

**Sk. Md. Equeenuddin**

**Personal:**

Name : Sk. Md. Equeenuddin  
Date of Birth : 04 May 1979  
Sex : Male  
Nationality : India  
Marital Status : Married  
Email : equeen@nitrkl.ac.in and md\_equeen@yahoo.co.in  
Phone Number : +91-661-2462939

**Education:**

Ph. D. in Geology (2010)  
Indian Institute of Technology, Kharagpur, India

M. Tech. in Engineering Geosciences (2003)  
Indian Institute of Technology, Kanpur, India

M. Sc. in Geology (2001)  
Utkal University, Odisha, India

B. Sc. Honours in Geology (1999)  
Utkal University, Odisha, India

**Professional Career:**

November 2013 – till date  
Assistant Professor  
Department of Earth and Atmospheric Sciences  
National Institute of Technology, Rourkela – 769008, Odisha, India

September 2008 – November 2013  
Assistant Professor  
Department of Mining Engineering  
National Institute of Technology, Rourkela – 769008, Odisha, India

**Academic & Research Activities:**

**Doctoral Thesis Guidance:**

**Ongoing**

1. Hydrogeochemical Study and Role of Nanominerals in Mobilization of Cr(VI) at Sukinda Valley, Odisha

2. Impact of Climate Change on Continental Weathering in the Mahanadi Basin and its prediction through mathematical modeling
3. Adsorption behaviour of Cr(VI) onto various soil types and influence anions
4. Multi-point multi-scale simulation using discrete wavelet transformation and Markov model

#### **M. Tech. Thesis Guided:**

1. Monitoring spatial and temporal variation of total suspended sediment concentration in Chilika lagoon using MODIS/Terra data
2. Influence of chemical and textural characteristics on geomechanical properties of sandstone.

#### **Sponsored Research Projects & Consultancy:**

##### **Sponsored**

1. Assessment of chromium contamination at Sukinda valley, Odisha vis-à-vis role of nanominerals. Department of Science & Technology, Govt. of India (Amount: 25.5 Lakhs; 2013-2015)
2. Recoverable reserve estimation using non-gaussian copula-based ore body simulation along with open pit and slope optimization techniques (Ministry of Mines, Govt. Of India; Amount: 12.3 Lakh; 2014-2017)

##### **Consultancy**

1. Surface run-off study at Talcher and IB-Valley coalfields, MCL, 2015
2. Ultimate Pit slope stability at Ghatkuri Iron ore mine, M/S Nirmal Kumar Pradeep Kumar, 2015
3. Ultimate pit slope stability at Rajpardi lignite mine, Gujarat, GMDC, 2014.
4. Groundwater potential study in parts of Keonjhar Town. RWS & S Division, Keonjhar, 2013
5. Scientific Study of the dragline dump and Overburden benches at Mungoli, Opencast mine, Western Coalfields Limited, Nagpur, 2012
6. Groundwater potential study at Kenapali, Sundergarh, Power Grid Corporation of India Limited, 2012
7. Water audit at Essel mines, Barbil, Essel mining & Industries Ltd, Barbil, 2011-12
8. Slope Stability of Dump along with 25% fly ash at Jindal Power open cast coal mines through model study, Jindal Power Limited, Raigarh, 2011.
9. Water audit at TRB Iron ore mines, Tensa, Jindal Steel & Power Limited, Tensa, 2011
10. Slope Stability of Dump along with fly ash at Jindal Power open cast coal mines, Jindal Power Limited, Raigarh, Jindal Power Limited, Raigarh, 2010.
11. Stability of Ultimate Pit Slope at Jindal open cast coal mines # 1, Dongamauha, Jindal Steel & Power Limited, Raigarh, 2010
12. Slope Stability of Dump along with Fly ash at Jindal open cast coal mines # 1, Dongamauha, Jindal Steel & Power Limited, Raigarh, 2010.

#### **Publication/Presentation**

##### **Refereed Journals:**

1. **Sk. Md. Equeenuddin** (2015) Leaching of trace elements from Indian coal. *Journal of the Geological Society of India*, 86, 102-106.
2. **Sk. Md. Equeenuddin** (2015) Occurrence of Alpersite at Malanjhand copper mine, India. *Environmental Earth Sciences*, 73, 3849-3853.
3. P. K. Sahoo, S. Tripathy, M. K. Panigrahi, **Sk. Md. Equeenuddin** (2014) Geochemical characterization of coal and waste rocks from high sulfur bearing coalfield, India: implication for acid and metal generation. *Journal of Geochemical Exploration*, 145, 135-147.

4. H. B. Sahoo, S. Tripathy, **Sk. Md. Equeenuddin**, P. K. Sahoo (2014) Utilization of ochre as an absorbent to remove Pb(II) and Cu(II) from contaminated aqueous media. *Environmental Earth Sciences*, 72, 243-250.
5. P. K. Sahoo, S. Tripathy, M. K. Panigrahi, **Sk. Md. Equeenuddin** (2013) Inhibition of acid mine drainage from pyrite-rich mining waste using industrial by-product: role of neo-form phases. *Water, Air and Soil Pollution*, 224, 1757-1767
6. **Sk. Md. Equeenuddin**, S. Tripathy, P. K. Sahoo, M. K. Panigrahi (2013) Metal behavior in sediments associated with acid mine drainage stream: role of pH. *Journal of Geochemical Exploration*, 124, 230-237.
7. P. K. Sahoo, S. Tripathy, M. K. Panigrahi, **Sk. Md. Equeenuddin** (2013) Evaluation of the use of an alkali modified fly ash as a potential adsorbent for the removal of metals from acid mine drainage. *Applied Water Science*, (DOI 10.1007/s13201-013-0113-2)
8. P. K. Sahoo, K. Kim, **Sk. Md. Equeenuddin**, M. A. Powell (2013) Current approaches for mitigating acid mine drainage. *Reviews of Environmental Contamination and Toxicology*, 226, 1-32
9. P. K. Sahoo, S. Tripathy, M. K. Panigrahi, **Sk. Md. Equeenuddin** (2012). Mineralogy of Fe-Precipitates and Their Role in Metal Retention from an Acid Mine Drainage Site in India. *Mine, Water and Environment*, 31, 344-352.
10. **Sk. Md. Equeenuddin**, Santosh Kumar, Shantanu Kumar Dutta (2012). Leaching behaviour of elements from high sulphur fly ash. *Asian Journal of Water, Environment & Pollution*, 9 (2), 57-60.
11. P. K. Sahoo, S. Tripathy, **Sk. Md. Equeenuddin**, M. K. Panigrahi (2012). Geochemical Characteristics of Coal Mine Discharge vis-à-vis Behavior of Rare Earth Elements at Jaintia Hill Coalfield, Northeastern India. *Journal of Geochemical Exploration*, 112, 235-243.
12. **Sk. Md. Equeenuddin**, S. Tripathy, P. K. Sahoo, M. K. Panigrahi (2010). Hydrogeochemical characterization of acid mine drainage and water pollution at Makum Coalfield, India. *Journal of Geochemical Exploration*, 105, 75-82.
13. **Sk. Md. Equeenuddin**, S. Tripathy, P. K. Sahoo, M. K. Panigrahi (2010). Geochemistry of ochreous precipitates from coal mine drainage in India. *Environmental Earth Sciences*, 61, 723-731.
14. P. K. Sahoo, P. Bhattacharyya, S. Tripathy, **Sk. Md. Equeenuddin**, M. K. Panigrahi (2010). Influence of different forms of acidities on soil microbiological properties and enzyme activities at an acid mine contaminated site. *Journal of Hazardous Materials*, 179, 966-975.
15. **Sk. Md. Equeenuddin**, B.C.Raymahashay (2008). Retention of anionic pollutants by overburden material at chromite mines: An experimental investigation. *Asian Journal of Water, Environment & Pollution*. 5, 109–113.
16. S. Tripathy, P. Bhattacharyya, **Sk. Md. Equeenuddin**, K. Kim, H.D. Kulkarni (2008). Comparison of microbial indicators under two water regimes in a soil amended with combined paper mill sludge and decomposed cow manure. *Chemosphere*. 71, 168–175.

#### **Conference:**

1. Abhishek Kumar, **Sk. Md. Equeenuddin**, Deepak Mishra, Bhaskar C. Acharya. Variability of total suspended sediment in Chilika lake during Phailin using MODIS/Terra. *ISPRS TC VIII International Symposium on Operational Remote Sensing Applications: Opportunities, Progress and Challenges*, Hyderabad, India, 09-12 December, 2014
2. **Sk. Md. Equeenuddin**, Sabysachi Prakash. Mode of Trace Elements in some Indian coal. *Proceedings of International Conference on Environment and Energy*, Colombo, Sri Lanka, 16-17 December, 2013
3. Sk. Md. Equeenuddin, Gayadhar Mallik, Nihar Sahu (2013). Leaching behaviour of fluoride from fly ash, Odisha. *Vistas in Geological Research*, Vol. 12 Page. 91-94.

4. **Sk. Md. Equeenuddin**, Sourav Choudhury. Change Detection Analysis around Talcher Coalfield using Remote Sensing and GIS. 5<sup>TH</sup> International Congress on Environmental Research, University Malaysia Terengganu, Kuala Terengganu, Malaysia, 22-24 November, 2012.
5. Singam Jayanthu, Sarat K. Das, **Sk. Md. Equeenuddin**. Stability of fly ash and overburden material as back filling in opencast mines: a case study. *International Conference on Chemical, Civil and Environment engineering (ICCEE'2012)*, Dubai, March 24-25, 2012.
6. **Sk. Md. Equeenuddin**, Basanta Kishan. Assessment of Chromium Pollution at Nuasahi Baula Mines, Orissa. *Seminar on Orissa's Minerals, Environment & Geoscience Assessment*, 2011, Bhubaneswar, 11-12 August, 2011.
7. **Sk. Md. Equeenuddin**, Niraj Agarwal. Acid Base Accounting study of overburden and coal at Dongamauha, Raigarh. *International Conference on Technological challenges and management issues for sustainability of mining industries*, NIT Rourkela, 4-6 August, 2011
8. **Sk. Md. Equeenuddin**, P K Sahoo, S. Tripathy, M. K. Panigrahi. Sediment Contamination due to Acid Mine Drainage around Makum Coalfield, Assam. *International Congress of Environmental Research (ICER-08)*, Goa, 18-20 December, 2008.
9. P K Sahoo, S. Tripathy, **SK. Md. Equeenuddin**, M. K. Panigrahi. Effect of Coal mining on surface and ground water quality in Jaintia Hills district, Meghalaya. *International Congress of Environmental Research (ICER-08)*, Goa, 18-20 December, 2008.
10. **Sk. Md. Equeenuddin**, S. Tripathy, M. K. Panigrahi. Acid-Base Accounting Test at Makum coalfield, India. 1<sup>st</sup> *International Conference on Managing the Social and Environmental Consequences of Coal Mining in India*, New Delhi, 19-21 November 2007.
11. **Sk. Md. Equeenuddin**, S. Tripathy, M. K. Panigrahi. Geochemical characterization of acid mine drainage associated with Makum coalfield, Assam, India. 9<sup>th</sup> *International Conference on the Biogeochemistry of Trace Elements*, Beijing, China, 15-19 July 2007.
12. S. Tripathy, P. Bhattacharyya, R.P. Mohapatra, **S.M. Equeenuddin**. Influence of total and bioavailable forms of metals on soil microbial biomass and activities in metal contaminated old landfill soil. 9<sup>th</sup> *International Conference on the Biogeochemistry of Trace Elements*, Beijing, China, 15-19 July 2007.
13. **Sk. Md. Equeenuddin**, B.C. Raymahashay. Ground water quality near chromite mines: role of anion exchange by overburden material. 2<sup>nd</sup> *International Conference on Ground Water for Sustainable Development (IGC-2006)*, New Delhi, India, 1-4 February 2006.

#### **Other professional activities:**

1. Life Fellow, Geological Society of India, Bangalore
2. Life Member, Society of Geoscientists and Allied Technology, Bhubaneswar
3. Member, International Association of Geochemistry.
4. Member, International Association of Hydrogeologists

#### **Short Term Course Organized:**

1. "Environmental Management in Mining & Allied Industries" at NIT Rourkela from 10 to 12 December, 2010.