

# **AUTOMATION FOR MINERAL PROCESSING**

**INSTRUCTOR: DR. MOHSEN YAHYAEI**

**Date:** October 03 - 06, 2023

**Schedule:** 6:00 p.m. to 9:30 p.m.(peruvian time)

## **EXECUTIVE SUMMARY**

The short course will cover key aspects of process automation for the mining industry. The focus is on advantages of the process automation, challenges and opportunities, and pathway toward advanced automation. This course is based on the course coordinator practical experience and research in process autonomy. The short course is designed in four modules that can be tailored to the need and the level of knowledge of the participants. Module one focuses on terminology and introduction of the concept. This module includes a group activity to discuss the requirements of automation. The second module presents the gaps and challenges in the development and implementation of automation. It introduces the concept of soft sensors for reliable measurements and a practical approach to utilising the power of data analytics and AI. Module three presents the present state of process automation in the minerals industry by providing some practical examples. This module also contains group activity to work on barriers to process automation in participants' operations. The last module focus on the pathway toward process autonomy, including the organisation maturity assessment, the workforce of the future and human-centric autonomous systems and their features.

## TARGET AUDIENCE

This short course is aimed at junior and senior metallurgists, managers, and students at various levels. The short course will give metallurgists and plant managers a basic understanding of process automation and give them the knowledge on steps required to implement process automation and pitfalls and challenges on the way toward fully autonomous plants. stems actively .

A practical approach is taken when covering all the topics in the short course, with real-life case studies and examples from the course coordinator's experience. The prerequisites for attendees are engineering degrees and experience in metallurgical processes (comminution, flotation, dewatering, etc.).

## COURSE CONTENTS

The short course is organised into 4 modules, as shown in the table below. The course is offered online.

SESSION	HOUR	DAY 1	DAY 2	DAY 3	DAY 4
		<b>MODULE 1</b> <i>Introduction</i>	<b>MODULE 2</b> <i>Trusted autonomy</i>	<b>MODULE 3</b> <i>Current state</i>	<b>MODULE 4</b> <i>Pathway toward process autonomy</i>
1	18:00 – 19:00	It is all about the decision	Why trust?	Remote operation centres, is it a reality?	Are you ready for automation?
	19:00 – 19:15	First Break			
2	19:15 – 20:15	Automation for mineral processing	Soft sensors for reliable data	Automation for safety and optimisation	The workforce of the future
	20:15 – 20:30	Second Break			
3	20:30 – 21:30	Group work – What is required from automation?	How to extract value from data?	Group work – Barriers to automation	Human-centric autonomous systems

## INSTRUCTOR



### **DR. MOHSEN YAHYAEI**

Comminution Technical Solutions  
**University of Queensland, SMI, JKMR**

<http://researchers.uq.edu.au/researcher/2653>

Mohsen Yahyaei is an expert in modelling, optimisation, and control of comminution circuits using novel approaches and tools at the Julius Kruttschnitt Mineral Research Centre (JKMRC) at the University of Queensland, Australia. Mohsen has extensive experience in conducting applied research, industry surveys and process optimisation. Mohsen works with major mining companies and equipment suppliers. He has successfully led large research projects funded by the industry. Mohsen has extensive experience working with mining companies and their operations for operational diagnosis and identifying performance improvement opportunities in particular.

His interests include: process autonomy; dynamic modeling for process optimization and control; study of rock particle surface fracture; mechanistic approach to mill liner wear modeling.

## INVESTMENT: USD 900

### PAYMENT METHODS

- Bank transfers ( commissions are not included)
- Payment link
- Western Union (request data)
- Money Gram ((request data)

### TRANSFER

- **Deposit at Bank:**  
BANCO DE CRÉDITO DEL PERU
- **Beneficiary:**  
INTERNATIONAL METALLURGICAL CONSULTANTS S.A.C.
- **Account Number in Dollars :**  
193-1872625-1-12
- **SWIFT code :**  
BCPLPEPL
- **Inter- bankcode:**  
00219300187262511219
- **Bank Address :**  
Jr. Lampa 499. Lima , Peru

### PAYMENT LINK

<https://pagolink.niubiz.com.pe/pagoseguro/INTERMET/1261438>

### CONTACT US:

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