

The Cognitive Revolution in Minerals Exploration

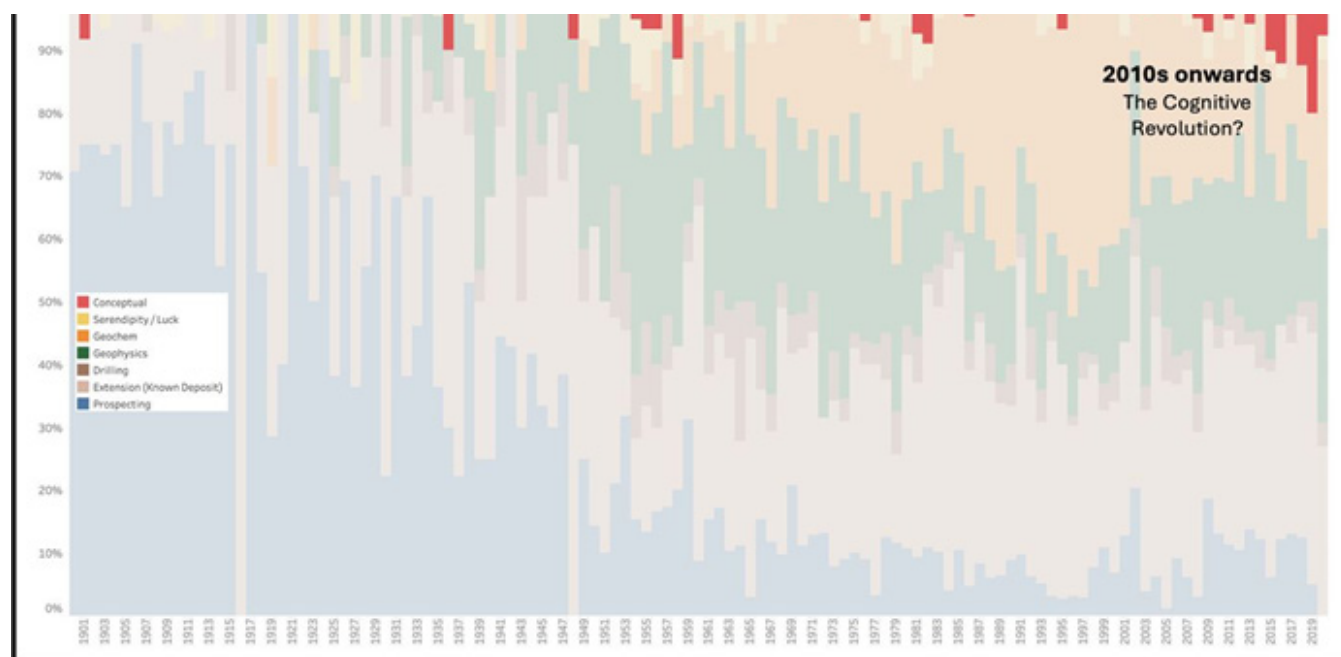
“Human cognition in the age of AI”



Knowledge, Skills, Networks in Earth and Planetary Science

5-DAY PROFESSIONAL TRAINING COURSE
27-31 July 2026, Accra, Ghana

This 5-day training course and workshop will introduce cutting-edge approaches to successful mineral discovery in the age of AI and the **cognitive revolution**.



Work by Ahmed Saleem indicates the rise in discoveries based on conceptual exploration approaches (red bars in figure above).

Mineralising systems using modern “Systems Thinking” and other advanced thinking approaches in exploration science is the new cutting-edge in mineral discovery. Participants in this workshop will have the opportunity to critically assess which approaches and thinking strategies will have greatest impact on their discovery success, through a combination of lectures, group exercises and workshop discussions.

This course is aimed at geologists, exploration leaders and researchers wishing to improve their understanding of advanced thinking skills and complex mineralising ore systems to build successful exploration strategies.

This training course is curated by Tim Craske (MSEG, MCET-UWA) who has over thirty years' experience in exploration project generation and management in Australia, the Americas and East Africa. Over the last 5 years he has focused on the application of advanced thinking approaches to improve mineral discovery rates, and was co-author on AMIRA's Uncover Roadmap for exploring Australia's covered terrains.

Why Attend

While “Mineral Systems” approaches are now widely promoted, many applications remain limited to GIS-based data analysis and prospectivity mapping, without fully embracing true systems thinking.

This course goes beyond conventional workflows. It equips participants to:

- Understand complex mineralising systems as dynamic geosystems, not static datasets.
- Identify the key levers that control deposit size and location.
- Translate conceptual understanding directly into exploration proxies, targeting strategies and project generation.
- Build stronger exploration cultures that encourage innovation, critical questioning and better decision-making.

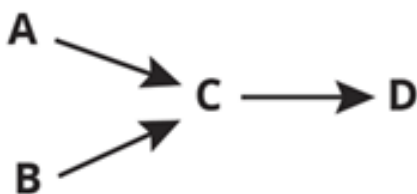
What You Will Learn

By the end of the workshop, participants will be able to:

- Apply advanced thinking frameworks relevant to mineral discovery, including: Critical, divergent, convergent, parallel and reflective thinking.
- Recognise and avoid poor exploration thinking that limits discovery potential.
- Understand the fundamentals of systems theory and thermodynamics as they apply to mineralising geosystems.
- Map complex mineralising systems, identifying key subsystems and controlling processes.
- Translate mineral systems understanding into exploration proxies and targeting templates.
- Analyse historical discoveries to understand how discoverers beat the odds through science, innovation, paradigm shifts, perseverance or serendipity.
- Develop practical, repeatable discovery strategies applicable to real exploration portfolios.

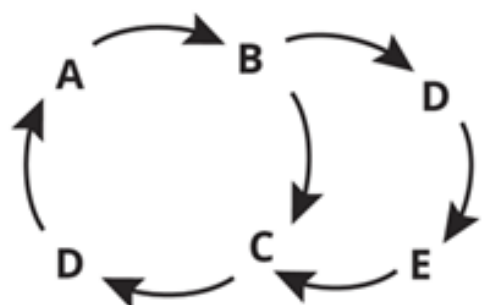
Event Oriented Thinking

Thinks in straight lines



Systems Thinking

Thinks in loop structure



Program

All practical training will use paper and printed data, no need to bring a laptop PC unless this is your preferred method of note taking. Manuals will be provided.

Day	Content	Course Elements	Lecturer
Day 1 27/07 9 am to 5 pm	Presentations and Exercises	1. Thinking skills for discovery 2. Stopping poor exploration thinking 3. Critical thinking, divergent thinking, parallel thinking, convergent thinking, reflective thinking	TEC/All
	Presentations and Exercises	4. Reflecting on case studies of discovery	All
Day 2 28/07 9 am to 5 pm	Lectures	5. Systems Thinking – for exploration success 6. Mineralising systems	TEC
	Lectures	7. Mineralising System Mapping	TEC
Day3 29/07 9 am to 5 pm	Exercises	8. Introduction to Mineralising System Mapping	All
		<i>Afternoon continue exercises or free time</i>	
Day 4 30/07 9 am to 5 pm	Lectures	9. Translating Mineralising Systems into Exploration proxies, targeting templates	TEC
	Exercises and workshop	10. Project Generation and Targeting	All
Day 5 31/07 9 am to 5 pm	Lectures and workshop	11. Discovery Strategies and Key Skills Review	TEC/All

Course Content: Hands-on Exercises

Attendees' Case Histories and Strategy

Attendees wishing to deliver short presentations on discovery case-histories that they have been involved with should prepare 8 to 10 slide talks to share with other attendees on Day 1 and 2. If attendees wish to discuss discovery thinking strategy experiences that have impacted them, they should prepare a 5 to 6 slide introduction to their subject interest so that the audience can understand the context for workshopping on Day 4 and 5.

Information

All attendees will have the opportunity to participate in collaborative discussion of their own discoveries and exploration experiences.

Course Leader: Tim Craske



Tim Craske is a geological consultant, proven ore discoverer (Ernest Henry, E1, West Musgraves) and team facilitator, with broad experience in training, collaboration and mentoring. He is currently principal consultant and director for Geowisdom consultancy that specialises in developing systems thinking for application in successful mineral exploration.

Date

27 to 31 July 2026.

Duration

5 days: 4 hours/day lectures + up to 3 hours/day workshop exercises.

Venue

Accra, Ghana, venue to be confirmed

Time

9am to 5 pm

Language

English lectures and workshop exercises in English and French

Registration Fees

USD 2,250 per attendee. The fee includes morning and afternoon tea, lunch, and training materials. Payment must be completed before the start of the training. Any applicable country withholding taxes will be added to ensure the net amount received.

Certificate of Attendance

Upon completion, participants will receive a certificate of attendance

Opportunity to attend the IASTG Conference 2026



The IASTG Conference will take place in Accra before this training course. Why not extend your stay and take advantage of the opportunity to attend the conference? Visit our website for more information.

The Cognitive Revolution in Minerals Exploration

27 to 31 July 2026 - Accra, Ghana

Registration deadline 1st April 2026

Please complete this form and email it to: Corinne.Debat@agate-project.org

Company Information

Company

Address

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Entity to invoice

.....

Administrative Email contact

Participants

Total number of Participants

Attendee Name + email.(first name and surname)

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Attendee Name + email.(first name and surname)

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Attendee Name + email(first name and surname)

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Attendee Name + email(first name and surname)

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Fees and Currency

	US\$	AU\$
Select your preferred invoicing currency		
Base registration Fee	2,250.00	<u>3,395.00</u>

Whithholding Tax if applicable	%

The organisers reserve the right to cancel the training if the minimum requirement of 12 participants is not met.