

**Dr. Rasikh Barkat***Assistant Professor, Geology, Dept. of Higher Education, J&K***Ph.D. (Sedimentology)**

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E-mail: [rasikhbarkat@gmail.com](mailto:rasikhbarkat@gmail.com)**Professional Objective:**

*Now serving as an Assistant Professor of Geology at GDC Shopian, Dept. of Higher Education, J&K, I am committed to fostering an engaging, inclusive, and research-driven academic environment. My goal is to inspire and mentor students in their academic pursuits while nurturing critical thinking and personal growth. With a focus on contributing to both teaching excellence and advancing research, I aim to create opportunities for students' all-round development through dedication, innovation, and collaboration in higher education.*

**Areas of Interest:**

Clastic and Carbonate Sedimentology, Basin evolution and Basin modeling, Earth's tectonic, atmospheric and biogeochemical evolution during Precambrian, isotope geochemistry, geochronology and Conventional & Unconventional energy resources

**Specialization:**

Sedimentology and Sequence stratigraphy

**Personal details:**

Name : Rasikh Barkat  
 Father's Name : Barkat Ahmad Rather  
 Mother's Name : Sakina Akhter  
 Gender : Male  
 D.O.B : 05 Sept. 1991  
 Mother Tongue : Kashmiri  
 Nationality : Indian  
 Languages known : Kashmiri, English, Urdu, Hindi

**Educational Qualification:**

<b>Educational Level</b>	<b>Subjects</b>	<b>Institute/Board</b>
PhD	Sedimentology	University of Delhi, India
MSc *	Applied Geology	University of Madras, India
BSc (Hons)	Geology, Physics, Mathematics, English	Aligarh Muslim University, India
Intermediate	Mathematics, Physics, Chemistry, English, Arabic	J&K Board of School Education
High-school	Mathematics, Science, English, Social Science, Urdu	J&K Board of School Education

\*University first rank holder

## **Professional Experience**

- Senior Geologist at Centre of Excellence for Energy Studies (CoEES), Oil India Limited (OIL), March 2020 - August 2024
  - *Played a pivotal role in the establishment of the Geological Laboratory at CoEES.*
  - *Set up and operationalized key geological equipment, including thin-section microscopy, Scanning Electron Microscope (SEM), X-Ray Diffraction (XRD), and X-Ray Fluorescence (XRF), Rock eval etc.*
  - *Contributed to the advancement of analytical capabilities, enhancing the research and exploration potential of the organization.*

## **Research Experience**

- **Senior Research Fellow (2016-2021)**  
Research theme: *Architecture of Neoproterozoic continental to shallow-marine sedimentation from the siliciclastic-carbonate succession of the Kurnool Group, India*  
**Summary:** The research work encompassed the Depositional modeling of the Banganapalle, Narji, Owk shale and Panium sandstone Formations in spatio-temporal framework along with the Process-based understanding of transitions between different formations and their underlining triggers. Detrital zircon geochronology and sequence stratigraphic appraisal for the basin fill with mixed siliciclastic-carbonate deposition. Reconstruction of secular  $\delta^{13}\text{C}$  curve from the Narji limestone taking into consideration its late Neoproterozoic-Ediacaran time frame.

### **M.Sc. Dissertation (2015)**

Research theme: *Sea Level Rise and its Impact Along Kanchipuram coast, Tamil Nadu*  
**Summary:** The objective of this project is to study the impact of sea level rise in Kanchipuram district. Remote sensing data from 1972 till 2014 was used as baseline data for the studies. A massive erosion of coastal area was documented. The study recommended the controls like natural barriers including beach vegetation and artificial measures like beach nourishment, geotubes, stabilization of sand dune complexes etc. for the optimum control of coastal erosion. It further recommended the Comprehensive multihazard vulnerability assessment of the entire coast should be conducted.

## **Papers Published:**

1. Chakraborty, P. P., **Barkat, R.**, Sharma, A., Das, K., Shibata, T. (2024). Decoding regressive depositional history from the Neoproterozoic Panium Sandstone Formation, Kurnool Group, India using ‘Sequence stratigraphy’ analysis and detrital zircon geochronology
2. **Barkat, R.**, Chakraborty, P. P. (2023). Depositional architecture of a Neoproterozoic clastic shelf: Clue from the Owk Shale Formation, Kurnool Group, India. Journal of Geological Society of India.

3. Chakraborty, P. P., **Barkat, R.**, Sharma, A. (2022). Carbonate platform architecture and carbon isotope stratigraphy from the Neoproterozoic Narji Limestone Formation, Kurnool Group, India: decoding signature of relative sea level fluctuations.
4. **Barkat, R.** (2022). An appraisal report on hydrocarbon potential of Indian Proterozoic sedimentary basins, India. GeoIndia, South Asian Geoscience.
5. **Barkat, R.**, Chakraborty, P. P., Saha, S., Das, K. D. (2020). Alluvial architecture, paleohydrology and provenance tracking from the Neoproterozoic Banganapalle Formation, Kurnool Group, India: an example of continental sedimentation before land plants. Precambrian Research.
6. Saha, S., **Barkat, R.**, Dutt, S., (2020). A combined organo-sedimentary model for the genesis of enigmatic Molar-tooth structures: An exercise based on physical and chemical proxies from Mesoproterozoic carbonates of Lesser Himalaya. Jour. of Asian Earth Science.
7. Chakraborty, P. P., **Barkat, R.** (2019). A status report on age, depositional motif and stratigraphy of Chhattisgarh, Indravati, Kurnool and Bhima basins, Peninsular India, Proceedings of Indian National Science Academy (PINSAs).

#### Conferences attended/ participated

1. Distinguished Speaker at “39th Convention of the Indian Association of Sedimentologists & International Conference”, paper entitled “Continental Sedimentation Preceding the Emergence of Terrestrial Plants: an example from Neoproterozoic Banganapalle Formation, Kurnool Group, India. Annamalai University, Tamil Nadu, December 2023.
2. Keynote speaker at international seminar on “Petroleum Exploration: Scopes, Prospects & Strategies with a Special Anecdote on North-East India.” Mizoram University, May 2023.
3. Presented a paper entitled “Depositional setting of Panium sandstone, Kurnool Group, India”, and received Best Oral Presentation award at 14th JK Science Congress, December 2019.
4. Presented an invited talk on “Stratal architecture of regressive Panium Sandstone, Kurnool Group”, at Nagoya University, Japan under DST-JSPS Japan-India forum of Advanced studies, March 2019.
5. Presented a paper entitled “Response of Mixed clastic-carbonate system to transgression-regression cycle: A case study from Neoproterozoic Kurnool Group, India” at First HiPeR, International Symposium, Hiroshima University, Japan, January 2018.
6. Presented a paper entitled “Depositional Modelling and Age connotation for mixed Siliciclastic-carbonate Kurnool Group, India, at a national conference, University of Delhi, February 2019.
7. Presented a talk entitled “Complexity in Managing Multi hazard Prone Kanchipuram District Tamil Nadu” in a national conference “Global Climate Change and Coastal management”, held in University of Madras, Chennai, February 2015.

8. Participated in a national conference on “Global Climate Change Issues”, held at University of Madras, Chennai, January 2015.

9. Attended a 3 days’ international conference on “Environmental Earth Science Accomplishments, Plans and Challenges” in March 2014.

#### **National exams Qualified:**

- ✓ Qualified CSIR NET/JRF Five (5) times, with best at AIR 07.
- ✓ Qualified JKSET, with rank 01.
- ✓ Qualified IIT (JAM) with AIR 119.

#### **Academic Achievements:**

- **DST-INSPIRE Fellow** (Govt. of India), Department of Geology, University of Delhi.
- **Gold Medalist**, University of Madras, University Annual convocation 2015.
- Got “**Meritorious Student Award**” awarded by Geologists Association of Tamil Nadu, 2014-15, through competitive exam among the MSc. toppers across Tamil Nadu.
- Got awarded by USAB through Science Talent Promotion Scheme, for carrying out a scientific research work during my summer internship, Dec 2014.
- Two academic **International Visits to Japan (2018 and 2019)**. Visited Hiroshima University, Niigata University, Nagoya University, National Institute of Polar Research etc.

#### **Field Experience:**

- ✓ Geological Field work in Critical mineral blocks of Arunachal Pradesh (2023, 2024)
- ✓ Geological Field works and Geological mapping in Cuddapah Basin- a mixed siliciclastic carbonate sedimentary package, Andhra Pradesh (2022, 2024)
- ✓ Geological Field works and Geological mapping in Kurnool Basin- a mixed siliciclastic carbonate sedimentary package, Kurnool dist., AP. (2016, 2017, 2019, 2020)
- ✓ Geological Field works in Palnad subbasin- an extension of Kurnool Basin. (2018)
- ✓ Geological Field work in Mahakoshal Basin, MP. (2019, 2020)
- ✓ Geological Field work in Bayana Basin, Rajasthan. (2018, 2019)
- ✓ Geological Field work in Lesser Himalayas (different Formations), Uttrakhand. (2018, 2019, 2020)
- ✓ Coal Mine training in Neyveli Coal Field, Tamil Nadu. (2015)
- ✓ Geological Field work in Kashtwar Valley, J&K. (2015)
- ✓ Geological Field work in Vindhyan Basin, Rajasthan. (2012)

#### **Instruments Operated/Handled:**

- ✓ Total Carbon Analyzer (TOC)
- ✓ X-Ray Diffraction (XRD)
- ✓ X-Ray Fluorescence (XRF)
- ✓ Scanning Electron Microscope (SEM)
- ✓ Sensitive High Mass-resolution Ion Microprobe (SHRIMP)
- ✓ Petrographic Microscope
- ✓ Reflectance Microscope
- ✓ Global Positioning System (GPS)
- ✓ Brunton Compass, etc.

**Soft Skills:**

- ✓ Petrel
- ✓ DecisionSpace
- ✓ WelCAD
- ✓ CorelDraw X3, X5, X8
- ✓ ArcGIS, Q-GIS, Surfer-9
- ✓ Microsoft Office
- ✓ ErdasImagine

**Personal Strengths:**

Leadership skills, Self-confidence, Optimism, Punctual and Hard working

**Sports Interest:**

Cricket, Volley Ball, Badminton

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