The course is endorsed by European Federation of Geologists
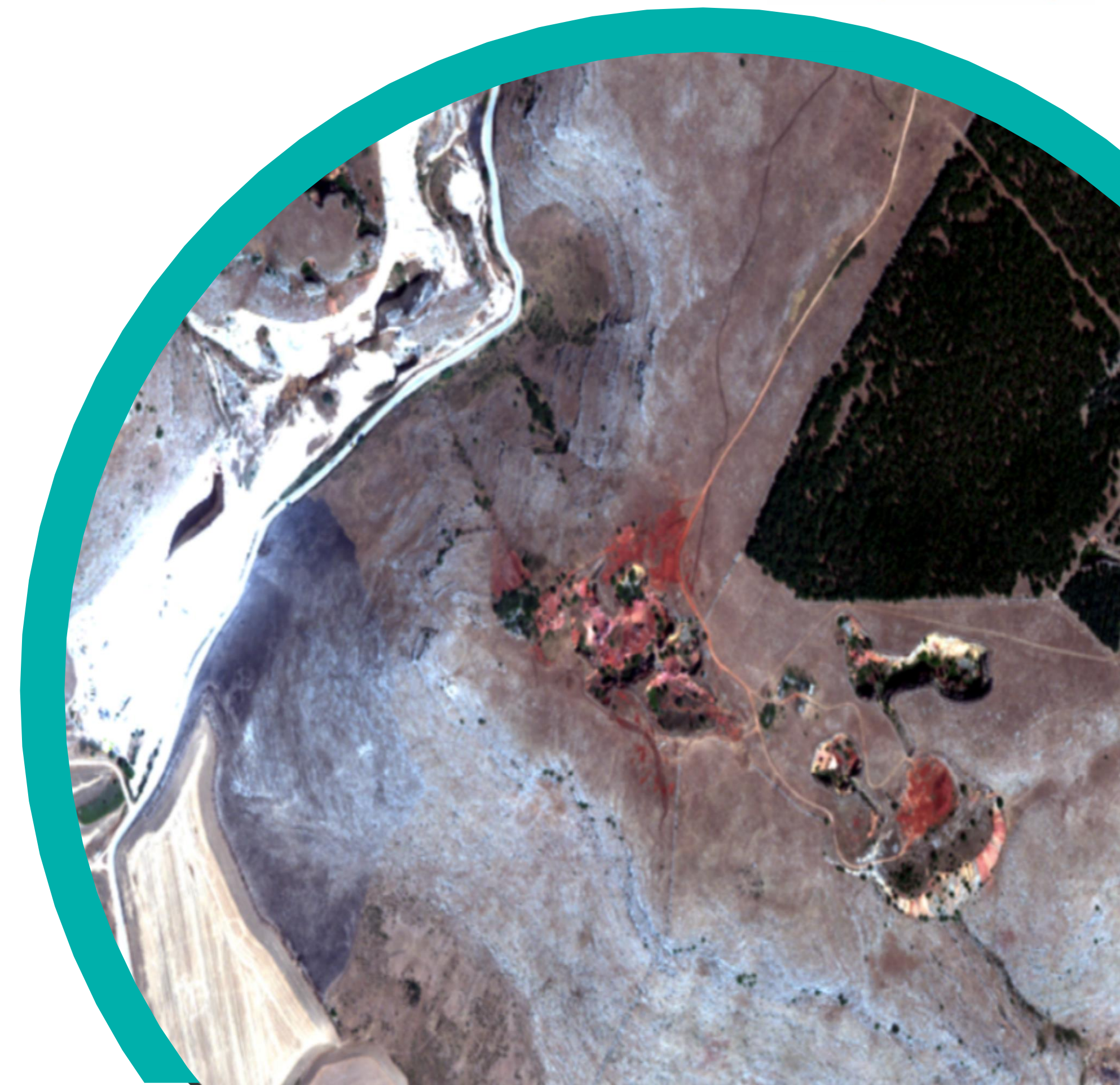
Training course endorsed by the
European Federation of Geologists

RawMatCop Academy

Advanced Course on Remote Sensing for the RawMaterials Sector

(26-30 June, Bologna-Italy)

https://rawmatcop.eitrawmaterials.eu/advanced/apply.html

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European Union

Course Details

Earth observation technologies provided great innovation potential in the raw materials sector. RawMatCop Alliance offers an advanced course with hands-on learning to demonstrate how Copernicus can provide cost-effective and safe solutions while complying with environmental regulations. Advanced approaches highlighting scalability, accuracy assessment, and time-series of imagery are offered in the course and provide valuable support informed decision-making.

Advanced Course Topics

- Efficient handling of time-series and large datasets
- Scalable analysis of satellite data for raw materials
- Best practices of data integration
- Leveraging Copernicus data and open tools to revolutionize the sector

Case Studies & Exercises

- Mineral exploration - opportunities & challenges
- Acid mine drainage - temporal analysis
- Open pit mining - monitoring activities/materials
- Ground deformation - mapping using InSAR temporal series

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Course Details

Entrepreneurs and industry professionals from the exploration, mining and processing sectors who are looking for innovative techniques to monitor and manage raw materials in their organization will benefit from the course. We also welcome geoscientists, development and environmental experts, researchers, master and doctoral students working in the raw materials sector as well as remote sensing practitioners interested in learning raw materials applications.
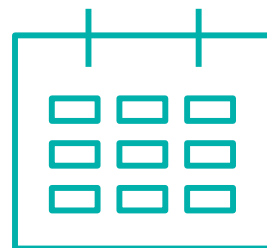
5-DAY COURSE
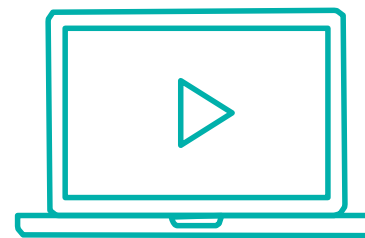
IN-PERSON

EXPECTED BACKGROUND

- BASIC CODING EXPERIENCE
- BASICS OF REMOTE SENSING

DAY 1

Keynote Speaker
Reviewing remote sensing concepts
Course introduction
- Working with codes and notebooks
- Image visualization
- Introducing data integration

DAY 2

Acid mine drainage
- Creating a spectral library
- Detecting acid-mine drainage
- Time-series analysis of acid-mine drainage

Mineral exploration
- Classification using self-organizing maps
- Supervised learning (e.g. Random Forest)
- Mineral prospective mapping and targeting

DAY 3

Mine monitoring
- Omnibus change detection with Sentinel 1 GRD
- Monitoring of acidification potential by identifying indicator minerals with Sentinel 2
- Communication of Results by Interactive Maps

Excursion afternoon

DAY 4

Ground deformation
- Introducing InSAR: basic concepts
- Time-series analysis and Sentinel-1 imaging
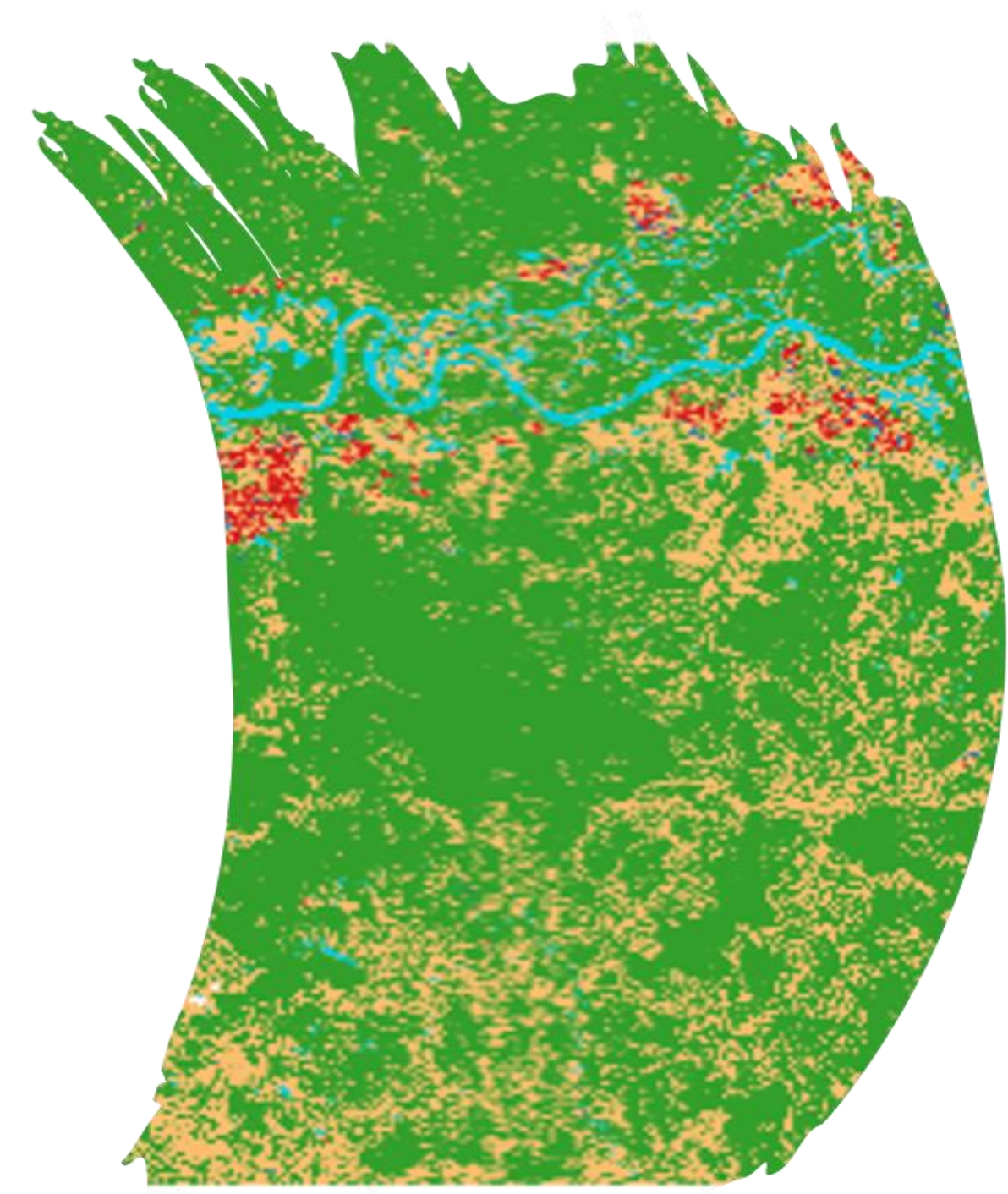- Group deformation mapping

Keynote Speaker
Project Initiation

DAY 5

- Project implementation
- Project presentation

Keynote Speaker
Course finalization

Meet our Experts

Prof. Thorkild M. Rasmussen

Exploration Geophysics at Luleå University of Technology,
Expert in Mineral Exploration, Airborne Geophysical
and Satellite Data

Dr. Louis Andreani

Independent Consultant in Remote Sensing

Dr. Elsy Ibrahim

RawMatCop Researcher at University of Liège
and Independent Consultant in the Earth Observation sector
(NOVOJY SPRL)

Dr. Sara Kasmaeeyazdi

Mining Engineer and Researcher of Georesource
at University of Bologna

Dr. Christian Köhler

Lecturer and researcher at Institute of Mine
Surveying and Geodesy at TU Bergakademie
Freiberg

Dr. Ignacio Marzán

Researcher at CSIC (Spanish National
Research Council)

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There is a universe of untapped data that can transform your raw materials career, organization, and help build a greener, more resilient Europe!

Enroll Here

For more information, please contact rawmatcop@eitrawmaterials.eu
Stay updated with technical details here: https://site.unibo.it/rawmatcop-alliance/en

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