE)**, 20(10). https://doi.org/10.1061/(ASCE)GM.1943-5622.0001828 (**IF: 3.819/2020**)
6) Acharya, B.; Sarkar, K.; **Singh, A.K.**; Chawla, S. (2020) Slope characterization and discontinuities driven failures feasibility zonation along a crucial highway corridor in higher Himalaya, India. ***Journal of Mountain Science***, 17: 801–823. https://doi.org/10.1007/s11629-019-5524-6 (**IF: 2.071/2020**)
7) Niyogi, A.; Sarkar, K.; **Singh, A.K.**; Singh, T. N. (2020) Geo-engineering classification with deterioration assessment of basalt hill cut slopes along NH 66, near Ratnagiri, Maharashtra, India. ***Journal of Earth System Science***, 129. https://doi.org/10.1007/s12040-020-1378-0 (**IF: 1.371/2020**)

8) **Singh, A.K.**; Kundu, J.; Sarkar, K. (2018) Stability analysis of a recurring soil slope failure along NH-5, Himachal Himalaya, India. ***Natural Hazards.*** 90(2): 863-885. (**IF: 3.102/2020**)
9) Sarkar, K.; **Singh, A.K.**; Niyogi, A.; Behera, P.K.; Verma, A. K.; Singh, T. N. (2016). The assessment of slope stability along NH-22 in Rampur-Jhakri Area, Himachal Pradesh. ***Journal of the Geological Society of India*** 88(3):387-393. (**IF: 1.459/2020**)
10) Behera, P.K.; Sarkar K.; **Singh, A.K.**; Verma, A. K.; Singh, T. N. (2016). Dump slope stability analysis – A case study. ***Journal of the Geological Society of India*** 88(6):725-735. (IF: **IF: 1.459/2020**)
11) Behera, P.K.; Sarkar, K.; **Singh, A.K.**; Verma, A. K.; Singh, T. N. (2017). Erratum to: Dump Slope stability analysis – a case study. ***Journal of the Geological Society of India*** 89(2):226-226. (**IF: 1.459/2020**)

Book Chapters

1) Kundu, J.; Sarkar K.; **Singh, A.K.** (2016) Integrating structural and numerical solutions for road cut slope stability analysis—A case study, India. *Rock Dynamics: From Research to Engineering*, pp.457-462 DOI: 10.1201/b21378-69

Articles/Abstracts in Conferences

1) Kundu, J.; Sarkar, K., **Singh, A. K.** (2019) EasySMR: A computer program to check kinematic feasibility and calculate Slope Mass Rating. Geophysical Research Abstracts vol. 21, EGU2019-1540, *EGU General Assembly*, Vienna, Austria.
2) Rahman, T.; **Singh, A.K.**; Sarkar, K. (2018) Correlation of Dynamic Elastic Properties with P-wave velocity of Coal Measure Rocks. *Young Scientist's Conference abstract book: Frontier areas in science-part 4. India International Science Festival*, 5-8 October 2018, Lucknow, India.
3) Nath, S.; Kundu, J.; **Singh, A.K.**; Acharya, B.; Sarkar, K. (2018) Lithological control on joint roughness. *Emerging Trends in Geophysical Research for Make-in-India (ETGRMI)* Abstract volume; 9-11 March 2018, IIT(ISM) Dhanbad, pp. 149-151.
4) Rahman, T.; **Singh, A.K.**; Sarkar, K. (2018) Correlation of Vp with UCS and BTS of coal measure rocks. *Emerging Trends in Geophysical Research for Make-in-India (ETGRMI)* Abstract volume; 9-11 March 2018, IIT(ISM) Dhanbad, pp. 151-152.
5) Niyogi, A.; Sahay, A.; **Singh, A.K.**; Sarkar, K., Singh, T.N. (2017) Rockfall hazard analysis of road cut slope along NH-66 near Sangameshwar, Ratnagiri using rigid body model. *4th Indian Landslide Congress (ILC)*, 8th -9th December 2017, IIT Bombay.

6) Behera, P.K; **Singh, A.K.**; Niyogi, A.; Sarkar, K. (2017) Comparative stability assessment of a coal mine dump in static and dynamic condition: A case study. *4th Indian Landslide Congress (ILC)* Abstract volume; 8-9 Dec, 2017, IIT Bombay.
7) **Singh, A.K.** & Sarkar K., (2016) Stability assessment of cut-slope along NH-22, Rampur area, Himachal Pradesh, India. *INDOROCK 2016*, IIT Bombay, Mumbai, India.

Professional training, courses and field experiences

- Participated in training program on "Application of numerical simulation for slope stability risk mitigation and management" organized by department of Mining Engineering, IIT(ISM) Dhanbad. (15/2/2018 to 18/2/2018)
- Participated in a training cum workshop program on "Numerical simulation of landslide studies" organized by department of Mining Engineering, IIT(ISM) Dhanbad. (15/2/2016 to 17/2/2016)
- Detailed field mapping in the Lower and Higher Himalayas for landslides and slope stability investigation in Rampur, Nogli, Luhri, Nathpa, Sangla,Kotropi, Manali area of Himachal Pradesh
- Structural field mapping in Damoh and Rewa area, Madhya Pradesh (May, 2014)
- Detailed geological mapping of deformed terrains in Nim ka Thana area, Rajsthan (Dec, 2013)
- Summer-internship training on "Earth magnetic field observation and analysis" at Dr. K.S. Krishnan Geomagnetic Research Laboratory (regional center of Indian Institute of Geomagnetism), Uttar Pradesh. (1/6/2011 to 10/7/2011)
- Detailed stratigraphic filed mapping of Lower Vindhyan formations in Chopan area (November, 2011).
- Detailed structural mapping and field study in Jhansi and Chitrakut area (2010, 2011)
- Completed a short-term course on “Ore geology and mineral exploration” organized by Department of Earth and Planetary Sciences, University of Allahabad (Nov 15 to 21, 2010)

Technical Skills

- Slope stability software: RS^2, UDEC, Slide, Dips, Flac Slope 2D, Swedge, Plaxis 2D, GeoOrient, Rocfall
- Blasting software: Blastware
- Digitizing software: CorelDraw, Adobe Illustrator
- Remote sensing software: ArcGIS

Key Achievements

- Awarded CSIR (UGC) NET-JRF-2013, AIR-16
- Awarded IIT(ISM) JRF- 2013, AIR-5
- Awarded GATE-2014, AIR-546

Position of Responsibilities

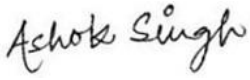
- Student coordinator of Soil mechanics and Foundation Engineering Laboratory at Department of Applied Geology, IIT(ISM), Dhanbad (July, 2013–August 2018)
- Teaching and Lab assistant for undergraduate and post graduate student (July, 2013– August 2018)
- Student coordinator in training program on "Application of numerical simulation for slope stability risk mitigation and management" at IIT(ISM) Dhanbad. (15/2/2018 to 18/2/2018)
- Volunteer in training cum workshop program on "Numerical simulation of landslide studies" at IIT(ISM), Dhanbad. (February, 2016)

Declaration

I hereby affirm that the information furnished above is accurate and true to the best of my knowledge and belief.

Date: 10/08/2021

Place: Dhanbad



(DR ASHOK KUMAR SINGH)