

# Practical Geostatistics & Mineral Resource Estimation

## 12<sup>th</sup> – 16<sup>th</sup> October 2026

### Oaklands Inn & Conference Centre, Johannesburg



#### Led by World Class Expert

##### **Dr. Isobel Clark**

BSc MSC DIC PhD FSAIMM FIMMM CEng QMR  
Professional mining engineer with over 50 years of experience. Author of Practical Geostatistics (1979) and (2000). Director, Geostokos Limited, Scotland. Former Professor of Practice at University of Johannesburg. Former Professor, University of the Witwatersrand, Johannesburg. Former Visiting Professor Camborne School of Mines. 11 years of lecturing at Royal School of Mines, London

#### Course Format

This course will be an interactive and participative workshop where participants will be encouraged to discuss their own practice and compare it to others and recognised best practice. Real projects and case studies will form an important part of the workshop and participants will be encouraged to discuss and reflect on their own organisations practices and ways to improve them.

#### Who Should Attend But not limited to:

- ✓ Mining Geologists (Exploration, Production, Resource)
- ✓ Mining Engineer
- ✓ Mine Surveyors
- ✓ Geologist
- ✓ Geologist(Trainee)
- ✓ Mineral Resource Managers
- ✓ Resource Analysts
- ✓ Mine Managers
- ✓ Mine Supervisors
- ✓ Geophysicists
- ✓ Geochemist
- ✓ Consultants
- ✓ Statisticians
- ✓ Database Managers
- ✓ MRM Practitioners
- ✓ Sampling Personnel
- ✓ Sampling Supervisors/Managers

#### **This 5-day course will consist of**

##### Practical Geostatistics Workshop

This will cover the practical aspect of Geostatistics. It will bring the delegates to in-depth understanding of the mysteries of ordinary kriging and its variants. This is a classroom course and includes manual exercises to reinforce understanding of the techniques. This workshop composed of lectures augmented by practical PC/laptop-based exercises covering many different applications. Case studies ranging from coal through base metals and iron ore to precious metals such as gold and platinum will be covered. All case studies are drawn from Dr Clark's extensive worldwide experience. Practical Geostatistics is aimed at any professionals dealing with the estimation from or interpolation between samples collected on a spatial basis. A minimum of mathematics is necessary to explain the techniques - mainly simple algebra, up to understanding the concepts behind solving simple sets of simultaneous equations and differentiating  $x^2$ . Questions and discussions are actively encouraged. Participants are advised to bring a laptop.

##### Mineral Resource Estimation

Participants in this Master Class section are expected to be conversant with Geostatistical procedures or at least completed Practical Geostatistics Workshop. Participants are invited to contribute discussion and ideas from their own practical experiences and to bring their own data for preliminary analysis during and after the workshop. The workshop will be discussing the real-world application of resource estimation techniques. Using little or no mathematics, participants will be encouraged to discuss their own practice and compare it to others and recognised best practice. Real projects and case studies will form an important part of the workshop and participants will be encouraged to discuss and reflect on their own organisations practices and ways to improve them.

# Practical Geostatistics & Mineral Resource Estimation Agenda

## Practical Geostatistics

### Session 1

- Assumptions of spatial estimation methods
- Inverse Distance interpolation methods

### Session 2

- Statistical Methods
- Classical statistics: the Normal distribution
- Confidence levels
- Standard errors

### Session 3

- Statistical Methods
- Construction and interpretation of semi-variograms
- Identification of trends
- Multi-component models
- Confirmation of basic assumptions
- Outliers

### Session 4

- Geostatistical Methods
- The experimental semi-variogram
- Modelling semi-variograms
- Trends
- Anisotropy
- Geological features

### Session 5

- Geostatistical Methods
- Ordinary Kriging
- Lognormal methods
- Indicator methods
- Regression problems (conditional bias)
- Simulation

## Mineral Resource Estimation

### Session 6

- Assumptions and requirements for mineral resource estimation
- Data validation, top-cuts and capping
- Construction, interpretation and modelling of semi-variograms
- Model validation and reconciliation with geological knowledge
- Geostatistical resource estimation, 3D and block modelling and Kriging
- Other Kriging techniques, such as MIK and Lognormal Kriging
- Geostatistical Simulations and Risk Assessment
- Grade control
- Drill hole spacing analysis

### Session 7

- Construction and interpretation of semi-variograms
- Identification of trends confirmation of basic assumptions outliers
- Case Studies and BYO

### Session 8

- Choice of appropriate kriging techniques
- Practical applications of kriging
- Case Studies and BYO

### Session 9

- Discussion of case studies from course participants
- General discussion of case studies
- Case Studies and BYO

**BYO / BRING YOUR OWN SESSIONS!!!**

**Get the trainer to address the concern you have in YOUR OWN projects! YOU can BRING and ANALYSE YOUR own data using Practical Geostatistics 2000 teaching software under the supervision of Dr. Isobel Clark.**

## In-house Training

**We deliver the ultimate solution to meet your customised objectives, cutting your training costs, and dramatically improving your organisation's performance. In-house training packages tailor made to suit your organisation's needs.**

Contact **Hami** on +27 (0)78 382 9281 or e-mail [hami@ibssolutions.co.za](mailto:hami@ibssolutions.co.za)

**HEAD OFFICE: 30 Hilltop Street Sandton View Office Park, Sandton, Telephone: +27 (0)11 025 7114**

# Registration Form

|                                  |                      |                                                                  |              |                                                       |  |
|----------------------------------|----------------------|------------------------------------------------------------------|--------------|-------------------------------------------------------|--|
| <b>Event Name:</b>               |                      | <b>Practical Geostatistics &amp; Mineral Resource Estimation</b> |              | <b>12<sup>th</sup> – 16<sup>th</sup> October 2026</b> |  |
| <b>Company Name :</b>            |                      |                                                                  |              | <b>Tel No:</b>                                        |  |
|                                  |                      |                                                                  |              | <b>Fax No:</b>                                        |  |
| <b>Physical/ Postal Address:</b> |                      |                                                                  |              | <b>Dietary requirements/ allergies:</b>               |  |
|                                  |                      |                                                                  |              |                                                       |  |
| <b>Purchase Order No:</b>        |                      |                                                                  |              |                                                       |  |
| <b>DELEGATE DETAILS</b>          |                      |                                                                  |              |                                                       |  |
|                                  | <b>Delegate Name</b> | <b>Position</b>                                                  | <b>Email</b> | <b>Cell No.</b>                                       |  |
| <b>1</b>                         |                      |                                                                  |              |                                                       |  |
| <b>2</b>                         |                      |                                                                  |              |                                                       |  |
| <b>3</b>                         |                      |                                                                  |              |                                                       |  |
| <b>4</b>                         |                      |                                                                  |              |                                                       |  |
| <b>5</b>                         |                      |                                                                  |              |                                                       |  |

## Terms & Conditions

The following terms and conditions will apply: The accepted applications to attend the IBS Intelligent Business Solutions courses are in every case subject to these terms and conditions.

**Payment:** All payments to be made directly to IBS Intelligent Business Solutions, payment is required in full 5 days from date of invoice or unless otherwise stated. Should payment not be made within five days from invoice, client will still be liable for course fee. No seats will be reserved, unless otherwise stated by IBS Intelligent Business Solutions. IBS Intelligent Business Solutions reserves the right to change speakers, program content, date and venue, due to unforeseen circumstances. The signed registration form is a legally binding document. The conference / workshop fee includes conference / workshop material, Lunches and refreshments (Applies to venue bookings only). IBS Intelligent Business Solutions will not be held liable for travel and accommodation.

**Cancellations:** Cancellation must be made in writing and received by IBS Intelligent Business Solutions at least 31 working days prior to the course start date. Substitutions will be allowed if notified at least 5 days prior to course date. Any cancellation instruction received less than 30 days prior to the course/workshop start date (this excludes weekends and public holidays), do not entitle the cancelling or transferring delegate to any refund or credit note and the full fee must be paid. Non-attendance on all or any one of the workshop days without written cancellation will result in no entitlement to any refund or credit and the company / delegate will be liable for the full fee.

**Indemnity:** IBS Intelligent Business Solutions is absolved and indemnified against any loss or damage as a result of alteration or cancellation/postponement of any seminar arising from any cause whatsoever, including without limitation, any fortuitous event, Act of God, unforeseen occurrence or any other event that renders performance of the event impracticable or impossible. A "fortuitous event" includes, but is not limited to, war, fire, meals, riot, industrial action, extreme weather or another emergency.

**Warranty of Authority:** The signatory warrants that he/she has the authority to sign this Application and agrees to be personally liable to IBS Intelligent Business Solutions for payments falling due pursuant thereto should such warranty is breached. In the event that IBS Intelligent Business Solutions is obliged to act against the participant and his/her employer shall be liable for and shall pay all costs, including attorney and client costs and collection commission.

**Personal Information:** I hereby consent to giving my personal information to IBS to use my personal information to store and pass it onto third parties if necessary (CRM, LMS, QCTO, SETA, ETQA, SABPP & DHET). IBS has taken the necessary steps to comply with the provisions of the POPI Act and its regulations by conducting an impact assessment and developing a framework for compliance. In this regard, IBS warrants that it shall not use the information provided herein for purposes other than those set out in our privacy policy. IBS advises that in addition to the fields of information required below to deliver in terms of this agreement, it shall also require learner details in order to comply with the statutory requirements of, inter alia, the Skills Development Act and the systems requirements of our Learner Management System. In the absence of this information, IBS may be not able to deliver against its mandate. Furthermore, by accepting the terms of this agreement, you also understand and accept that IBS may have to further process the personal information received in this and other associated documents by transmitting it to other organisations as may be required such as SETA's, ETQA's, Professional Bodies and the like. If you or any data subject wish to engage with our Information Officer and/ or access our Privacy Policy, [Privacy@ibssolutions.co.za](mailto:Privacy@ibssolutions.co.za)

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**This Document is Legally Binding**

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| <b>Job Title (specific):</b>                                                                     |  |               |
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