

A REFRESHER COURSE ON MINERAL RESOURCE ESTIMATION AND APPLIED GEOSTATISTICS

Tuesday, October 3 to Friday, 6 2023
8 am to 12 noon (IST) each day **online live sessions**

Register at: <https://geoglobal.co/mreag-india-edition>

**FOUR ONLINE
LIVE SESSIONS**
webex
by CISCO

Approved by
NACRI
NATIONAL COMMITTEE FOR REPORTING
MINERAL RESOURCES AND RESERVES IN INDIA
For 20 professional development hours (PDH)

The program will be led by
Abani R. Samal, *Ph.D.*
Fellow – SME, Fellow – SEG, Fellow - MEAI, Fellow - GSI
Principal, **GeoGlobal, LLC, USA**

**Suitable for mining industry professionals
with some experience**

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FROM

ABANI R. SAMAL, Ph.D.

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Subject: Professional development program (refresher-course) on Mineral Resource Estimation and Applied Geostatistics (MREAG)

Location: ONLINE, Live, on Webex platform

Dates: ***Tuesday, October 3 to Friday, 6 2023***

Schedule: Total 4 LIVE sessions: Each session meets daily for 4 hours
8 am to 12 noon (IST) each day + One hour of reading/take-home exercises

Target Participants:

- Geologists in exploration and mining projects
- Mining engineers
- Project managers
- And other professionals in the mining industry

Participants are expected to have exposure to the mining industry and are willing to learn more about mineral resource estimation, applied geostatistics, resource classification, and reporting.

This program is not suitable for students.

Register at: <https://geoglobal.co/mreag-india-edition>

Maximum number of participants: 30

Approved by the National Committee for Reporting Mineral Resources and Reserves in India (NACRI) for 20 professional development hours (PDH).

Explanation of Professional Development Hours: 16 contact hours (4 live sessions of 4 hours each) + 4 hours of reading assignments

Expected Outcome

The participants of this program are expected to gain knowledge and some experience on several critical aspects of resource estimation which may be useful for improving the reliability of resource/reserve estimation at the workplace. Each session will end with a Q&A session.

Contact: Dr Abani Samal (arsamal@geoglobal.co) for any further clarification.

Outline:

This is a refresher course where participants are expected to actively contribute to the discussions and enrich the learning experience.

Requirements:

- Each participant is required to have their individual computer with an uninterrupted high-speed internet connection
- Participants are expected to have the video on during class sessions.
- Group participation with one computer system is not allowed.
- This program is designed to be delivered as an in-person program to a limited number of attendees, who have some exposure to the resource estimation process and or, willing to learn the process in details.

Session 1 (Day 1): Fundamental concepts

- Introduction
- Geological controls and styles of mineralization
- Project development and studies in mining project development
- Data types and data quality
- Quiz - 1

Session 2 (Day 2): Exploratory data analyses (EDA)

- Introduction to Exploratory Data Analyses (EDA)
- Statistical analysis of drill-hole data
- Introduction to Geostatistics and variogram analyses
- Introduction to Variogram Analysis
- Quiz - 2

Session 3 (Day 3): Introduction to geostatistics and Kriging

- Omnidirectional and directional variograms
- Interpolation and grade estimation
- Kriging Technique
- Kriging parameters and Error Estimation
- Quiz - 3 & 4

Day 4: Geostatistical Grade estimation and

- Omnidirectional and directional variograms
- Interpolation and grade estimation
- Kriging Technique
- Kriging parameters and Error Estimation
- Quiz - 3 & 4

Course Materials: Digital course materials will be provided which contain a subset of PowerPoint slides and other materials (book chapters and published papers)

Certificates of completion and Professional Development Hours (PDH) will be electronically awarded to the participants.

Lead Instructor

This program will be taught by Dr Abani Samal assisted by guest faculties.

Dr Abani R Samal – *Project Manager & Instructor*



Dr Abani Samal has a wealth of knowledge and experience in the field of economic geology and valuation of mineral resources. He has extensive training (MS and PhD) in economic geology and geostatistics. He is well recognized internationally for his expertise in advanced geostatistics and mineral resource estimation. In the areas of resource estimation and geostatistics, Dr. Samal has distinguished himself as a respected authority among peers globally.

Prior to GeoGlobal, Dr Samal worked as the lead resource-geologist with RioTinto at their corporate regional HQ based at Salt Lake City, Utah, USA, where he led and contributed to various major projects. He also worked as the lead geologists and geostatistician at an international mining consulting firm, Pincock Allen and Holt (now RPM Global), based at Denver, USA.

In the last 20 years in the industry, he has gained experience in various commodities including gold-silver, base-metals such as Cu-Mo-Au and ferrous deposits around the world.

His contributions to the industry are well recognized through his publications and presentations at various national and international conferences. Dr Samal is a Registered Member of SME (RM-SME), a Certified Professional Geologist (CPG) and a Fellow of the Society for Economic Geologists (SEG). Dr Samal is a Qualified Person (QP) as per international resource reserve reporting standards such as JORC (Australia) and NI-43-101 (Canada). Dr Samal served as an honorary representative of CRIRSCO for India resulting in making India as the 14th member of the CRIRSCO.

GeoGlobal, LLC (USA)

GeoGlobal, LLC (GeoGlobal) is an international service providing company to the mineral industry based in Salt Lake City area in the state of Utah, USA. GeoGlobal provides services to mineral exploration and mining projects around the world. Dr Abani R. Samal is the Principal and owner of the company. The GeoGlobal team members work towards adding value for our business partners. The company specializes in mineral deposit evaluation for various commodities globally. The GeoGlobal retains a team of highly experienced professionals as Principal Associates with more than 20 years of experience.

The projects were conducted for various entities including Equinox Gold Corp, Nevada Copper, World Bank / Government of Nigeria, Rio Tinto, Resource Capital Funds, Orion Mining Finance and Forbes & Manhattan.

We have provided support and services to many exploration and mining projects in USA, Canada, Brazil, Mexico, Kazakhstan and most recently in Namibia and Nigeria. The types of

projects include strategic project development, resource estimation, mine-mill reconciliation etc. Website: <https://geoglobal.co/>

If required, GeoGlobal LLC will work with the other associates and engineering firms on as needed basis.

Fees and Payment details

Participants from India/ ASIA: INR 20,000 **plus** applicable taxes (VAT)

Beneficiary Name: CAPSTONE GEO CONSULTANTS (INDIA) PRIVATE LIMITED,
Account No.: 7547014224
Bank: Kotak Mahindra Bank Limited
Branch: Narsingi Branch, Rangareddy, Hyderabad, Telangana
IFS Code: KKBK0008388
MICR Code: 500485046
SWIFT CODE: KKBKINBB

ALL PAYMENTS ARE FINAL.

No refunds for absences and no-shows or, any other reason for which registrants could not participate.

GROUP DISCOUNTS: For groups of 10 or more participants from the same company and further clarifications, please drop an email to arsamal@geoglobal.co

Contacts

Dr. Suman Mandal at suman@cgcl.in regarding registration and payments

Dr. Abani Samal at arsamal@geoglobal.co regarding course contents lectures etc.

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