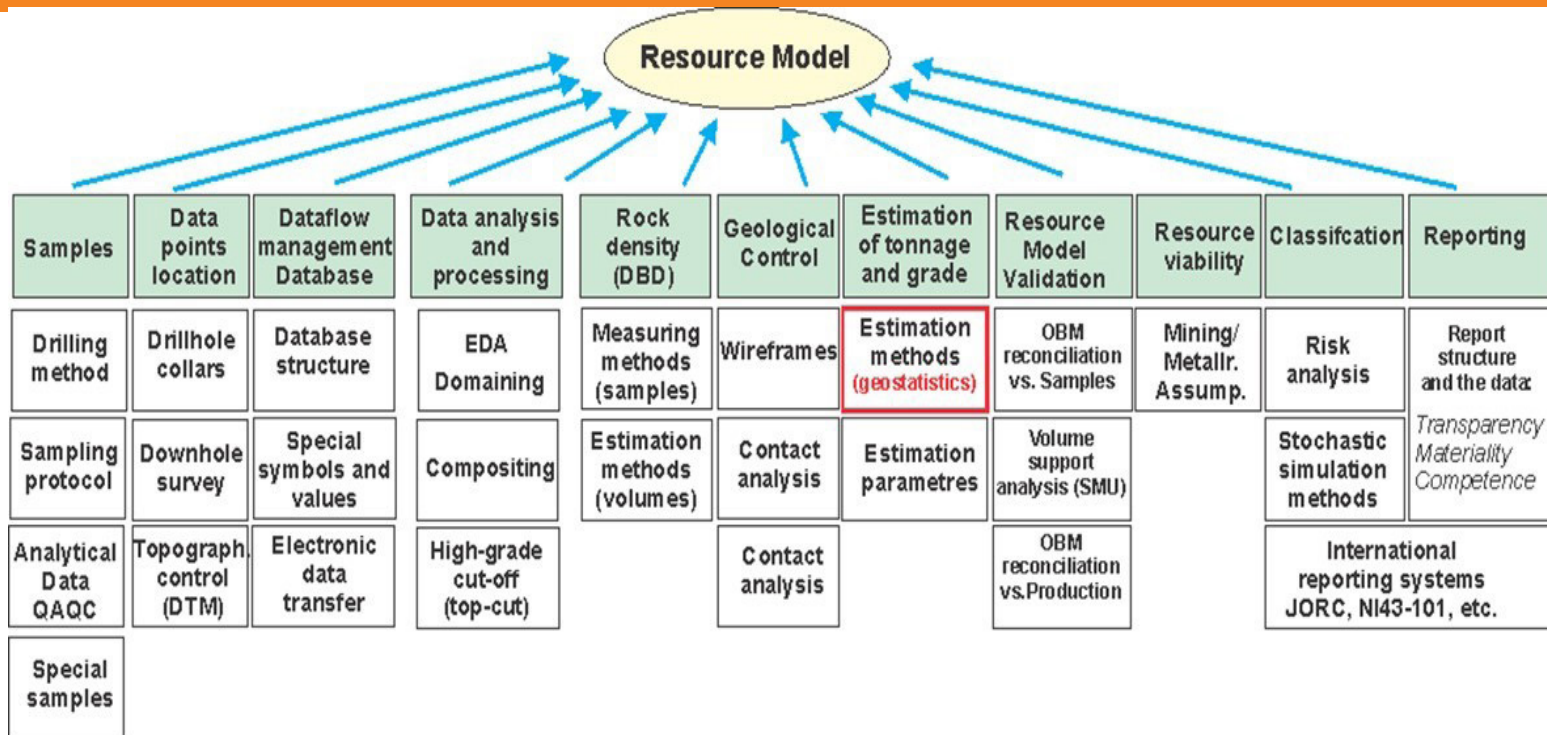


# Introduction to Mineral Resource Estimation and Applied Mining Geostatistics

WAXI / Agate Project Training

2024  
Online



## COMPETENT PERSON

The aim of this course is to introduce the attendees to modern mineral resource estimation procedures with an emphasis on geostatistical methods. This is an introductory level therefore special knowledge of mathematical geology techniques is not required.

Basic knowledge /experience in exploration drilling, sampling and mine geology is sufficient.

# Programme

Day	Topics
1	<p><b>JORC Code</b></p> <p>Fundamentals of the JORC system            Competent Person (CP)            Mineral Resources and Ore Reserves – classification principles            Modifying factors to convert Resource to a Reserve            Resource/Reserves errors and risks – introductory review (examples)            Theory of Sampling (TOS)            Fundamental Sampling Error (FSE)            Types of the errors related to sampling and analytical practices (with examples)            Surveying errors (Errors in samples location)            Special types of samples: measuring rock density (dry bulk density)            Special types of samples: bulk samples for metallurgical tests</p>
2	<p><b>Control and assurance of the samples quality (QAQC)</b></p> <p>Measuring and recording samples quality (Precision and Accuracy)            Overview of the samples characteristics at the several selected mines and comments on acceptable and best practices  <i>Practical sessions:</i>            Estimation sampling error. Introduction to methods and tools of estimating samples precision and quantification of the data accuracy (participants can bring their own data)            Designing sampling and QAQC programs            Data analysis and preparation for Mineral Resource estimation (EDA)</p>
3	<p>3D geological models for Mineral Resource estimation            Overview of Mineral Resource estimation (MRE) process  <i>Practical session:</i>            Practice of wireframing</p>
4	<p><b>Introduction to geostatistics</b></p> <p>Variography  <i>Practical session:</i>            Practice of variography:            Estimation methods            Methods of Kriging system            Computer packages - review            Estimation risks</p>
5	<p><i>Practical session - continued from days 3 and 4</i>            Construction of the 3D block model (Seam-model approach is used):            resource estimation - Infilling WFR with the 3D blocks            Model validation and reporting            Assurance of the model validity</p>

# Information

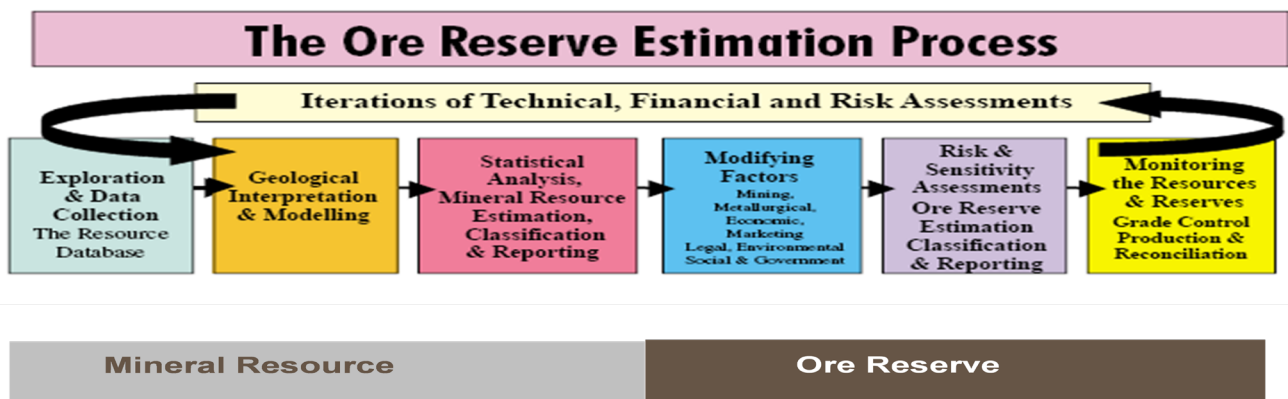
## Course Leader: Dr Marat Abzalov

Dr Abzalov is a geologist with 40+ years of experience. He obtained a PhD in Geology studying nickel deposits in Russia and Fennoscandia and undertook additional post-graduate studies in Applied Mathematics at Murdoch University, Australia, and Geostatistics in Fontainebleau, France.

Geological career of Dr. Abzalov encompasses the mix of industry and academia work, including exploration, mining projects evaluation, teaching and training the industry practitioners and extensive publishing of the research papers (90+ journal and conference papers).

Dr. Abzalov's internationally recognized expertise is highlighted by the Dani Krige Gold Medal in 2015 for his geostatistical method (LUC) and the 2016 Outstanding Academic Title for his book, "Applied Mining Geology," published by Springer.

The AusIMM Guide to Good Practice (2001)



**Course duration:** 5 days, 4 hours or 6 hours per day.

## Time

Day 1: 6 hours / from 3pm to 9pm Perth time - 7 am to 12 pm West Africa  
Day 2: 4 hours / from 3pm to 7 pm Perth time - 7 am to 11 am West Africa  
Day 3: 4 hours / from 3pm to 7 pm Perth time - 7 am to 11 am West Africa  
Day 4: 4 hours / from 3pm to 7 pm Perth time - 7 am to 11 am West Africa  
Day 5: hours / from 3pm to 9pm Perth time - 7 am to 12 pm West Africa

**Where:** Online

**Language:** English

## Registration Fees

For the full 5 days of training, including training materials: US\$ 1,300 (AU\$ 1,950), the course will be invoiced in Australian Dollar.

Upon completion, participants will receive a certificate of participation.



Knowledge, Skills, Networks in Earth and Planetary Science

## WAXI/Agate Training

# Introduction to Mineral Resource Estimation and Applied Mining Geostatistics

Online Course - Please complete this form

<https://agate-project.org/training-courses/short-courses/>

Company .....

Address .....

.....

Phone .....

Administrative Email contact .....

Attendee's Name 1.....

Attendee's Name 2.....

Attendee's Name 3.....

Attendee's Name 4.....

Total Registration Fees .....

US\$1,300per person - AU\$ 1950

Currency of invoice: AUD

Email: [Corinne.Debat@agate-project.org](mailto:Corinne.Debat@agate-project.org)

On confirmation of your places, we will ask you to transfer the registration fee to a bank account to be announced.

Minimum participants: 10