About the Short Course

In the last decades worldwide efforts have been conducted to understand acid mine drainage and its abatement. Yet, passive and active treatment methods as well as enhanced natural attenuation are still not fully understood and need further investigations. This short course will introduce mine water geochemistry in addition to treatment methods for contaminated mine water.

During the introduction, the participant will learn basic geochemical mechanisms that can be observed in mines and result in ground or surface water contamination. Simple case studies shall exemplify which environmental impacts are caused by mining and how the hydrogeological and ecological surroundings might be altered and can be limited. Usually, hydrogeologists and non-mining engineers are not familiar with the mining terms. This is also true for the situation underground, especially if it comes to historic mining and to acid mine drainage. Therefore, the first part of the workshop aims to provide a general understanding of the terms and conditions in the mining environment.

To work a mine on a medium or long term basis, the mine workings have to be kept dry. The most important mine pump types will be described and which drainage technologies might be necessary.

After mining ceases, the mine workings are usually flooded. To predict or calculate mine flooding, it is necessary to understand the hydrogeological situation on-site. Several theoretical methods and case studies will be described and discussed along with proper sampling technic (field trip).

To develop the most advantageous treatment strategy, the temporal and spatial development of a mine flooding have to be understood. Similarly, it is necessary to understand the chemical development of mine flooding. Based on that data a conceptual model and a treatment option can be planned. The last part of the workshop will give an introduction to mine water treatment.

Preliminary Programme

May 11th 2016

- Introduction
- Historical Background
- Mining Methods
- Technical Aspects
- Water in Mines

May 12th 2016

- Mine Dewatering
- Mine Flooding
- Mine Water Geochemistry
- Flooding Prediction
- Mine Water Treatment

May 13th 2016

- Field Trip (please bring your own safety helmet and safety boots)
- Mine Water Sampling (own car needed)

Recommended Literature

- Brown, M., Barley, B. & Wood, H. (2002): Minewater Treatment Technology, Application and Policy. 500 p., London (IWA Publishing).
- Jambor, J. L., Blowes, D. W. & Ritchie, A. I. M. (2003): Environmental Aspects of Mine Wastes. In: Raeside, R.: Short Course Series Volume 31. 430 p., Waterloo, Ontario (Mineralogical Association of Canada).
- Wolkersdorfer, Ch. (2008): Water Management at Abandoned Flooded Underground Mines – Fundamentals, Tracer Tests, Modelling, Water Treatment. – 466 p., Heidelberg (Springer).
- Younger, P. L., Banwart, S. A. & Hedin, R. S. (2002): Mine Water Hydrology, Pollution, Remediation. 464 p., Dordrecht (Kluwer).

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Sender:

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Title, Name, Given Name

.....
Institution/Company

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Street, Nr. / Postbox

.....
City, ZIP-Code

Tshwane University of Technology (TUT)
SARChI Chair for Acid Mine Drainage Managment
Prof. Dr habil. Christian Wolkersdorfer
Private Bag X680
Pretoria, 0001
SOUTH AFRICA

Registration

I hereby register to participate in the short course "From Ground Water to Acid Mine Water".

Please tick the appropriate fields All workshop fees are given in South African Rand	Regular Participants	IMWA & WISA Members	Students | Additional Material
Theory May 11th – 12th 2016	R 4000 ☐	R 3000 ☐	R 1000 ☐
Field Trip (Sampling) May 13th 2016	R 1500 ☐	R 1200 ☐	R 300 ☐

Date: ..... Signature: .....

Name, Given Name: .....

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Institution/Company: .....

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Street/PO Box: .....

City, ZIP-Code: .....

Country, State: .....

Telephone: .....

Cell: .....

E-Mail: .....

IMWA or WISA Membership Number: .....

I agree that my personal data will be used for the planning of this workshop by TUT, LUT and IMWA. Your data will not be shared with third-parties.

WATERLAB Mine Water Division LUT Lappeenranta University of Technology

General Information

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Registration
Registration is requested on the attached registration form or by e-mail until April 23th. With the confirmation of your registration you will receive an invoice and further information.

Participant Cancellation
In the case of participant cancellation full refund will be provided with written notification prior to April 23rd, 2016. Cancellation before May 4th will result in a 50% handling charge. There will be no refund after May 8th, 2016.

Venue
The workshop will take place in the „137 Murray Guesthouse", Pretoria, South Africa, 137 Murray Street, Brooklyn; www.murray137.co.za

Accomodation
Accommodation and meals are not provided in this short course. Both are the responsibility of the participant. We ask the participants to organise their own accommodation reservations.

Prof. Dr Christian Wolkersdorfer

From Ground Water to Acid Mine Water

Short Course on Acid Mine Water Management and Remediation

May 11th to 13th 2016

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